

# INDIAN DIPLOMACY AND GOI FLAGSHIP PROGRAMMES

**START-UP INDIA** 

#### **DIGITAL INDIA**

#### NATIONAL EDUCATION POLICY

**AYUSHMAN BHARAT** 

Indian Council of World Affairs Sapru House, New Delhi

2023



Indian Council of World Affairs

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MAY 2023

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#### Foreword

A key conceptual and operational modality in which Government of India (GOI) conducts developmental activity in economic and social sectors for the welfare of its citizens are its flagship developmental schemes and programmes.

In recent years, the Government has made a concerted effort to align its foreign policy objectives with its domestic development priorities. It is partnering with other countries on its flagship schemes and programmes such as Make in India, Skill India, Start-Up India, Namami Gange, Digital India, etc.

GOI flagship schemes are increasingly finding mention among policy makers in the Ministry of External Affairs, particularly in the verticals labelled as: (a) 'Diplomacy for Development' i.e. partnering with developed countries to fulfil India's developmental requirements; and (b) 'Development Partnership' i.e. partnering with developing countries of the Global South to share India's experiences and expertise to fulfil their developmental needs.

The present publication aims to gain a better understanding of how development objectives can be served by aligning Indian diplomacy with flagship schemes of GOI in social and economic sectors and by exploring avenues of cooperation with foreign countries in relation to these schemes. The publication includes papers on Start-Up India, Digital India, UPI, National Education Policy 2020, and Ayushman Bharat.

Dr. Ajai Chowdhry, Founder, HCL Technologies Ltd., makes a case for turning India into a 'product nation' especially in the electronics sector through incentivising Start-Ups to localize manufacturing, invite FDI and create new global supply chains. Deepak Maheshwari, Public Policy Consultant and Researcher and Founder, NIXI, emphasizes that India is emerging as an exemplar par excellence when it comes to deployment of digital technology for mass impact and proposes that India should share its expertise & experience in Digital Public Infrastructure including through spearheading an International Digital Alliance on the lines of the International Solar Alliance. Avni Sablok from ICWA writes about the success of UPI – a key element of the Digital India programme – and Indian diplomacy's efforts to make it go global. Prof. Sudhanshu Bhushan, Vice Chancellor, National University of Educational Planning and Administration (NUEPA) highlights the possibilities provided by the New Education Policy for internationalization of higher education through attracting foreign students to study in India and through global exposure of Indian students and faculty and makes recommendations for policy implementation. While essaying the implementation till date of the two components of Ayushman Bharat – Health and Wellness Centres (HWCs) and Pradhan Mantri Jan Arogya Yojana (PM-JAY), Prof. Mayur Trivedi from the Indian Institute of Public Health, Gandhinagar expresses the view that, as a health system in transition, India is at a juncture wherein it can share its experience in improving health indicators with low-performing countries of the Global South and also learn from betterperforming countries.

ICWA hopes that this publication would be useful not only for foreign policy practitioners and scholars with an interest in strengthened linkages between India's domestic priorities and foreign policy objectives but also for those having an interest in Government's domestic flagship developmental programmes and schemes and their success.

#### Amb Vijay Thakur Singh

*Director General* Indian Council of World Affairs Sapru House May 2023

## **START-UP INDIA** HOW ENTREPRENEURSHIP & START-UPS CAN CREATE AVENUES OF COOPERATION WITH FOREIGN COUNTRIES

#### DR AJAI CHOWDHRY

#### INTRODUCTION

In today's sound bite world, the word 'entrepreneur' gets bandied around like so much other businessschool jargon. We are constantly selling the merits of entrepreneurship to our youth– throwing them words like Initiative, Risk and Innovation. These concepts are essential to the pursuit of business excellence, but we need to understand, what is at the very core of entrepreneurship? Many think that entrepreneurship is a lonely battle, fraught with challenges, but you need not be alone in this path. Entrepreneurs should be armed with Education, the Knowledge and Expertise of mentors and a Nurturing Eco-system that supports and fosters their efforts. As entrepreneurs, our success is in our ability to face all the obstacles and hurdles in our path without the fear of "what if we fail." Failure is simply not an option, which makes fear redundant.

Entrepreneurs should be armed with Education, the Knowledge and Expertise of mentors and a Nurturing Eco-system that supports and fosters their efforts.

<sup>1</sup> Founder, HCL Technologies Ltd.

Post covid-19, there's a new outlook towards globalisation. At one level what we have seen lately is that globalisation, that suggests that the world is one family, with free movement of goods and services cutting across geographies, has been into a jeopardy. Now it's more about strengthening resilience.

At HCL, we used dynamic statements such as "At HCL, there is only one thing more important than brains — guts" and "you don't have more courage when you are young, you have less fear". We wanted to encapsulate the essence of what had made us successful and by doing so, provide a roadmap for other young people starting out on their own business journeys. It's a fallacy to think that a "real" entrepreneur can only be "born", that there is some innate, intangible quality, which makes a person an entrepreneur – that there is no room for outside intervention (governmental or otherwise) to retain the sanctity of that title.

Today, of course Indians have a lot more confidence to grow globally. However, to scale globally, create your base in India to be strong, as that becomes a great reference globally.

#### GLOBALISATION

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level what we have seen lately is that globalisation, that suggests that the world is one family, with free movement of goods and services cutting across geographies, has been into a jeopardy. Now it's more about strengthening resilience. Former US president Donald Trump acted swiftly to checkmate China, with the CHIPS (Creating Helpful Incentives to Produce Semiconductors) for America Act passed in January 2021 to a mark a U-turn after decades of expansion into Asia. China's zero-covid policy halted factory work, and broke global supply chains. Several major Taiwanese computer manufacturers with factories in Shanghai, including Quanta Computer, Compal Electronics, Wistron, Inventec and Pegatron, reported doubledigit declines due to the lockdowns.

India has the opportunity to be moving to the Plus 1 space that strategists have been talking of, so as not to over-rely on China. India's biggest advantage in the Plus 1 space is its end-to-end design and manufacturing capabilities. A Gartner

Digital Workplace Survey found India the most digitally dexterous country in the world, followed by the UK and the US, due to having the largest Gen Z workforce.

We are known for cheap labour, but the process of setting up business needs to be swift, the logistics and trans-shipment needs to be buckled up for sustainable competitive advantage. India has created a lot of PLIs that address some disability factors. The Gati Shakti Infrastructure push has come at an opportune time. The DESH (Development of Enterprise and Service Hubs) Bill is set to overhaul SEZs. Having stronger supply chains is crucial. It is important to reign in freight and travel costs and lower the carbon footprint too. Even Mexico, on account of its talented workforce and shorter supply chains, is availing near shoring benefits being closer to the US.

The coming era will be increasingly defined by complex disruptions queering the pitch at any time. Resilience should be seen as an important capability, instead of just focussing on efficacybased manufacturing at the lowest cost possible. Resilience builds the ability to deal with adversity and shocks with astute adaptability that creates stronger foundations for growth. At the Davos meeting this year, the World Economic Forum launched the Resilience Consortium for companies and countries to pivot rapidly from reactive risk management to strategic recovery so they are better prepared for the next crisis. For the Indian market to truly arrive on the radar screen of global corporations, we have to build such capacities and fix the missing pieces.

#### **IDENTIFY A GOOD IDEA**

By 2025, India aims to achieve a GDP of \$5 trillion and a digital economy of US\$ 1 trillion. As electronics is a meta resource and if we can focus on it, the demand will be \$400 billion by 2025. To meet this growing demand, the reliance on imports is likely to increase unless timely steps are taken to boost indigenous electronic manufacturing, a point I

India has created a lot of PLIs that address some disability factors. The Gati Shakti Infrastructure push has come at an opportune time. The DESH (Development of Enterprise and Service Hubs) Bill is set to overhaul SEZs. Having stronger supply chains is crucial. have been making for a long time with good reason.

Identification of a 'good' idea is the first step towards starting a new business and it all starts with innovation.

Innovation can come from:

- Invention if it's totally a new product or service, can be really applicable for India where we need new Indian inventions to solve indian problems.
- Extension new use or another application of an existing product or services.
- Duplication or lower price same product – e.g. creating a low cost medical device at 1/10th of an imported one.

So, after getting a fix on the idea you have selected and it's marketsize / differentiator – you need to create a business plan around it with all the financials / cashflows. and then look for funding.

**Markets:** When markets are at an early stage and we have only scratched the surface, you should not go by conventional thinking. Let's say that the market is 500 mn and growing at 20% CAGR, it does not mean that you should grow at 15-20% every year. If you

create a breakthrough product then it becomes your job to create the market. and as you create the market, you have the opportunity to have the largest share in the market as you go forward and you can grow much faster than the 20% growth your market is growing at. We did that with great success in the initial stages of the PC market and later the phone market where we created a distribution engine that went on to create 200,000 retail points and a business of US \$ 2 bn. However, we didn't look at conventional distribution. We created our own model based on FMCG distribution and worked with redistributor stockists of FMCG companies like levers. These stockists know the local scenario and could help collect monies easily. So do look for some unconventional sources too beyond distributors.

#### STORYTELLING IS AN IMPORTANT ASPECT OF A SUCCESSFUL ENTREPRENEUR

In today's technology-based world, online content can be targeted to reach and win buyers one at a time – replacing the old scattershot approach to sales and service. Till yesterday, all B2B sales were done by sales people. But now authentic strong stories create a link between companies and customers.

Most entrepreneurs who are strong technically, tend to believe that if the product is great, customers will happen. But the reality is different – you must focus on your go-to market strategy.

There is a company called Atlassian. They sell tools to develop software. They don't have a single salesman and their revenue is US \$ 2.8 bn. They give away free software to start with and do the whole process of sales online. That's the power of storytelling.

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#### PERSONAL STORY

I have been part of this great journey of the IT industry - starting with hardware in 1976 and GOIng on to software as we helped create the software service industry. The IT services industry grew from U S \$ 60 mn to U S \$ 60 bn in two decades, and most of the companies are like what we created at HCL—were by first-time entrepreneurs!

As I try and connect to a few points on our journey from zero to US\$ 10 bn, there may be some key points you can pick up. When we started HCL, we wanted to foster the dreams of young people and set their minds on fire. So, when we created the first-time user market for computers, we crafted six to eight frontline companies in all the major cities of India, fronted by fearless youngsters and coinvested with them. This model was a resounding success and HCL has been an avid incubator of entrepreneurship ever since.

Cut to 1980, we were a mere 3 crore start up and we happened to meet some people from the Economic Development Board of Singapore. They invited us to set up a manufacturing plant in Singapore. We did market research and discovered that we should sell "computerization not just computers". This was a key differentiation. And so, when money in India was so scarce, we set up in Singapore. To achieve this, we set up a software development centre in Madras and we used to ship floppies from there to Singapore – as no connectivity existed. In 6 months, we sold a US\$1 mn worth of computerization. This was due to a passionate sales team and great

Our electronics goods imports bill (US\$ 33 billion in FY 2020) has been second only to the country's oil import bill. Start-ups can play a major role here and seize the big opportunity in hardware.

marketing and positioning. As Dr CK Prahalad used to say: "if you have great aspirations, resources will happen!!" Singapore became our window to the world and helped dramatically improve our business in India. Starting in 1976, we became the no. 1 computer company in India in 1986! Ten years.

#### WHY WE NEED START-UPS

Our electronics goods imports bill (US\$ 33 billion in FY 2020) has been second only to the country's oil import bill. Start-ups can play a major role here and seize the big opportunity in hardware. The way IIT Kanpur Ventilator Consortium assisted Noccarc Robotics, a young start-up, in building affordable high-quality ventilators, in the peak of the pandemic, should be an inspiring study of possibilities.If the aim is to nurture students to be ESDM (Electronic Systems Development & maintenance) entrepreneurs, we need to accelerate start-ups' transition from prototype to growth stage. Start-ups can take the lead in innovation because large companies have too many liabilities to take risks the way start-ups can. Such eco-systems should be created early on, in modern educational institutions. Tinkering labs set up in schools inspire great interest. In medtech, for instance, we need engineering and medical institutes to work together. The Indian medical devices industry is growing at 28% each year to reach US\$ 50 billion by 2030. So there is tremendous need for such programs to happen now at great speed, in medtech, greenfield smart cities, in drones used for security and entertainment, in agri-tech, in railways, telecom, and a whole lot of infrastructure that is set for a tech overhaul. For hardware, we need testing, prototyping facilities, plastic moulding facilities, cabinetry, and the ability to make the highest quality product at the lowest

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price and design for manufacture, quality, sustainability, repairable products that can also be recycled or upcycled.

Design challenge: Based on the country's requirement, we should create a design challenge and provide solid funding for that. Just like in biotechnology, the BIRAC (Biotechnology Industry Research Assistance Council) Challenge invites proposals under challenge call for development, validation & pre-commercialization of products/ technologies. In defence, iDEX fosters innovation in defence and aerospace by engaging industries including MSMEs, start-ups, individual innovators, R&D institutes and academia. India is the world's largest defence equipment importer and is expected to spend around \$220 billion in the coming decade to modernize its armed forces. The Defence India Start-up Challenge

has been launched in partnership with Atal Innovation Mission, and is aimed at supporting start-ups in the area of defence innovation. Those who pass such a Challenge can also get bulk orders for Rs 20-30 crore.

#### EMERGE AS A PRODUCT NATION & CREATE NEW GLOBAL SUPPLY CHAINS

India is home to over 70,000 startups, and a new unicorn has been minted every 10 days in 2021. Seventy per cent of the 50 most innovative companies have R&D centers in India. It's time to get India inside every hardware we use. Let me give examples of some six-eight products that will help scale up our product selfresilience, setback-proof our economy, and kick-start job creation for both highend value jobs and blue-collar workers.

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Start-Up India

There is a growing pressure to transition towards planet positivity. **Smart meters** that use digital technology enable a twoway flow of electricity and information. Consumers and suppliers can thus be empowered to make informed choices on smart energy use. The global smart meters market is expected to grow from US\$ 19.6 billion in 2021 to US\$ 30.2 billion by 2026, at a CAGR of 9.0%, and we can seize this opportunity.

Next, the global market for **laptops and tablets** will be \$220 billion per year over the next three years while, in India, the market size is pegged at US \$ 7 billion. Nearly 87% of laptops and tablets come from China. We need to change this by increased localization.

Third, our start-ups have a huge opportunity in the **drones market** especially if they start making the components too. So far, DJI China was sweeping 90% of the global drone market that is poised to become a US\$ 54 billion market by 2025. With the government enforcing a ban on import of drones, there's a huge market for not just the high-end segment like for defence and surveys, but also in the nano drone and micro drone segments used for entertainment, filming and so on.

Similarly, the **Indian medical devices industry** is growing at 28% each year to reach \$50 billion by 2030. The global medical devices market will be US\$ 718.92 billion by 2029. The way IIT Kanpur Ventilator Consortium assisted Noccarc Robotics, a young start-up, in building affordable high-quality ventilators, in the peak of the pandemic, is a case study of possibilities. Why we are placed beautifully in medtech is because most of the devices in use are obsolete. We need to make connected devices, with predictive maintenance, and usher in an era of more modern products in the health sector.

The Indian **CCTV market** is expected to register a CAGR of 22.35% from 2021-26. Government interventions like preferential market access (PMA) will ensure that there are no road-blocks to achieve not just self-sufficiency in the segment, but also start exports for the US\$ 6.40 billion market.

The way IIT Kanpur Ventilator Consortium assisted Noccarc Robotics, a young start-up, in building affordable high-quality ventilators, in the peak of the pandemic, is a case study of possibilities.

The prescription to emerge as a product nation will shift the purchase order from China to India, enable greater localization, and make us a global star player in the products space. Also, it will help us find foreign allies and create new global supply chains.

The government has started exploring the option of adopting **one charger for all devices**. With chargers needed for the multiple devices we all use now, one can well imagine the huge growth opportunities in this segment, and the huge curtailing of electronics wastage which will thus be possible.

In the consumer market too, we can make an impact. India's **wearables market** saw record double- digit growth in the first quarter of 2022 with shipments crossing 13.9 million units, according to International Data Corporation India (IDC). The earwear category accounts for 71.3% of the overall wearables category. Quality manufacturers like BoAT and Noise need to look at components too in this segment, and many more such start-ups can cater to the local and export markets.

Similarly, in **phones**, we need to propel growth, and see more brands like Lava and Micromax, in the mid-segment and high segment too that are completely Made in India. In **space**, India's share in the US\$ 360-billion global space economy is 2%. A growing impact in the space sector is needed to address national imperatives and for deepening research.

The prescription to emerge as a product nation will shift the purchase order from China to India, enable greater localization, and make us a global star player in the products space. Also, it will help us find foreign allies and create new global supply chains.

Boosting economy & security: Building our hardware capacities have economic implications (reducing the mounting import bill), development implications (the great eco-systems of manufacturing and employment potential) and, importantly, security implications too. Design and manufacture in India would help to ward off threat from bad actors, from backdoor spyware sitting inside electronic hardware. These can result in serious cyber-attacks of enormous potential, rocking our government offices, banks, our defence offices, power and space, and bring these down overnight. The Government's Make in India program, National Policy on Electronics (2019), Production Linked Incentive Scheme for the electronics sector, the Modified Special Incentives Scheme, Electronics Manufacturing Clusters (EMC) Scheme, and several other interventions are designed to provide incentives for localisation of electronics manufacturing, and for inviting foreign direct investment.

We made a start by our action against the Chinese apps. Hardware leaks can be more dangerous than software. The US has taken strong action on this. We need to fortify ourselves too, and fast.

#### **Enabling Policies**

According to the DGCIS (Directorate General of Commercial Intelligence and Statistics) figures, import of electronic goods was US\$ 39 billion in 2016, US\$ 50 billion in FY 2017, \$56 billion in FY 2018, US\$ 54 billion in FY 2019, and US\$ 33 billion in FY 2020. To ease the rising import burden, the Government has taken some decisive steps. Since the 1990s. I have been part of many such committees that are driving the new policies. The Government's Make in India program, National Policy on Electronics (2019), Production Linked Incentive Scheme for the electronics sector, the Modified Special Incentives Scheme, Electronics Manufacturing Clusters (EMC) Scheme, and several other interventions are designed to provide incentives for localisation of electronics manufacturing, and for inviting foreign direct investment.

An enabling ecosystem builds its own momentum. The Production Linked Incentive (PLI) scheme and a string of reforms in the last decade, have provided the catalyst needed for electronics growth

Even China moved from assembly to manufacturing when they invested in R&D. Taiwan helped create China as a product nation. There is need to ally with Taiwan to fix some missing pieces there. What makes us truly unique is that not only do we know how to design hardware, we also know how to integrate software into hardware.

in the country. The next step is to build our own products, and get into product ownership. This will usher in a new era of Make in India products that are 100% repairable and upgradable, and support the vision of a robust growth nation catering to the global market as well.

As per MeitY, electronics consumption in India will balloon to US\$ 400 billion in 2025 from US\$ 100 billion at present. We need to rapidly transform India into a manufacturing hub for new generation electronics products with minimal dependence on foreign components. To see real change, we need to deepen R&D. Even China moved from assembly to manufacturing when they invested in R&D. Taiwan helped create China as a product nation. There is need to ally with Taiwan to fix some missing pieces there. What makes us truly unique is that not only do we know how to design hardware, we also know how to integrate software into hardware.

The first-of-its-kind in India Electropreneur Park (EP) started in 2016 created 51 hardware products, 51 patents, and 23 start-ups were funded, against a set objective of 50 ESDM (Electronics System Development & Maintenance) start-ups over five years. The EP as a hub with 20 spoke centres aimed to promote innovation and create unicorns in ESDM by offering access to a holistic ecosystem to accelerate the Government's flagship schemes like Startup India and Make in India. It helped in the creation of full stack ecosystem, from ideation to manufacturing. Such support programs also replicated at the AIC T-Hub Foundation in Hyderabad, the Maker Village in Trivandrum, and similar programs in Bhubaneshwar and Chennai, that include mentorship from idea refinement to business development, help to create a fully thriving Make in India design ecosystem, with support on ESDM technical recruitment, establishing processes, sourcing, test infrastructure, and help in product commercialization.

#### THE GAPS

India is a land dotted with incubators--many of the strongest being in educational institutes. I feel that while these institutes have strong technical mentorship, there is a void where business mentorship, teaching entrepreneurship and providing a connection to angel investors are concerned. It was in the interest of addressing this very void that I created a first-of-its-kind minor in the subject at IIT Hyderabad, as chairman of the institute. I have seen first-hand the benefits of bolstering the entrepreneurial spirit with education and tempering it with experience.

#### SUPPORTIVE ECO-SYSTEM

The current ecosystem in the country is very favorable for start-ups. The central government has an extremely supportive start up policy. Various state governments have also announced start up policies. Funding is available easily unlike the time we started HCL, there are close to 800 -1000 angel investors and 6-8 angel networks. Each of them is willing to invest Rs 3-5 crore on startups that have a good idea and an energetic and passionate team.

#### CONCLUSION

As technology intensity increases across every sector, and in every part of the globe, India gets to present something truly spectacular to the world: the power of the Indian Mind. And this is seen across countless apps, unicorns, start-ups, a plethora of fintech, healthtech, agri-tech solutions, the India Stack, our pharma edge, our vaccine program, our design, architectural, and cultural experiences, in many incredible, fascinating ways.

Technological breakthrough are cyclical events, and they are evolving with even greater frequency on the Indian landscape. We missed out on the earlier versions of Web which saw the rapid growth of Amazon, Google, and Twitter. But now, the third largest start-up nation in the world is fast becoming a hub for innovation. Today nearly every Fortune 500 company has a research and development centre in India. Despite the fact that de-globalisation has become a common theme, after the US- China stand-off and the Ukraine crisis, Nasscom estimates that by 2025 India could have 2,000 Global Capability Centres (GCCs)

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employing 2 million people and generate US\$ 60 billion of revenue. The demand is being fueled by the global desire to invest in the Indian mind for innovation and research. These are not back-end offices for secondary tasks, but front-end leaders of the innovation chart of companies.

From the India Stack, the world has seen a robust model for closing gaps in financial inclusion, and effective service delivery for citizens. It has ushered millions of people, of all strata and regions, into the digital economy, becoming an important pillar of the country's infrastructure, like roads and railways. The UPI stands out for a payments solution that's reliable, secure and interoperable among different payments companies, including markets in Singapore, Malaysia and Philippines that now accept UPI payments through QR code. Google brought it to the US Department of Treasury as an example for FedNow to follow. Australia is looking to integrate UPI with its own nascent New Payments Platform. It has got the vote of confidence from Walmart, Google, WhatsApp, and Amazon for a singular example of leveraging technology for quick, fast, and reliable service delivery. But, India has gone beyond a few revolutionary ideas, some start-ups or unicorns proving themselves on the global stage. We are building tech services to solve global issues. If the last decade was about tech innovation, this decade is about tech action, tech delivering solutions for food shortage, inclusion, global warming. That is why the India story is poised for a big take-off as we are seen creating game- changing solutions that score high on capital efficiency, and new ideas.

## DIGITAL INDIA FOSTERING INTERNATIONAL DIGITAL ALLIANCE (IDA) ON E-OASIS: RIGHT MOVE FOR INDIAN DIPLOMACY

#### DEEPAK MAHESHWARI<sup>2</sup>

#### Background

Use of digital technologies in every sector is rising exponentially and ample evidence exists about its positive impact on economy and society. In fact, the expansion of digital technologies both aided and were aided by increasing globalization.

Admittedly, pioneers often get the benefit of first-mover advantage but challenge through innovation may come by way of products, processes and even business processes. Traditionally, much of the technological innovation emerged in the US, Europe and Japan even as countries like Taiwan, Korea and Israel have carved out their own niche. Of course, China emerged as the global leader in manufacturing even as India pioneered and continues to be the global leader in the realm of IT and IT enabled services.

In the past few years, however, India has become a hotspot of innovation around Digital Public Infrastructure (DPI). These include ONDC for digital commerce, OCEN for democratising credit and CoWIN for administering Covid vaccines – all of these scaled and scalable for the population of India. All these are built atop the three foundational layers of Aadhaar for identity, UPI for payment and DEPA for data sharing, collectively called the 'India Stack'.

Since such needs exist in other developing and least developing countries but also in developed countries, opportunities exist galore for Indian diplomacy to socialise this concept around the world. With no

2 Deepak Maheshwari is a Public Policy Consultant and Researcher

Opportunities exist galore for Indian diplomacy to socialise this concept around the world. With no strings attached, the Indian approach to DPIs offers flexibility and choice to the adopting country to pick and choose the modules that it wants and deploy that with due consideration to the need and imperative of adapting to the local needs, context and conditions.

strings attached, the Indian approach to DPIs offers flexibility and choice to the adopting country to pick and choose the modules that it wants and deploy that with due consideration to the need and imperative of adapting to the local needs, context and conditions.

However, this endeavour needs a homogeneous strategy built on two prongs. First, India should establish International Digital Alliance (IDA) on the lines of International Solar Alliance (ISA). Secondly, a framework of mutually exclusive yet collectively exhaustive set of principles should be articulated. These are Equitable and Ethical; Open; Accessible and Affordable; Safe and Secure; Inclusive, Interoperable and Innovative; and, Sustainable or E-OASIS.

The die is cast and it is both the opportunity for and the responsibility of

the Indian diplomacy to mould and shape the DPI momentum globally by ideating and identifying the potential use cases and connecting them with the relevant stakeholders within India.

#### INTRODUCTION

There is ample empirical evidence of digital technologies making positive impact on all aspects of lives<sup>3</sup>, livelihoods, economy<sup>4</sup> and beyond<sup>5</sup>, and more so in developing countries like India<sup>6</sup>. These span from health to hospitality, agriculture to aviation, tourist to trade, entertainment to education, communication to commerce, governance to gaming, payments to politics, and, sports to spirituality, and, development to diplomacy. In fact, there is hardly any aspect of our lives that remains untouched by the digital technologies.

<sup>3</sup> https://www.un.org/en/un75/impact-digital-technologies

<sup>4</sup> https://blogs.worldbank.org/digital-development/can-internet-access-lead-improved-economic-outcomes

<sup>5</sup> https://www.indiabudget.gov.in/economicsurvey/doc/eschapter/echap12.pdf

<sup>6</sup> https://www.icrier.org/pdf/Internet\_Release\_20jan12.pdf

Over the past three decades, digital technologies have expanded globally, most visible by way of mobile phones, increasing broadband access and usages like online news, instant messaging, E-Commerce, Social Media and Digital Payment'. In fact, many believe that the relationship between the globalization and digital technologies demonstrate reciprocal causality<sup>8</sup>.

In developing and least developed countries, digital technologies have also proved to be a tool to bridge the gaps in the physical and institutional infrastructures'. For example, the challenge of inadequate number of teachers with the requisite expertise is being met, at least partially, through distant education. Similar is the case in case of tele-medicine, where a superspecialist doctor working in a metropolis can guide the diagnosis and treatment of a critical patient hundreds of miles away in a remote village, connected via high-speed broadband and likely facilitated by an in-situ village level paramedic, albeit both speaking in different languages<sup>10</sup>.

The Covid-19 pandemic only further amplified and accentuated this reality by bringing it to the fore as almost everything went online. However, it also highlighted the major gaps and sharpened the fault lines by contrasting those who had access to, and capability of using digital technologies and those who did not have the same. Even as classes moved online, millions of students lost almost two years of educational opportunity just because they did not have the connectivity (device and/or the access) or the requisite capability (digital literacy)<sup>11</sup>. In several cases, the teachers also faced similar challenges. Lack of sufficient training and exposure to pedagogy and the sensitivity needed in an online environment further compounded the problem.

#### Digital Technologies – A Primer

Before proceeding further, it is useful to understand the scope of the term 'Digital Technologies'. The phrase 'Information and Communication Technology' (ICT) has been in the vogue for decades and is an abridged version itself to represent the synergies

- 8 https://issuu.com/i4d\_magazine/docs/i4d\_september\_2005\_issue
- 9 https://icrier.org/pdf/Digital\_Communications.pdf

11 https://www.brookings.edu/blog/future-development/2022/01/28/we-are-losing-a-generation/

<sup>7</sup> https://unctad.org/system/files/official-document/der2019\_en.pdf

<sup>10</sup> https://www.financialexpress.com/opinion/india-must-start-work-on-6g-now/2043759/

across 'Information Technology' and Communication Technology'<sup>2</sup>.

However, the scope of the term 'Digital Technologies' has been expanding with the changing times and is even broader in scope and includes or at least touches Artificial Intelligence (AI), Machine Learning (ML), Blockchain but also Social Media and Robotics.

While analog technologies can also be and indeed had been, used for both communication and computing, the use of digital technologies is predicated on capturing, expressing, storage, processing, transporting and presenting anything by way of a binary sequence made up of '0s' and '1s' through use of logic in the system design. This in turn, leads to new levels of efficiency, scale and speed.

#### Leaders and Laggards – No Fixed Places

Key players in any sector have almost always gained an upper hand with potential for long-term leadership accruing rather disproportionate benefits<sup>13</sup>. These could be by way of firstmover or at least early-mover advantage, by setting the rules of the road, by setting standards that others need to comply with, or by controlling the access to key resources or technologies<sup>14</sup>. Examples include railroad gauges to power supply voltage, width of bathroom fittings to size of payment cards and even sizes of staple pins and paper, shaving blades and battery cells.

However, history is replete with examples of new players challenging such hegemony and in the process, carving out a niche for themselves through innovation, whether driven by new process, product, positioning or business model<sup>15</sup>. For example, assembly lines helped speed up productivity and thereby reduced the prices of automobiles and appliances<sup>16</sup>. Likewise, when the oil crisis of the 70's forced the US consumers to prioritize the fuel efficiency, Honda and Toyota suddenly gained enormous popularity<sup>17</sup>.

This is also the case in the realm of 'Digital Technologies'. Though transistor was developed at the AT&T Bell Labs, it

<sup>12</sup> https://www.techopedia.com/definition/24152/information-and-communications-technology-ict

<sup>13</sup> https://corporatefinanceinstitute.com/resources/management/first-mover-advantage/

<sup>14</sup> https://www.sciencedirect.com/science/article/abs/pii/S0272696315000212

<sup>15</sup> https://www.researchgate.net/publication/228701019\_Incumbent\_Performance\_in\_the\_Face\_of\_a\_Radical\_Innovation\_ Towards\_a\_Framework\_for\_Incumbent\_Challenger\_Dynamics

<sup>16</sup> https://corporate.ford.com/articles/history/moving-assembly-line.html

<sup>17</sup> https://www.wondriumdaily.com/when-the-japanese-auto-industry-flooded-the-us-market-in-the-1970s/

was Sony who introduced the compact radio sets using transistors<sup>18</sup>. Though the concept of mouse may have been developed at the Xerox Palo Alto Research Center<sup>19</sup>, but it was left to Apple and other PC manufacturers that made it popular through further innovations<sup>20</sup>.

## A Brief History of the Digital Technologies

There is a long history of endeavours around developing communication and computing devices. These include drums, smoke signals, charts and even large machines made with chains and gears. With the advancements in theory of logic by pioneers like Charles Babbage<sup>21</sup>, new opportunities opened up. In parallel, availability of electricity and valvesbased machines could be programmed to perform certain complex functions and computations.

In the earlier days of the mainframe computers, hardware, operating system, the application software, the display and more often than not, even the printers used to be supplied as a package by the same manufacturer.

The stand-alone transistors were indeed helpful but etching complex circuitry on semi-conductor miniature chips did the real magic in terms of enhancing speed, compacting the hardware and minimising the electricity needed while also helping enhance robustness, efficiency, capability and even aesthetics<sup>22</sup>.

Besides the hardware, significant progress was made on the software front by evolution of simpler and more versatile programming languages.

With further evolutions like the arrival of mini computers and development of open source operating system like UNIX<sup>23</sup>, more competitors came into the fray and the business became more modular. By the end of 80s, one could even assemble a personal computer through different parts sourced from retail stores or mail orders, run a third party operating system – proprietary or open source, and run application software from yet another vendor<sup>24</sup>. And yes, the display monitor and printer could be yet other brands.

18 https://www.goodreads.com/en/book/show/1008101

- 21 https://www.computerhistory.org/babbage/
- 22 https://iopscience.iop.org/article/10.1088/0031-9120/40/5/002
- 23 http://ibgwww.colorado.edu/~lessem/psyc5112/usail/concepts/hx-of-unix/unixhx.html
- 24 https://history-computer.com/how-to-build-a-pc/

<sup>19</sup> https://www.parc.com

<sup>20</sup> https://zurb.com/blog/steve-jobs-and-xerox-the-truth-about-inno

Likewise, in the case of communication technologies, one could use handset, switching equipment and transmission system of different brands and they would still interoperate, thanks to the standards<sup>25</sup>.

#### Geo-Political Economy of Digital Technologies

Unsurprisingly, most of the Research and Development (R&D) happened in the US and Western Europe, building upon their academic-industry complex<sup>26</sup>, further aided by the military that always wanted to have an upper hand for both keeping their own secrets while trying to eavesdrop on others' communication by way of signal intelligence and the opportunity that they saw in design, development and deployment of compact, stealthy and more precise arms and ammunitions, vehicles and other systems.

It would not be out of place to recall that both the Internet<sup>27</sup> and the Global Positioning System (GPS)<sup>28</sup> emerged from the research grants by the US Department of Defence.

Russia had its own mainframe vendors but they seem to have vanished. Japan had some large computing companies but even those could not make the mark in the mass market. In the recent decades, Israel has emerged as a key hub for cybersecurity and drones<sup>29</sup>. Taiwan has emerged as the largest supplier of the semi-conductor chips globally<sup>30</sup> and China became a big manufacturing hub for digital products<sup>31</sup>.

On the other hand, a clutch of few European companies are at the forefront of telecom technology even as some Chinese companies have taken a lead in 5G . In the case of Artificial Intelligence, it is mostly the Chinese and US researchers leading the field , even as India is said to have overtaken the US to become global leader in leveraging AI<sup>32</sup>.

Some Indian government entities began inducting computers soon after the independence<sup>33</sup>, it was only in the 70s that

<sup>25</sup> https://www.itu.int/hub/2022/02/mobile-broadband-standards-imt-5g/

<sup>26</sup> https://historynewsnetwork.org/article/4976

<sup>27</sup> https://www.sciencedirect.com/science/article/abs/pii/0376507583900429

<sup>28</sup> https://www.defense.gov/News/Feature-Stories/story/Article/1674004/what-on-earth-is-the-global-positioning-system/

<sup>29</sup> https://www.business-standard.com/article/international/israel-s-shadow-conflict-with-drones-and-cyber-attacks-with-iran-122032100124\_1.html

<sup>30</sup> https://www.bloomberg.com/news/articles/2023-01-15/taiwan-is-still-semiconductor-leader-as-chip-exports-rise-again

<sup>31</sup> https://itimanufacturing.com/china-manufacturings-electrical-product-hubs/

<sup>32</sup> https://news.abplive.com/india-at-2047/ai-india-sector-market-jobs-artificial-intelligence-us-cross-developedtransformation-2047-1561108

<sup>33</sup> https://history.computer.org/pubs/2012-12-rajaraman-india-computing-history.pdf

Today, most of the Fortune 500 companies have their Global Capability Centres (GCCs) in India . Some Indian manufacturers have been exporting hardware and in the past few years, mobile phone manufacturing has got a huge impetus.

a few Indian manufacturers came <sup>34</sup> even as it was in late 60s that a mainframe computer imported from the US had already become the harbinger of the IT outsourcing industry in the country<sup>35</sup>.

Over the past few decades, India has emerged as a global leader in the IT and IT enabled services (IT-ITeS) sector<sup>36</sup>. Within India too, this sector has surpassed the traditional export sectors like Gems and Jewellery. Today, most of the Fortune 500 companies have their Global Capability Centres (GCCs) in India<sup>37</sup>. Some Indian manufacturers have been exporting hardware and in the past few years, mobile phone manufacturing has got a huge impetus<sup>38</sup>. In fact, some of the leading global brands have begun manufacturing their latest advanced models in India, even for exports<sup>39</sup>. Despite the restructuring of global supply chains in the recent years since major disruptions since 2020, US, China, Taiwan, Japan, Korea, EU and Israel continue to be the hub where technological innovations (mostly in the form of patents) reside even if in many cases, certain development may have happened in India. Likewise, China continues to be the global leader in manufacturing even as some of the recent additional capacity augmentation has happened in other countries like India and Vietnam<sup>40</sup>.

By designing 5G solutions to cater for affordable, ubiquitous and universal broadband to its rural population, India

34 https://theprint.in/ani-press-releases/harpercollins-india-presents-just-aspire-notes-on-technology-entrepreneurship-and-the-future-by-ajai-chowdhry/1406643/

<sup>35</sup> https://brandriddle.com/tcs-history/

<sup>36</sup> https://nasscom.in/sites/default/files/media\_pdf/tech-industry-revenue-set-to-reach-245bn-in-fy2023e\_1.pdf

<sup>37</sup> https://nasscom.in/about-us/what-we-do/industry-development/global-capability-centres

<sup>38</sup> https://timesofindia.indiatimes.com/gadgets-news/mobile-manufacturing-in-india-crossed-31-crore-units-in-2022-23-fmduring-union-budget/articleshow/97519283.cms?from=mdr

<sup>39</sup> https://www.livemint.com/companies/news/iphone-exports-from-india-double-to-surpass-2-5-billion-11673255522054.html

<sup>40</sup> https://economictimes.indiatimes.com/small-biz/trade/exports/insights/reshaping-supply-chains-vietnam-takes-the-lead-butindia-positioned-well-for-a-larger-role-kearneys-viswanathan-rajendran/articleshow/87100429.cms?from=mdr

India is emerging as a lynchpin and an exemplar par excellence when it comes to deployment of technology for mass impact!

developed Limited Mobility, Large Cell (LMLC) standard<sup>41</sup>. This was accepted both by ITU<sup>42</sup> and 3GPP and became part of the Release 17<sup>43</sup>. Of course, India had exported the concept of 'O' but that was millennia back!

Clearly, there are hardly any areas of digital technology where Indian hardware or software became world leader notwithstanding the tremendous growth and continued leadership in outsourcing, the recent success with 5Gi, and, even being seen as the global leader for providing AI talent.

However, that is changing and India is emerging as a lynchpin and an exemplar par excellence when it comes to deployment of technology for mass impact<sup>44</sup>!

## The Opportunity Beckons, for 'Digital India'!

Use of technology for benefit of people at large has been a well-established mantra in India. The Green Revolution made India self-sufficient for food grains and the White Revolution made India the global leader in milk production. Electronic Voting Machines have been used in elections for decades.

While e-governance services began in the 90s in select states and sectors<sup>45</sup> and the National E-Governance Plan (NeGP)

The 'Digital India' programme launched in 2015 transformed the way Indian government and the people look at digital technology and its impact. Its three pillars are - digital connectivity to one and all through affordable, universal broadband; digital delivery of services, and, empowerment through digital literacy.

<sup>41</sup> https://techblog.comsoc.org/2019/07/05/indias-tsdsi-candidate-imt-2020-rit-with-low-mobility-large-cell-lmlc-for-rural-coverage-of-5g-services/

<sup>42</sup> https://www.itu.int/en/mediacentre/backgrounders/Pages/5G-fifth-generation-of-mobile-technologies.aspx

<sup>43</sup> https://www.3gpp.org/specifications-technologies/releases/release-17

<sup>44</sup> https://economictimes.indiatimes.com/opinion/et-commentary/dpi-where-india-is-uniquely-positioned-to-lead-the-world/ articleshow/97885446.cms?from=mdr

<sup>45</sup> https://egov4women.unescapsdd.org/country-overviews/india/the-evolution-of-e-government-in-india-the-early-days

G20 Digital Economy Working Group (DEWG) has already identified DPIs as one of its three priorities, the other two being cyber security and digital skills.

had been unveiled in 2006<sup>46</sup>, the 'Digital India' programme launched in 2015<sup>47</sup> transformed the way Indian government and the people look at digital technology and its impact. Its three pillars are digital connectivity to one and all through affordable, universal broadband; digital delivery of services, and, empowerment through digital literacy.

India is undertaking the world's largest universal broadband infrastructure project called 'BharatNet'\*\*. It comprises high-bandwidth backbone across the length and breadth of the country to each and every of its 640,000 villages\*\*, rapid expansion of 5G network through sharing of active and passive networks, and the plan to deploy 10 million public Wi-Fi hotspots<sup>50</sup>. In parallel, plans are afoot to use low-latency, satellites, and other appropriate technologies as well as endeavors to provide affordable devices.

An array of services both by the government and private sector are either already online or in the process of being made available online. Then, there are massive programs to impart digital literacy to the masses, often alongside cyber and even financial literacy.

G20 Digital Economy Working Group (DEWG) has already identified DPI's as one of its three priorities, the other two being cyber security and digital skills<sup>51</sup>. In addition to the ensuing G20 Presidency of India, there are opportunities through other plurilateral platforms like the QUAD Forum<sup>52</sup>, the Indo Pacific Economic Framework (IPEF<sup>53</sup>), the Shanghai Cooperation Organisation (SCO)<sup>56</sup> and the Non-Aligned Movement (NAM)<sup>55</sup>, etc.. DPI

54 http://eng.sectsco.org

<sup>46</sup> https://www.meity.gov.in/divisions/national-e-governance-plan

<sup>47</sup> https://www.meity.gov.in/sites/upload\_files/dit/files/Digital%20India.pdf

<sup>48</sup> https://usof.gov.in/bharatnet-project

<sup>49</sup> https://www.pib.gov.in/PressReleasePage.aspx?PRID=1646111

<sup>50</sup> https://telecom.economictimes.indiatimes.com/news/govt-approves-pm-wani-scheme-to-unleash-wi-fi-revolution/79642826

<sup>51</sup> https://www.g20.org/en/media-resources/press-releases/february-23/dewg/

<sup>52</sup> https://www.quadforum.net

<sup>53</sup> https://ustr.gov/ipef

<sup>55</sup> https://www.mea.gov.in/Images/pdf/Members-and-other-participants.pdf

collaboration should also feature in every bilateral agreement of cooperation.

#### Digital Public Infrastructure – India's Gift to the World

True, several other countries have undertaken national broadband plans or such like, albeit none as complex. Likewise, several other countries have undertaken digital literacy campaigns, however, not with the extent of India's linguistic diversity and a significant proportion of the Indian adult population lacking even functional literacy.

However, the most distinctive aspect of '**Digital India**' is '**Digital Public Infrastructure' (DPI)**. DPI is basically a public-spirited and public-focused *collection of technological systems, platforms, and services* built atop a set of shared digital building blocks, such as applications, systems, and platforms, powered by interoperable and open standards, protocols or specifications<sup>56</sup>.

A DPI has three basic layers – Identity; Payment; and Data Sharing<sup>57</sup>. In the Indian context, these are collectively called 'India Stack'<sup>58</sup> and comprise the following:

Aadhaar<sup>59</sup>: The biometric based unique digital national ID verifiable online to which every resident is entitled to.

**UPI**<sup>60</sup>: Unified Payment Interface enables real-time, frictionless payment at no-cost in case of person to person (P2P) or low cost in case of merchant payments.

**DEPA**<sup>61</sup>: Data Empowerment and Protection Architecture defines how data can be and should be shared, while ensuring that the Data remains protected.

Incidentally, DPI is also the most amenable to be deployed outside India. It is a unique opportunity for the Indian diplomacy to help spread the word and to deploy DPIs all over the world. This soft power is also a moral imperative!

Core building blocks of DPIs in India are open to one and all and come with no strings attached. By simplifying the deployment through access to modular, flexible and permission-less open standards, these can be deployed by, or within any other country with ease. Essentially, India has fostered an

<sup>56</sup> https://digitalpublicgoods.net/digital-public-goods/

<sup>57</sup> https://www.outlookindia.com/business/india-s-world-class-digital-infra-worth-emulating-by-many-nations-imf-papernews-276531

<sup>58</sup> https://indiastack.org

<sup>59</sup> https://uidai.gov.in/en/

<sup>60</sup> https://www.npci.org.in/what-we-do/upi/product-overview

<sup>61</sup> https://www.niti.gov.in/sites/default/files/2020-09/DEPA-Book.pdf

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innovative way of using frugal technology at scale for mass impact. In fact, any country can both adopt to meet its unique functional requirements as also adapt to its local context of political economy<sup>62</sup>.

#### **Successes Galore**

By mid-April 2023, 2.2 billion Covid vaccines had been administered within 27 months since its launch in mid-January 2021, and all were recorded electronically on the **CoWin** platform<sup>63</sup>. In fact, every Indian who has been vaccinated for Covid can carry a digitally signed vaccine certificate that can be verifiable online. While India represents just 3.4% of global GDP in nominal value, it already accounts for more than 40% of digital payments globally<sup>64</sup>. In fact, in March 2023 alone, there were more than 8.7 billion transactions using **Unified Payment Interface (UPI)**<sup>65</sup>, implying more than 100,000 transactions per second!

India has also initiated **Open Network** for Digital Commerce (ONDC) that would enable any-to-any pairing across buyers and sellers as well as providers of logistics and payment services thereby enabling competition at every layer and empowering consumers, built on open standards<sup>66</sup>. Likewise, **Open** Credit Enablement Network (OCEN) is democratising credit and financial services via a set of standards<sup>67</sup>. This would come in handy especially for micro and small enterprises (MSEs) and individuals who may lack access to affordable, simple and speedy credit facilities due to higher transactional costs

- 66 https://ondc.org
- 67 https://finbox.in/blog/what-is-ocen-embedded-credit-digital-lending/

<sup>62</sup> https://economictimes.indiatimes.com/news/economy/policy/offering-india-stack-interface-to-g20-attendees-ashwini-vaishnaw/articleshow/97248996.cms?from=mdr

<sup>63</sup> https://dashboard.cowin.gov.in

<sup>64</sup> https://economictimes.indiatimes.com/news/economy/finance/indias-digital-payments-market-will-more-than-triple-to-10-trillion-by-2026-report/articleshow/98522718.cms

<sup>65</sup> https://www.moneycontrol.com/news/business/economy/8-7-bn-upi-transanctions-witnessed-in-march-2023-nirmalasitharaman-10419381.html

and lack of credible credit scores using traditional bureaus.

By encouraging various permutations and combinations, new solutions can and do emerge. For example, instead of providing physical copies of educational transcripts and degree certificates, one can choose to store the same in **DigiLocker**<sup>68</sup>. It is essentially a private cloud storage with permission to select third parties for specific purpose and specific artefacts. Yes, it happens to be a DPI.

Such needs exist all over the world and not just in developing and least developing countries. In fact, the transaction cost in digital payments is extremely high even in developed markets and more so, in case of crossborder scenarios. For example, the US government mailed cheques for unemployment allowance during the pandemic that had to be deposited physically in the banks<sup>69</sup>. This resulted not only in undue delays but also significant cost both to the government and the beneficiaries. On the other hand, the government of India used **Direct Benefit Transfer** (DBT) to hundreds of million individual bank accounts, ensuring real-time credit and that too, at zero cost to the beneficiary<sup>70</sup>. This became possible thanks to the **JanDhan-Aadhaar-Mobile** (JAM)<sup>71</sup> trinity representing interlinkage of a no-frills, zero-balance (JanDhan) bank account with a unique digital ID (Aadhaar) and mobile number of the beneficiary.

#### Wide-Spread Support

Outside India too, there are quite a few DPIs already in usage. However, these are not as scaled up or as prevalent as in India.

In June 2020, the '**Roadmap for Digital Cooperation'** prepared by the UN Secretary General included specific emphasis on '**Digital Public Goods'** (**DPGs**)<sup>2</sup>, a term similar to DPI. In 2021, in its annual **Digital Economy Report**, the **UNCTAD** had also underscored the positive impact of DPIs while urging

<sup>68</sup> https://www.digilocker.gov.in

<sup>69</sup> https://www.cnbc.com/2023/01/28/us-unemployment-system-still-plagued-by-delays-3-years-post-pandemic.html

<sup>70</sup> https://www.nic.in/blogs/direct-benefit-transfer-a-blessing-during-the-time-of-pandemic/

<sup>71</sup> https://www.pmindia.gov.in/en/government\_tr\_rec/leveraging-the-power-of-jam-jan-dhan-aadhar-and-mobile/

<sup>72</sup> https://www.un.org/en/content/digital-cooperation-roadmap/assets/pdf/Roadmap\_for\_Digital\_Cooperation\_EN.pdf

for free data flows across international borders for maximum benefits<sup>73</sup>.

Likewise, a **World Bank** blog in March 2023 averred that DPIs support empowerment, inclusion, and resilience<sup>74</sup>. In the same month, a working paper by the International Monetary Fund (IMF) had applauded India's DPI philosophy<sup>75</sup>.

#### E-OASIS: A FRAMEWORK FOR TAKING DPI GLOBAL

In order to take this model global, India should do two things. Firstly, on the lines of **International Solar Alliance** (ISA)<sup>76</sup>, there should be an **International Digital Alliance (IDA)**. Secondly, a framework of mutually exclusive yet collectively exhaustive set of principles should be articulated. These are E-OASIS Equitable and Ethical; Open; Accessible and Affordable; Safe and Secure; Inclusive, Interoperable and Innovative; and, Sustainable.

#### **Equitable and Ethical**

DPI must be equitable, implying that every stakeholder (including the non-users) must have a say in how it is designed, developed and deployed. Without a robust ethical basis, DPI may be prone to biases and potential abuse. Hence, ethical considerations must be factored in, right from the conception and the design stage. It must steer clear of both conscious and unconscious bias as well as have a human in the loop with clear lines of accountability while also ensuring that it is not misused for nefarious purpose. This is

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73 https://unctad.org/system/files/official-document/der2021\_overview\_en\_0.pdf

- 75 IMF Working Paper 'Stacking up the Benefits: Lessons from India's Digital Journey', March 2023
- 76 https://isolaralliance.org

<sup>74</sup> https://blogs.worldbank.org/digital-development/how-digital-public-infrastructure-supports-empowerment-inclusion-and-resilience

especially relevant given the tremendous development in the field of Generative AI.

#### Open

By definition, the core building blocks of a DPI must be open – open standards, open protocol, open APIs. In addition, it should endeavour to use open source software.

Another aspect of openness is around transparency.

#### Available and Accessible, Affordable and Accountable

DPI is particularly useful for people in remote areas or belonging to vulnerable categories or communities. Hence, DPI must be universally available in terms of ubiquity. Secondly, it must be accessible – not only in terms of easy interface but also easily usable by people with physical or neuro disability. Thirdly, the DPI service should be either free of cost or extremely affordable. Fourthly, it must be accountable to all the stakeholders in case something goes wrong or as unintended.

It would not be out of place to mention herein that availability of affordable, continuous electricity supply in remote areas is another oft-forgotten prerequisite for success of a DPI even if a different administrative body might be responsible for the same.

#### Safe and Secure

Like any other technology digital technologies also come with their own security and safety challenges. Users must have a safe experience from unwarranted privacy breaches and harassment while the DPI itself must implement the best in breed security solutions and practices".

#### Inclusive, Interoperable and Innovation-inducive

DPI would not really be a meaningful undertaking if it is not inclusive, interoperable and innovative.

Inspired by 'Unto This Last', Mahatma Gandhi had urged to think about the person most deprived of resources or opportunities, the person who is farthest from the power centre<sup>78</sup>. Accordingly, a conscious and conscientious effort is imperative on inclusion to empower, enable and energize even such person's life through meaningful DPI notwithstanding their race, region, religion, language, gender, political affiliation, education or income

<sup>77</sup> https://icrier.org/pdf/State\_of\_India\_Digital\_Economy\_Report\_2023.pdf

<sup>78</sup> https://www.mkgandhi.org/newannou/how-unto-this-last-inspired-Mahatma-Gandhi.html

level, etc. Efforts like UPI for feature phones using USSD code \*99# and offering its menus in languages other than English drive inclusion".

DPI must be accessible for one and all, everywhere, every time. Even if somebody accesses from a remote village or an island or a hilltop they should have a reasonably good speed and low latency. Moreover, the system should be such that it is inclusive of support for people with different disabilities physical or neurological, temporary or permanent to the extent feasible. In this regard, the National Policy on Universal Electronics Accessibility can provide a good foundation, leading to adoption of systems thinking and universal design principles.

By its very definitional attributes, DPI is made up of interoperable modules and technologies<sup>80</sup>. However, the value of a DPI further compounds up when it is also interoperable with other DPIs<sup>81</sup>. DPI is an innovation but more than itself, it must enable further innovation atop itself or along the edges<sup>82</sup>. For example, UPI is a DPI but allows multiple players to innovate further on the core functionality<sup>83</sup>.

#### Sustainable

India has already demonstrated leadership and commitment vide initiatives like ISA and the commitment to net zero carbon emission by 2070<sup>84</sup>. All this would need distributed data collection and multiple levels of processing<sup>85</sup>. Admittedly, digital technologies also use significant energy<sup>86</sup> and materials including rare earth elements<sup>87</sup>. In addition to mitigating and handling the challenge of e-Waste<sup>88</sup>, it is of utmost importance that the deployment of digital technologies is

<sup>79</sup> https://fintra.co.in/blog/make-payments-using-upi-without-internet

<sup>80</sup> https://www.codevelop.fund/what-is-digital-public-infrastructure

<sup>81</sup> https://www.undp.org/blog/seizing-digital-moment-interlocking-challenges-interoperable-solutions

<sup>82</sup> https://www.thehindubusinessline.com/economy/digital-public-infrastructure-leapfrogged-development-in-india-financeministry-official/article66583569.ece

<sup>83</sup> https://www.financialexpress.com/industry/banking-finance/rbis-upi-move-may-boost-innovation/3038453/

<sup>84</sup> https://pib.gov.in/PressReleasePage.aspx?PRID=1847813

<sup>85</sup> https://www.frontiersin.org/articles/10.3389/fdata.2020.00029/full

<sup>86</sup> https://www.iea.org/reports/digitalisation-and-energy

<sup>87</sup> https://unctad.org/system/files/official-document/tn\_unctad\_ict4d16\_en.pdf

<sup>88</sup> https://www.genevaenvironmentnetwork.org/resources/updates/the-growing-environmental-risks-of-e-waste/
Die of India's DPI framework is cast. It is a unique offering that Indian diplomacy must imbibe, embrace and socialise with its counterparts around the globe. It is Indian diplomacy's opportunity as well as responsibility to mould and shape the DPI momentum globally by ideating and identifying the potential use cases and connecting them with the relevant stakeholders within India.

done with focus on energy efficiency<sup>®</sup> and minimizing e-Waste<sup>®</sup>. Hence, DPI must be sustainable.

### The Road Ahead

Diplomacy entails nuanced engagement to explore and negotiate issues of common interest by forging mutually beneficial bilateral and plurilateral partnerships with a wide variety of nations – developed and developing, large and small, neighbours and distantly located ones, democracies and other systems of governance.

Die of India's DPI framework is cast. It is a unique offering that Indian diplomacy must imbibe, embrace and socialise with its counterparts around the globe. It is Indian diplomacy's opportunity as well as responsibility to mould and shape the DPI momentum globally by ideating and identifying the potential use cases and connecting them with the relevant stakeholders within India.

<sup>89</sup> https://www.sciencedirect.com/science/article/abs/pii/S0048969722055024

<sup>90</sup> https://green.harvard.edu/tools-resources/how/6-ways-minimize-your-e-waste

# DIGITAL INDIA AND DIPLOMACY TOWARDS A GLOBAL UPI PAYMENTS SYSTEM

## **AVNI SABLOK<sup>®</sup>**

Powered by a robust digital infrastructure, public participation in the digital and financial spaces, an increase in digital literacy among the public, and penetration of digital services in the remote regions of the country, Digital India has become a global benchmark for nations to follow. It has also acted as a catalyst for the evolution of technology-led innovations across the country, with India's digital infrastructure innovations now being emulated globally. Wider adoption of telemedicine through the eSanjeevani application<sup>92</sup>, successful vaccination drive through the one-stop Co-WIN portal, DigiLocker, and Goods and Services Tax — Sahay are a few success stories among many. The National Payments Corporation of

India International (NPCIL)-led Unified Payments Interface (UPI) is another such innovation that is transforming the payments landscape beyond national boundaries by globalising India's digital payments infrastructure. This article focuses on the success story of India's UPI as a key element of the Digital India Programme and examines how the digital payment interface has grown in India and is expanding its digital network and outreach through digital diplomacy.

## Transformation of India's Digital Landscape

The vision to transform India into a digitally empowered society and knowledge economy by leveraging the power of information technology

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<sup>91</sup> Avni Sablok, Research Associate, Indian Council of World Affairs (ICWA)

<sup>92</sup> Press Information Bureau. "National telemedicine service of India - eSanjeevani achieves 8 crore teleconsultations", Ministry of Health and Family Welfare, Government of India, December 6, 2022. Available at: https://pib.gov.in/PressReleasePage. aspx?PRID=1881185 (Accessed on March 3, 2023).

The vision to transform India into a digitally empowered society and knowledge economy by leveraging the power of information technology gained unprecedented acceleration with the launch of the Government of India's flagship programme Digital India.

gained unprecedented acceleration with the launch of the Government of India's flagship programme Digital India. The earlier digital initiatives were largely government-centric to preserve records, create in-house office management systems, processing of data, among others. These already existing e-governance initiatives were suitably revamped to align them with the principles of Digital India marked by a clear recognition of the huge potential of the digital economy. It shaped a unique partnership between governments (Union and State), promoted inter-ministerial and departmental coordination, Public Private Partnerships (PPP) and, provided an impetus to start-ups as well as academia and think tanks.

The digitalisation of services such as passport, visa, railway bookings, withdrawal of cash and certifications has enabled their availability through digital platforms where earlier one had to be present physically or stand in queues. As the government initiated focused programmes and policies to further the digital revolution, it touched a lot of relevant areas bringing good governance to the doorsteps of the beneficiaries. The creation of a unique digital identity, Aadhar, became the building block. Aadhar unlocked the access and potential of the Digital India programme by supplementing the physical identity of individuals for the delivery of various social welfare programmes and enabled portability. This initiative streamlined government services through Direct Benefit Transfer (DBT) and JAM Trinity (Jan DhanYojana, Aadhar, and Mobile) and removed ghost beneficiaries. It further enabled the growth of innovations such as, DigiYatra, a Biometric Enabled Seamless Travel (BEST) experience based on a facial recognition system (FRS) and DigiLocker which is a secure way of storing various important documents like PAN card, driving license, Aadhar, etc., and eliminated the need to carry any paper to avail a government service. Further, the shared Application Programme Interface (APIs) of digital

By providing digital identities, creating digital infrastructure, enabling digital delivery of services as well as promoting employment and entrepreneurial opportunities, the Digital India programme is bridging the digital divide, enhancing the quality and outreach of governance, and transforming India into a digitally empowered society.

platforms like DigiLocker, are being utilized by the private sector, and startups such as Upstox, RazorPay, Paytm, and other FinTechs as their Know Your Customer/Client (KYC) happen through it smoothly.<sup>93</sup> The interoperability between different digital public infrastructures was also applied in education and health, including the Covid-19 vaccine and distribution platform, CoWIN. India has also emerged as one of the world's most vibrant destinations for start-up ecosystems by capitalising on digital infrastructure support. Thus, by providing digital identities, creating digital infrastructure, enabling digital delivery of services as well as promoting employment and entrepreneurial opportunities, the Digital India programme is bridging the digital divide, enhancing the quality and outreach of governance, and transforming India

into a digitally empowered society. The vision to empower every citizen with access to digital services, knowledge, and information has pushed the digital footprint of the country to unprecedented levels with many spectacular initiatives attracting global interest and drawing accolades from many curious nations to replicate this feat.

## Expanding Scope of Digital Diplomacy

Over the past decade and especially during the pandemic, the utilization of digital technologies in diplomacy has become increasingly diverse. The Ministry of External Affairs (MEA) pioneered the use of digital technologies and social media platforms to engage with the public, shape the narrative, communicate with the interlocutors, connect with the Indian diaspora, and extend support

93 Srivatsa Krishna. "India's DPIs, catching the next wave", The Hindu, March 30, 2023. Available at: https://www.thehindu.com/ opinion/lead/indias-dpis-catching-the-next-wave/article66676393.ece (Accessed on April 5, 2023). in crisis situations.<sup>44</sup> These tools were increasingly utilised during the pandemic and have now become a part and parcel of various diplomatic outreach programmes be it bilateral, trilateral, or multilateral engagements. T. S. Tirumurti, former Permanent Representative of India to the United Nations, highlighted in his "Concluding on a High Note in the UN Security Council" how he 'did all the lobbying for our UNSC elections in June 2020, on mobile calls or through zoom to colleagues I was meeting (virtually) for the first time!'.<sup>55</sup>

Thereafter, diplomacy in the digital age has expanded to encompass the national policies and best practices that have developmental benefits and can be replicated abroad. UPI is one such example where diplomacy has become a driving tool for the export of best-inclass digital tools to other countries for mutual benefit. The new Foreign Trade Policy 2023-28, acknowledges the substantial surge in online trade and aims at 'Promoting Cross Border Trade in Digital *Economy*' by providing a framework for cross-border trade of goods and services from India in the digital economy and the promotion of e-Commerce and other emerging channels of exports from India.<sup>96</sup> Apart from the use of international credit or debit cards for online payments, the policy also takes into consideration other modes of payment including RBI authorised electronic payment channels such as the UPI for payment of goods and services provided by e-Commerce platforms. Given the growing acceptance of digital payments interface, its further integration in such policies and programmes for the promotion of cross-border trade will enable artisans, weavers, craftsmen, and MSMEs in the

Diplomacy has expanded to encompass digital age policies and best practices that have developmental benefits and can be replicated abroad. UPI is one such example where diplomacy has become a driving tool for the export of best-in-class digital tools to other countries for mutual benefit.

<sup>94 &</sup>quot;MEA's Digital Diplomacy Footprint", Ministry of External Affairs, Government of India, November 16, 2017. Available at: https:// mea.gov.in/Uploads/PublicationDocs/29120\_MEAs\_Digital\_Diplomacy\_Footprint.pdf (Accessed on April 6, 2023).

<sup>95</sup> T.S. Tirumurti. "Concluding On A High Note In The Un Security Council", Indian Council of World Affairs, February 2023. Available at: https://icwa.in/pdfs/UNSecurityCouncilWeb.pdf (Accessed on April 6, 2023).

<sup>96</sup> Directorate General of Foreign Trade. "Foreign Trade Policy", Ministry of Commerce and Industry, Government of India, March 2023. Available at: https://www.dgft.gov.in/CP/?opt=ft-policy (Accessed on April 3, 2023).

hinterland and land-locked regions to reach international markets.

During the launch of BHIM-UPI in Bhutan, India's Finance Minister demonstrated the capability of local products reaching the international market by making a live transaction using BHIM-UPI to purchase an organic product from a Bhutanese OGOP outlet selling fresh farm produce made organically by local communities in Bhutan.<sup>97</sup> Further, the first G20 Trade and Investment Working Group (TIWG) under India's Presidency laid stress upon the need to accelerate digitalization as well as the adoption of FinTech solutions for improving access to trade finance amidst the uncertain global trade landscape.<sup>98</sup>

The Digital India program has expanded the scope of digital diplomacy to include

sharing indigenous technology-led innovations for not only addressing the developmental requirements of partnering nations, but also bridging the connectivity gaps virtually. This has also been fuelled by the alignment of our foreign policy with the day-today lives of the common man. Digital India innovations like CoWIN allowed India to scale its vaccine delivery quickly and overcome challenges such as large-scale internal migration and facilitated countries namely Indonesia, Philippines, Sri Lanka, and Jamaica in their vaccination programs by deploying the technology underlying CoWIN." Thus, in modern diplomacy digital tools and innovations have aided in bringing indigenous best practices to the

Digital India innovations like CoWIN allowed India to scale its vaccine delivery quickly and overcome challenges such as large-scale internal migration and facilitated countries namely Indonesia, Philippines, Sri Lanka, and Jamaica in their vaccination programs by deploying the technology underlying CoWIN

<sup>97</sup> Press Information Bureau. "Finance Minister Smt. Nirmala Sitharaman and Finance Minister of Bhutan Mr. Lyonpo Namgay Tshering jointly launch BHIM–UPI in Bhutan", Ministry of Finance, Government of India, July 13, 2021. Available at: https://pib.gov. in/PressReleasePage.aspx?PRID=1735075#:~text=Nirmala%20Sitharaman%20also%20made%20a,by%20local%20communities%20 in%20Bhutan (Accessed on April 5, 2023).

<sup>98 &</sup>quot;India urges G20 to find ways to shrink widening trade finance gap", The Hindu, March 28, 2023. Available at: https://www. thehindu.com/business/india-urges-g20-to-find-ways-to-shrink-widening-trade-finance-gap/article66671891.ece (Accessed on April 3, 2023).

<sup>99</sup> Cristian Alonso et al. "Stacking up the Benefits: Lessons from India's Digital Journey", IMF Working Paper, March 31, 2023. Available at: https://www.imf.org/en/Publications/WP/Issues/2023/03/31/Stacking-up-the-Benefits-Lessons-from-Indias-Digital-Journey-531692 (Accessed on April 1, 2023).

India is further enhancing financial inclusion with the promotion of economical and user-friendly digital payment solutions such as UPI Lite for low-value transactions and UPI 123 PAY for feature phone users.

global platform and demonstrated the civilizational legacy of India.

# UPI FinTech innovation grows by leaps and bounds

The use of technology to make financial systems accessible and more efficient has helped India lead the world in real-time digital payments, with 48.6 billion such transactions emerging from the country in 2021, accounting for more than 40% of the global transactions.<sup>100</sup> India also has the highest FinTech adoption rate of 87% among the public as compared to the global average of 64%.<sup>101</sup> The UPI, an instant payments system indigenously developed by the National Payments Corporation of India (NPCI) and regulated by the Reserve Bank of India (RBI), has a crucial role to play in this regard. This popular mobile payments service allows instant credit

transfers from one account to another by linking multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, providing seamless fund routing, and integrating merchant payments under one hood. Its ability to cater to 'peer-to-peer (P2P)' and 'personto-merchant (P2M)' inter-banking digital transactions and accessibility via all major platforms such as Android and iOS have acted as a positive disruption towards enabling greater digital payments adoption in the country. India is further enhancing financial inclusion with the promotion of economical and user-friendly digital payment solutions such as UPI Lite for low-value transactions and UPI 123 PAY for feature phone users.<sup>102</sup> Various policy measures and schemes initiated by the government were instrumental in bringing about a

<sup>100</sup> ACI Worldwide & Global Data. Prime Time for Real-Time, April 2022. Available at: https://www.aciworldwide.com/wp-content/uploads/2022/04/Prime-Time-for-Real-Time-Report-2022.pdf (Accessed on March 16, 2023).

<sup>101</sup> Derryl D'Silva, Zuzana Filková, Frank Packer and Siddharth Tiwari. "The design of digital financial infrastructure: lessons from India", BIS Papers, Monetary and Economic Department, Bank of International Settlement, December 2019. Available at: https://www.bis.org/publ/bppdf/bispap106.pdf (Accessed on March 3, 2023).

<sup>102</sup> Press Information Bureau. "More than 200% growth in digital payment volume in last four years since FY 2018-19", Ministry of Finance, Government of India, February 13, 2023. Available at: https://pib.gov.in/PressReleasePage.aspx?PRID=1898882 (Accessed on March 13, 2023).

transformational change in the digital landscape over a short period of time. On one hand, policies and schemes such as the National Digital Literacy Mission (NDLM) and Digital Saksharta Abhiyan (DISHA) improved digital literacy; the Aadhar Enabled Payment System, FASTag, Rupay, and IMPS simplified payments; and on the other, projects such as Project BharatNet and DIGIDHAN Mission significantly promoted internet penetration which helped in building strong user cases for merchant payments promoted a shift to digital transactions. The digital infrastructure and its acceptability among the public have seen a meteoric rise over a decade as the number of adults having bank accounts increased from 17% to more than 80%, whereas previously 4% had a unique ID document, now over a billion people have a digital ID document, tele density reached up to 93% and as of 2022, over 6 billion of digital payment transactions are completed per month.<sup>103</sup>

Further, the integration of government policies and programs, such as the JAM Trinity (Jan DhanYojana, Aadhar, and Mobile), with the digital payments interface has been instrumental in bringing about greater financial inclusion, increasing accessibility to welfare services, and aiding in the transparent and timely delivery of financial benefits to the public, especially in remote areas. According to the Economic Survey 2022–2023, since its creation in 2016, the number of banks that became a part of the real-time payments system increased from 35 in December 2017 to more than 380 in December 2022. Further, out of the total 88.4 billion financial digital transactions in FY22, UPI accounted for 52%, as compared to 17% of the country's total 31 billion digital transactions in FY19, and recently, for the month of December 2022, UPI touched its highest-ever mark with 7.82 billion transactions worth INR 12.8 trillion.

The testing times of the pandemic further accelerated its acceptance, application, and coverage, with the UPI serving as a critical lifeline for small and micro merchants as the UPI processed 29.22 billion contactless merchant transactions with a total value of over INR 21.7 trillion in FY23 (till December 2022).<sup>104</sup> According to official data, BHIM UPI emerged as the preferred mode of payment for citizens and recorded 8.03 billion digital payment

<sup>103 &</sup>quot;Physical and Digital Infrastructure: Lifting Potential Growth", The Economic Survey 2022-2023, January 31, 2023. Available at: https://www.indiabudget.gov.in/economicsurvey/doc/eschapter/echap12.pdf (Accessed on March 14, 2023).

<sup>104 &</sup>quot;Physical and Digital Infrastructure: Lifting Potential Growth", The Economic Survey 2022-2023, January 31, 2023. Available at: https://www.indiabudget.gov.in/economicsurvey/doc/eschapter/echap12.pdf (Accessed on February 27, 2023).

As part of developmental cooperation, India is transforming the payments landscape by promoting the acceptance of RuPay/UPIpowered apps, cross-border remittances, and UPI-like deployment in international markets through NIPL, the international arm of NPCI.

transactions with a value of INR 12.98 trillion in January 2023.<sup>105</sup> This fascinating journey and the success of UPI made it popular not only at home but also abroad.

# Propagation of India's digital payments interface

As part of developmental cooperation, India is transforming the payments landscape by promoting the acceptance of RuPay/UPI-powered apps, cross-border remittances, and UPI-like deployment in international markets through NIPL, the international arm of NPCI. Inspired by the exemplary innovations by NPCI in the country, several nations have displayed an inclination towards establishing a 'real-time payments system' or 'domestic card scheme'. The International Monetary Fund (IMF) Managing Director Kristalina Georgieva, while highlighting why India continues to be a bright spot in the global growth story, emphasised that the UPI is *'an excellent example of technology boosting financial inclusion'*.<sup>106</sup>

Further, India's development partnership effort involving the globalisation of the UPI payments system, the promotion of cross-border remittances via real-time payments systems, and encouraging the FinTech ecosystem is not limited to a few countries. In our immediate neighbourhood, NPCIL is building a modern digital infrastructure for Nepal

India's development partnership effort involving the globalisation of the UPI payments system, the promotion of cross-border remittances via real-time payments systems, and encouraging the FinTech ecosystem is not limited to a few countries.

<sup>105</sup> Press Information Bureau. "Digital Transactions in India", Minister of State for Electronics and Information Technology, Government of India, February 8, 2023. Available at: https://pib.gov.in/PressReleasePage.aspx?PRID=1897272#:~:text=BHIM%20 UPI%20has%20emerged%20as,lakh%20crore%20in%20January%202023 (Accessed on February 27, 2023).

<sup>106 &</sup>quot;India remains a 'bright spot', to contribute 15% of global growth in 2023: IMF MD", The Hindu, February 22, 2023. Available at: https://www.thehindu.com/business/Economy/india-remains-a-bright-spot-to-contribute-15-of-global-growth-in-2023-imf-md/ article66540985.ece (Accessed on February 27, 2023).

that will enable the creation of a realtime payments system and aid digital transactions within the country. Also, NPCIL and Euronet have bid to jointly build Myanmar's proposed real-time retail payments system as well as a QR code generation and repository system.<sup>107</sup> In Bhutan, the launch of the BHIM app, an Indian mobile payments app based on the UPI, and full interoperability of the flagship digital project, RuPay has strengthened development partnership and further deepened financial linkages between India and Bhutan.<sup>108</sup>

India and the ASEAN nations are strategically engaging through collaborative discussion at the Joint Working Groups (JWG) level for strengthening their partnership by enabling digital payment connections and linking the FinTech ecosystem.<sup>109</sup> One such JWG with Singapore led to the recent linking of India's UPI and Singapore's

PayNow, under an agreement between the RBI and the Monetary Authority of Singapore. Further, announcements of linking UPI with Dubai's NeoPay and the UK's PayXPert reflect the propagation of India's digital payments interface and its interoperability with already existing digital payment solutions.<sup>110</sup> Recently, Japan has also expressed interest in studying the platform and eventually linking it." Other countries that have adopted different forms of Indian payments systems include France, the UAE, Saudi Arabia, Bahrain, Maldives, and Oman. India is also focussing on Middle-East countries and the USA, from where it receives a significant amount of remittances, as well as African nations like Namibia.<sup>112</sup> Further, India has signed 13 MOUs with countries that want to adopt UPI for digital payments.<sup>113</sup> There is growing interest globally in India's digital public infrastructure in general and UPI in particular.

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<sup>107</sup> Harshit Rakheja. "After Foray Into Singapore, NPCI Plans To Take UPI To Myanmar", INC 42, October 29, 2020. Available at: https:// inc42.com/buzz/after-foray-into-singapore-npci-plans-to-take-upi-to-myanmar/ (Accessed on March 7, 2023).

<sup>108 &</sup>quot;India-Bhutan Relation", Ministry of External Affairs, Government of India, September 2021. Available at: https://mea.gov.in/ Portal/ForeignRelation/Bhutan-2021.pdf (Accessed on February 27, 2023).

<sup>109 &</sup>quot;Media Release on the ICWA-AIC International Conference to Commemorate Thirty Years of India-ASEAN Relations on 'Geopolitical Shifts and Opportunities: New Horizons in India-Southeast Asia Relations', 20-21 July 2022", Indian Council of World Affairs, July 2022. Available at: https://www.icwa.in/show\_content.php?lang=1&level=2&ls\_id=7703&lid=5137 (Accessed on March 7, 2023).

<sup>110, &</sup>quot;Annual Report 2022", Ministry of External Affairs, Government of India, February 23, 2023. Available at: https://mea.gov.in/ Uploads/PublicationDocs/36286\_MEA\_Annual\_Report\_2022\_English\_web.pdf (Accessed on February 27, 2023).

<sup>111</sup> Shashank Mattoo & Utpal Bhaskar. "Japan may implement UPI model, inter-linkage: Digital minister Kono", Mint, March 13, 2023. Available at: https://www.livemint.com/news/world/japan-may-implement-upi-model-inter-linkage-digital-minister-kono-11678642468563.html (Accessed on March 14, 2023).

<sup>112 &</sup>quot;Annual Report 2021-2022", Ministry of Finance, Government of India, April 8, 2022. Available at: https://dea.gov.in/sites/default/files/Annual%20Report%20%28English%29.pdf (Accessed on February 27, 2023).

<sup>113 &</sup>quot;India has signed MoUs with 13 countries to integrate with UPI: Ashwini Vaishnaw", Money Control, February 13, 2023. Available at: https://www.moneycontrol.com/news/business/india-has-signed-mous-with-13-countries-to-integrate-with-upi-ashwini-vaishnaw-10068531.html (Accessed on March 13, 2023).

As a step forward, RBI has provided UPI access to non-resident Indians (NRIs) who have international mobile numbers linked to their NRE/NRO accounts from 10 countries, with certain restrictions.<sup>114</sup> Additionally, it has expanded the facility to access UPI for their merchant payments (P2M) for travellers from the G-20 countries as a pilot at selected international airports initially, prior to permitting all inbound travellers to India while they are in the country.<sup>15</sup> This aligns not only with the G20's financial inclusion priority of enabling faster, cheaper, and more transparent crossborder payments, but also contributes towards fulfilling the United Nations Sustainable Development Goals (SDG 10),<sup>116</sup> which emphasises reducing the cost of remittances.

# Towards Universal Digital Inclusiveness

India's journey in building a worldclass digital public infrastructure, called India Stack, has grown block by block and has been harnessed to foster innovation and entrepreneurship, bridge gaps in financial inclusion, expand markets and provide a wider consumer base, boost government revenue collection, and improve public expenditure efficiency. The adoption of India's indigenously developed digital payments interface by a number of nations and the fostering of cross-border interoperability of payments creates large growth potential for the Indian FinTech ecosystem.

By bridging the traditional barriers to development, UPI can assist in facilitating the expansion of global e-commerce, faster and more cost-effective transfer of cross-border remittances, supporting micro, small, and medium enterprises (MSME) of the respective countries, benefit Indian diaspora, especially migrant workers and students and further boosting trade and travel. Thus, while reflecting on the journey of UPI and its growing adoption abroad, it is pertinent to note that it has expanded the scope of digital diplomacy from being a mere tool for communication to building a robust digital payment ecosystem for

<sup>114 &</sup>quot;NRIs from 10 countries can use UPI with their international mobile numbers", The Hindu, January 12, 2023. Available at: https://www.thehindu.com/business/Economy/nris-from-10-countries-can-use-upi-with-their-international-mobile-numbers/ article66368563.ece (Accessed on February 27, 2023).

<sup>115 &</sup>quot;Statement on Developmental and Regulatory Policies", Reserve Bank of India, February 8, 2023. Available at: https://rbi.org.in/ Scripts/BS\_PressReleaseDisplay.aspx?prid=55179 (Accessed on February 27, 2023).

<sup>116 &</sup>quot;International Day of Family Remittances 16 June", United Nations. Available at: https://www.un.org/en/observances/ remittances-day/background#:~:text=SDG%2010,higher%20than%205%20per%20cent (Accessed on February 27, 2023).

the promotion of financial inclusivity worldwide, and urge the participating nations to mutually address the challenges pertaining to the governance and security of global payments. Expanding UPI across the globe gradually indicates bringing each country on one common platform and building digital connectivity and people-to-people ties which can be aptly summarised with a Shlok of Yajurved, "यत्नविश्वंभवत्येकनीडम्" (Where the entire world becomes a nest).

# NATIONAL EDUCATION POLICY PROMOTING EDUCATIONAL DIPLOMACY THROUGH INTERNATIONALIZATION

### PROF. SUDHANSHU BHUSHAN"

### Background

The paper notes the role of educational diplomacy in terms of internationalization of higher education. Government of India has been promoting internationalization through schemes such as Global Initiative of Academic Network, Institution of Eminence and partnership with the foreign universities. Internationalization strategies have been reviewed in the paper. The paper presents the framework of long run sustainable partnership and recommends that the government should promote the sustainable partnership.

### Introduction

National Education Policy (NEP) 2020 notes the possibility of internationalization of higher education by attracting students in Indian higher education institutions. It notes universities can open "programmes in subjects, such as Indology, Indian languages, AYUSH systems of medicine, yoga, arts, music, history, culture, and modern India, internationally relevant

National Education Policy (NEP) 2020 notes the possibility of internationalization of higher education by attracting students in Indian higher education institutions.

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curricula in the sciences, social sciences" (NEP, 2020, pp. 39). Policy suggests that "meaningful opportunities for social engagement, quality residential facilities and on-campus support, etc. will be fostered to attain this goal of global quality standards, attract greater numbers of international students, and achieve the goal of 'internationalization at home'." (NEP, 2020, P.39). There is a mention that the promotion of global study destination shall be possible by providing premier education at affordable cost to restore the role as Vishwa Guru. There shall be a strategy of opening International Students Office at each higher education institution for hosting foreign students. International student office shall support all foreign students studying in Indian institution. The NEP 2020 further notes that "Research/ teaching collaborations and faculty/ student exchanges with high-quality foreign institutions will be facilitated, and relevant mutually beneficial MOUs with foreign countries will be signed." (NEP 2020, P.39)

There is a mention of attracting top 100 universities in the world to open branch campuses in India. There shall be a legislative framework to facilitate the entry of foreign universities. All such universities "will be given special dispensation regarding regulatory, governance, and content norms on par with other autonomous institutions of India." (NEP 2020, p.39). Through a credit transfer facility, student from Indian institutions and global institutions will be given opportunity for higher student mobility. In a recent draft regulation of UGC 2023 there is an attempt to allow the branch campus of foreign higher educational institutions to operate and confer degree. It is argued that the top quality and high ranked universities shall create an international education hub in India. It will attract FDI in higher education and shall save billions of dollars by stopping the outward mobility of students. It is also argued that branch campuses will create competition and improve quality of domestic institutions – public or private. Branch campus will improve the employability of graduates and offer popular courses which are in high demand.

In the light of the policy of promoting internationalization of higher education institutions, it is important to mention

There is a mention of attracting top 100 universities in the world to open branch campuses in India.

GIAN has opened gates for international collaboration and global exposure for Indian students and faculty.

some of the recent initiatives of the Government of India that helped to develop partnership with foreign countries to fulfill India's development requirements and truly achieving the goals of diplomacy for development and serving the agenda of development through partnership. Two such programmes - Global Initiative of Academic Networks and Institutions of Eminence – are noted. The paper further notes the framework of sustainability and strategies to promote internationalization of higher education. The paper further suggests ways of promoting international students in India. I conclude the paper with a discussion on foreign universities in India.

# Global Initiative of Academic Networks (GIAN) – Promoting Educational Diplomacy

Global Initiative of Academic Networks (GIAN) scheme of the Ministry of Human Resource Development (MHRD) was launched in 2015. The scheme is an example of educational diplomacy for development. GIAN in Higher Education aimed at tapping the talent pool of scientists and entrepreneurs, internationally, to encourage their engagement with the institutes of Higher Education in India. Research scholars, students, faculty, departments and institutions have been benefitted through the programme. GIAN has opened gates for international collaboration and global exposure for Indian students and faculty. GIAN has intensified existing contacts and new contacts have been developed between host faculty and foreign experts. There has been an increase in collaboration in joint projects, research papers, books and hosting of Indian students to invited faculty institute. Students have also benefitted by getting acquainted with latest technological advancement and software. In some cases, this initiative has also helped in doing something meaningful for the society by working on actual problems of our country. For instance, there was a GIAN course organized on "Green water infrastructure – innovative and sustainable wastewater management" by foreign expert, Dr. Fabio Masi from Italy. This course helped in building rapport with the expert and later work was planned in the treatment of waste water using wetland systems in Maharashtra.

There was a vertical garden planned for ground water treatment in Maharashtra Jeevan Pradhikaran at Pune.

The detailed information of both phases of GIAN is given in table below. Altogether 1329 courses were delivered, 1230 foreign faculty visited India, 56 countries participated in two phases of the programme.

Of the total 188 institutes that participated in the GIAN programme, 26 per cent belong to AICTE Engineering Colleges, followed by Central Universities and Law Schools (23 per cent). The lowest participation is from management schools (4 per cent) and IISC and IISER

(3 per cent). From the total courses submitted in the portal i.e. 2956, more than half of the courses (i.e. 1649) have been approved and 75 per cent (1236) of the approved courses have been completed since 2015. The submission of the course is highest from IITs (32 per cent) followed by NITs, IIITs and SPA (29 per cent) and the lowest submission is from Management school (1 per cent) and, IISC & IISERs (2 per cent). The Mechanical Science and Infrastructure discipline (336) has the maximum courses approved under GIAN scheme, followed by Chemical, Biochemical & Material Sciences (253) and Electronics, Electrical & Information & Communication

	Phase-1	Phase-2	Total
Total number of courses delivered	703	626	1329
Number of foreign faculties that have visited the country to deliver courses under GIAN scheme	670	611	1230*
Number of foreign faculties that have come for a one week course.	328	466	771
Total number of foreign faculties' countries.	46	49	56
Number of foreign faculties that have come for a two week course.	329	144	461
Number of foreign faculties that have come for a course duration other than one or two week course.	26	6	31
Amount spent till date on conduct of GIAN courses (Rs. crore)	42.42	36.13	78.55
Amount advanced to Institute for conduct of upcoming 97 courses	5.74		5.74
Amount spent till date on Hardware, software and GIAN office and other meetings etc. (Rs. crore)	0	0	5
TOTAL SPENT	0	0	89.29

Technology (230). The lowest number of approved courses is from Law (43) and Social Sciences (63).

Sustainability of benefits from GIAN programme requires that government funding be extended to support foreign collaborations for joint research, visits of Indian faculty for teaching and research to foreign reputed universities, etc. Joint degree and joint supervision need to be permitted. Further in selected cases research students need to be funded in the course of doctoral and post-doctoral research to visit abroad. The long-term sustainability of the programme can be summed up in the following words. Prof. Paulo B. Lourenço, University of Minho, Portugal, at IIT Madras suggested that "GIAN could possibly benefit from two different tracks: a short-term one as proposed, and a long term one. The latter one could include a longer period (e.g. 3 years), with e.g. 1-3 months stay in India per year but also personnel in India supervised by the invited academic (e.g. 1 post-doctoral and 2 PhD students supervised locally) and some

minor funding for testing / equipment / services to support their research, so that a robust relation is created and a better interchange of knowledge occurs." Another suggestion made by Prof. Carlo Giovanni Lai, University of Pavia (Italy), at IIT Madras was as below: "Current GIAN programme is mainly focussed on teaching. I would encourage initiatives during the stay of the foreign faculty aimed at promoting cooperation agreement and/or memorandum of understanding between the host institution and the foreign institution on research and teaching grounds (jointprogrammes, etc)"

## Institutions of Eminence (IOE) Scheme

Institutions of Eminence Scheme was initiated by the Government of India under the Budget Speech of 2016 with a view to develop world class institutions in India. To achieve the status of world class institutions, Institutions of Eminence were provided greater autonomy to come up in top 500 world ranking in ten years

To achieve the status of world class institutions, Institutions of Eminence were provided greater autonomy to come up in top 500 world ranking in ten years and top 100 world ranking eventually overtime. Till date, eight public funded institutions and four private funded institutions have been declared as Institutions of Eminence, and top 100 world ranking eventually overtime. Till date, eight public funded institutions and four private funded institutions have been declared as Institutions of Eminence, following the recommendations of Empowered Expert Committee (EEC) appointed by University Grants Commission.

The total grants of Rs. 2399.8 crores were released till February 2022. All public and private funded IoEs noted the importance of the institutions of eminence to create a brand image in India and abroad. It has developed an institutional culture and commitment among the faculty to promote multi-disciplinary teaching and research, collaborations, publications in high impact journal and internationalization of education. IoE has led them to think of team projects, across departments, and they have sufficient research funds for socially relevant projects. All IoEs expressed that enthusiasm needs to be further promoted by committing an extension of IoEs in the future and assured funding to all public funded IOEs. With respect to teaching and research collaboration, there has been positive developments. An important point that emerged is priority in the freedom of academic collaboration, cutting edge scientific research, curricular structure, offering

of courses and academic autonomy. All IoEs need to place importance to these priority areas for long term viability of IoE. Funding plays a vital role in the IoEs objective of becoming an institution of global repute and providing affordable and quality education.

Table 2: Grants Released to Institutions

of Eminence				
Name of the Institution	Total grants released (Rs. crores)			
Banaras Hindu University	251.0			
IIT Madras	365.5			
University of Delhi	43.0			
University of Hyderabad	175.8			
IIT Delhi	490.9			
IIT Bombay	429.9			
IIT Kharagpur	223.1			
IISc Bengaluru	420.6			
Total	2399.8			
Source: Figures obtained from MHRD				

Table 3 shows that number of teaching and research collaborations with global institutions and academic collaborations within country are quite high. It is important to note that IISc Bangalore has the highest number of teaching and research collaborations with global institutions and academic collaborations within country.

There were important suggestions in order to make the scheme impactful. With respect to CSR funding, Ministry

INDIAN DIPLOMACY AND GOI FLAGSHIP PROGRAMMES of Corporate Affairs may provide a clarification that even the societies/trusts registered under section 10(23C) (vi) of Income Tax Act 1961, are eligible for receiving CSR funds. An extension of GIAN projects to private IOE was noted. It was suggested that foreign branch campus faculty and students should be counted as home institution faculty. It was noted that IoEs need to be promoted as a group of institutions, not as an individual entity, to develop the world class teaching and research. There is a general consensus amongst the respondents that complete academic and administrative autonomy (subject to some general regulations) is essential for the institutes to realize their full potential. Faculty should be relieved

from administrative burden so that they can focus on teaching and research. A uniform system of credit transfer would help facilitate collaboration and transfers across institutes (domestic and international). Joint appointments with industry for faculty should be encouraged to provide students with the latest industry knowledge and indemand skills. Faculty compensations should be improved to attract wellqualified international faculty. With regard to scoring on account of student faculty ratio, international faculty ratio, international students' ratio, academic reputation and reputation with employers and research, there are constraints that need to be collectively addressed both

Table 3: Teaching and Research Collaborations (2021-22)					
Name of the Institution	No. of teaching and research collaborations with global institutions	No. of academic collaborations with institutions within the country			
Banaras Hindu University	55	135 (Source: WoS)			
IIT Madras	275	84			
University of Delhi	90	10			
МАНЕ	85	103			
University of Hyderabad	35	43			
IIT Delhi	81	6			
IIT Bombay	23	4			
BITS Pillani	66	31			
O P Jindal University	74	71			
IISc Bangalore	1682	668			
Shiv Nadar University	27	7			
IIT Kharagpur	63	7			
Source: Information given by IoEs.					

National Education Policy

It is important to note that GIAN and IOE programmes of Government of India have the great potential of educational diplomacy through partnership with educational institutions all over the world.

by the institution internally and the Ministry of Education externally. The grant of an IOE status to an institute/ university is an award which is conferred by the government after satisfying the teaching and research excellence and potential which is earned hard through the long and dedicated effort of the faculty and administration. Hence IOE must have protection from various standard setting regulations of the government which are applicable to various institutions of higher education. The autonomy in admission, determining fees, deciding course and its structure, curricula, mode of delivery, assessment etc. must be decided by the institution to allow innovation in teaching and learning process.

It is important to note that GIAN and IOE programmes of Government of India have the great potential of educational diplomacy through partnership with educational institutions all over the world. However, the partnership needs to be sustained over a long run through the high degree of social benefits. I provide the following framework of sustainable partnership.

## Institutional Perspective: Sustainable Partnerships

In any collaborative partnership, sustainability is an important issue for an institution. Market forces that have given rise to transnational education (TNE) have their own dynamics and produce certain outcomes that optimise private benefits. These may not necessarily produce social benefits. Market failures can also disrupt partnerships. For these reasons, regulatory intervention of universities by governments should be such as to achieve sustainable partnerships that go beyond private benefit.

Sustainability also relates to mutual benefits, both short term and long term. Beneficiaries in collaborative partnerships could be students, teachers, departments, institutions and ultimately nations through externalities that collaborative partnerships give rise to. As opposed to the rigorous criteria of a fully sustainable partnership, a quasisustainable partnership brings social benefits in the long term, although society may have to invest and may even incur a negative return in the short term. A non-sustainable partnership is one in which neither the institution nor the society benefits in the long term. Only individuals—students or teachers—benefit in the short term. A non-sustainable partnership thus leads to private benefits and a minimal social gains. Private benefits accrue only in the short term. A non-sustainable partnership moreover may lead to a very chaotic situation. It can give rise to oscillations with partnerships dissolving, renewed but ultimately not be sustainable in the long term.

Quasi sustainability is a situation which exists between non-sustainable and sustainable partnerships. It is a situation when social as well as private benefits may accrue but social benefits accrue only in the short term. For example, universities as well as countries may feel that teaching and learning links have produced benefits to all in the short term. However, long-term benefits may not have been achieved such as research partnerships which create knowledge. Similarly private benefits may be reaped in the short and long term but society as a whole may suffer loss in the long term.

The analytical situations of sustainable, quasi-sustainable and non-sustainable collaborative partnerships is depicted in Figure 1. The analytical representation



Figure 1 - Models of Partnerships

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given above depicts a broad framework for TNE to be sustainable on the basis of mutual benefits. While non-sustainability is not desirable, most partnerships, in actual practice, are GOIng to be quasisustainable. Efforts, however, need to be made to move towards a fully sustainable basis of partnership. It is in this context that quality assurance becomes the enduring basis of accountability and that is the way forward in the march towards creating a legitimate role for TNE.

#### Recommendation

i. If India has to take full advantage of its demography, then it is necessary that collaboration is made sustainable so that it may yield long-term societal benefit, not just private benefit guided merely by market forces. It necessarily implies that a long-term relationship be ensured through quality assurance. Public universities and colleges affiliated to them should be encouraged to build collaborations—academic as well as research—with foreign universities of repute in advanced areas of science and professional disciplines.

# Internationalization Strategy through MOUs with Reputed Public Universities/Government

So far as Internationalization strategy in public universities and colleges in India are concerned, the web search has shown that there are 6 strategies, as shown in the table below, which are being followed. All such strategies promote student exchange, faculty mobility, visiting scholars' lectures, joint research and joint doctoral supervision. In addition, workshops, training, recognition of qualifications, setting up of institutions are also being promoted. Scholarships, fellowships and research grants are also the strategies to promote internationalization.

Dominant programmes through MOUs with reputed public universities Most of the MOUs are signed by the VCs of Indian universities and hence are leader driven rather than the faculty driven.

Internationalization strategies through

Public universities and colleges affiliated to them should be encouraged to build collaborations—academic as well as research with foreign universities of repute in advanced areas of science and professional disciplines.

INDIAN DIPLOMACY AND GOI FLAGSHIP PROGRAMMES MOUs are common among few reputed universities and colleges. The impact of all such internationalization strategies is very much limited to the students, faculty or department. The problem with many such MOUs is that they indicate the intent of international co-operation. They have to be backed by the academic project and in the absence of adequate resources and lack of project-based funding many such intents go unimplemented. There is also a casualness in the approach at the level of implementation, though enough enthusiasm is shown at the time of signing the MOU. The second strategy of networking with universities is rather limited in Indian universities. There is scope to increase the networking with reputed universities and colleges. The third strategy is the consortia approach. The objective of the consortium is to offer focused programs, such as summer workshop that bring their students and faculty members together.

Programmes	Organization Strategies		
Student exchange	1. Bilateral MOU with foreign university and institutes		
Faculty mobility	JNU has signed 119 Memorandum of Understanding		
Visiting scholars	(MoU) and 52 Agreement of Cooperation (AoC) with the Universities abroad. Almost all MoUs support		
Joint research	exchange of teachers and students.		
Joint doctoral supervision	Delhi university has 87 MOUs during 2012-17		
	<ol> <li>Networking with universities. Example, University of Delhi joined the Universitas 21 network of leading research-intensive universities around the world</li> </ol>		
	3. Consortia Approach. Example, The University of Delhi is a founding member of Global Problem Solving Consortium coordinated by George Mason University, Virginia and has eight universities as its members		
In addition to above, workshops, training, recognition of qualifications, setting up of institutions etc. are covered.	4. Governmental level: Education Exchange Programme (EEP) signed between two countries		
Scholarship to students under International co-operation for study abroad	5. UGC promotes under international co-operation a large number of scholarships to study abroad		
Scholarship to students, fellowship to teachers and research grant	6. British Council, USIEF, Shastri Indo Canadian Institute etc as promoter		

The fourth strategy is the Education Exchange Programme signed between the governments of two countries. MHRD's International Co-operation Cell has signed such agreements with 43 countries. The scope of such agreement is too broad and many such agreements fail to translate at the level of institutions. The fifth strategy is to promote large number of scholarship funding to students for study abroad. The sixth strategy is the fellowship/scholarship grant to students/teachers/researchers by agencies such as British Council, USIEF, Shastri Indo Canadian Institute, DAAD etc.

#### **Recommendation**

ii. All the six strategies noted above to promote internationalization need to be intensified. All MOUs signed should be effectively promoted and a monitoring mechanism needs to be put in place. Universities should also place the outcomes of MOUs in the public domain and the annual report of universities should adequately cover all international co-operation outcomes.  iii. Government of India should have budgetary allocation for some of the selected universities/institutes to promote internationalization at the level of institution.

# Promoting International Students in Indian Universities/ Campuses

An important aspect of internationalization is the inward mobility of students in Indian universities and colleges. In this regard higher education in the country has largely remained inward looking in the postindependence period. From the point of view of strengthening cultural relations, Indian Council for Cultural Relations was set up in 1950 to facilitate exchange of scholars and academicians in a selective way through the award of scholarships. At present it is argued that India has the potential to develop into an education hub for the students from Asia, Africa, Middle East and Latin American continent. This amounts to a reversal of policy regime from inward looking to outward looking. This certainly calls for

All the six strategies noted above to promote internationalization need to be intensified. All MOUs signed should be effectively promoted and a monitoring mechanism needs to be put in place.

INDIAN DIPLOMACY AND GOI FLAGSHIP PROGRAMMES policy intervention. However, we need to understand the argument in favour or against the outward looking policy in higher education, before arguing for policy shifts.

An important argument in favour of outward looking policy is that India can provide high quality education at the cheaper cost as compared to many other international providers of education. The second argument is that by developing India as education hub there are possibilities of earning revenues which can cross subsidise the communities which cannot afford higher education. The third argument is the cultural one which states that foreign students studying in India may act as an ambassador of Indian culture in the world. The fourth, an academic argument, is that the diverse community of students enhances the learning experience of the students and may act in favour of upgrading the quality of higher education.

Further it is argued that if foreign students are encouraged to study in India enough infrastructural investment will have to be made and therefore it may lead to the rise in the fee charged from foreign students. If there is a substantial hike in fees, will it be worth for the foreign student to study in Indian higher education institutions? Will not such students prefer to study in universities of advanced nations? Thus it is important to understand that attracting foreign students in Indian institutions requires for any institution to undertake a cost benefit analysis. Only after it is realised that at the institutional level it is worth undertaking investment to attract foreign student, will an Indian institution be ready to attract students from foreign destinations.

It is important to note that in the past the Government of India had taken many initiatives to attract foreign students. "Promotion of Indian Education Abroad" (PIHEAD), during the 10th Five year plan (2002–07), Committee on Promotion of Indian Education Abroad (COPIEA) in April 2002, under the chairmanship of Secretary, Department of Secondary and Higher Education, exclusive scheme called Direct Admission of Students Abroad (DASA) where in 15 % seats have been reserved in premier technical institutions, education fairs in the past have surprisingly not yielded the result to attract foreign students.

If indeed, India wants to develop into a higher education hub for foreign students from various destinations, it requires a very heavy investment not only in the infrastructure such as international hostels but also a much higher standard of hygiene, sanitation, canteen and other facilities, and above all, a cultural ambience conducive for the foreign students to live in the University campuses. It is therefore desirable that the government may identify the University and the institutions of higher learning and make sufficient investment and direct Universities to create conditions for the foreign students of having comfortable stay in the campus.

#### **Recommendation**

iv. Under the new policy on internationalisation of higher education there is the need for change in the shift from inward looking to outward looking policy. Under the outward looking policy, the government may identify Universities/institutions where sufficient investment is made and congenial atmosphere is created for the foreign students in certain disciplines where India has competitive cost advantage. There may be a five-year target of increasing foreign students to 1 lakh students.

# Foreign Education Providers in India

At present the role of public institutions/universities/colleges is non-existent in promotion of foreign education providers in India. There is a statutory limitation. The degree awarding power is limited to a university, established under the act or to the deemed university or to institutions of national importance or to the IIMs through the act of Parliament. Hence any foreign university is not allowed to confer a degree through the branch campus. The issue of foreign education provider starting a programme and conferring a degree has for long been pending through the bill and has not been settled. In the meantime two important developments

Under the new policy on internationalisation of higher education there is the need for change in the shift from inward looking to outward looking policy. Under the outward looking policy, the government may identify Universities/institutions where sufficient investment is made and congenial atmosphere is created for the foreign students in certain disciplines where India has competitive cost advantage. There may be a five-year target of increasing foreign students to 1 lakh students. have taken place and they deserve deep consideration.

 UGC and AICTE Regulation on Academic Collaboration between India and the Foreign Educational Institutions, 2013:

Under the above regulatory provision of UGC, under certain conditions, any college or university established under the provisions mentioned in the previous section can collaborate with foreign institution and start a programme of study leading to the award of a degree. It is not clear whether the degree awarding university/institution will be from India or from abroad. Twinning allows the part of the degree to be awarded in foreign land for the part of study undertaken abroad and there is no regulatory problem as long as equivalence is obtained for the whole study programme. The problem arises when under the partnership the whole programme is offered in India and a joint degree or a single degree under the name of foreign university is awarded. So long as single degree is awarded by Indian university/institution there is of course no regulatory problem. This contravenes the UGC Act. Under the regulatory provision only specified universities/institutions have the power to confer a degree in India and no foreign provider can confer a degree in India. The Observatory on

Borderless Higher Education in its report dated 08 November 2013 noted that UGC regulation is an attempt to provide 'backdoor' entry to foreign institutions bypassing legislation. I am of the opinion that under the regulation the permission to grant foreign degree through collaboration in India cannot be legally sustained under the UGC Act. Without an amendment in the UGC Act no foreign/ Indian university can award a foreign degree in India.

Similarly, AICTE has on its website announcement relating to "Collaboration & Partnerships between Indian and Foreign Universities / Institutions in the field of Technical Education, Research and Training". The power to grant a degree by a foreign university under collaboration with Indian institutions can, in my opinion, not be legally sustained. Hence there is a need to reconsider new regulatory approach to promote collaboration or partnership with Indian universities and institutes.

#### **Recommendation**

v. Comprehensive partnership with foreign universities/institutions leading to the joint course programme and their delivery should be promoted in Indian higher education system. This will have an enriching experience for students and teachers in India. To promote such partnership leading to the award of joint degree, enabling provision by amendment in the UGC Act and resource allocation for developing proper facilities in Indian campuses may be made.

## 2. Unregulated Partnership of Private Indian Institutes with Foreign Universities/Institutes

In the absence of any regulation there are widespread practices in the unregulated private sector. Large number of private sector institutions, not affiliated to any university, are collaborating with foreign universities. The whole of degree programme may be validated by foreign universities and conducted in a face to face mode in India and finally degree is awarded by foreign university in India. For example, Pearl Academy is a member of the Laureate International Universities (LIU) network. Pearl's Under Graduate and Master's degree courses in fashion education are validated by Nottingham Trent University (NTU), UK. Degree is also awarded by Nottingham Trent University. Second, a dominant trend is the one in which, programme is delivered in a twinning arrangement. For example, Vedatya Institute is a private institute associated with Radisson Group in India

and was established in Year 2000. It runs BA (Hons.) in Business & Management 3 Yr and 4 Yr., Master of Information Technology (MIT) 2 Yr. from Virginia Tech University awarding degree from Virginia Tech. Another example is one in which Institute of International Business and Research (IIBR) has an international partnership with City University of Seattle, USA. The students complete the First year of Post-Graduation Diploma in Management (PGDM) from ASM's International Institute of Business and Research (IIBR) For the final year they travel to the City University of Seattle for 9 months and receive a degree of MBA from the same. Third dominant mode is one in which programme is delivered in distance education mode and degree is conferred by a foreign university.

There are now large number of studies. It is necessary that Government should separately review the unregulated partnership and develop an enabling framework.

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#### **Recommendation**

vi. All unregulated partnership in private sector with foreign universities needs to be reviewed and an enabling framework needs to be built and brought into the domain of regulation.  Untenability of Branch Campus of Foreign Universities through Section 25 of Companies Act: Branch Campus Not Desirable Nor Practical

Reported move on the entry of foreign universities raises legal and moral issues.

Legal: Under section 22 (1) of UGC Act the "right of conferring or granting degrees shall be exercised only by a University established or incorporated by or under a Central Act, a Provincial Act or a State Act or an institution deemed to be a University under section 3 or an institution specially empowered by an Act of Parliament to confer or grant degrees". Section 2 of the same clause further notes that "no person or authority shall confer, or grant, or hold himself or itself out as entitled to confer or grant, any degree", except as provided under section 22(1) referred to above. As per the UGC Act, therefore, there is no possibility of any degree granted by the branch campus of foreign university established under section 25 of companies act. The escape route to this could be the interpretation that foreign degree will not be recognised in India. It is only through the equivalence granted by Association of Indian Universities that holders of foreign degree conferred by the foreign university could pursue higher degree or apply for

the job in India at par with the holders of degree conferred by Indian universities. However, this escape route is also implausible as no authority can confer a degree except a university covered under section 22 (1). Thus, the only possibility of the branch campus of a foreign university to confer a degree could be the legislative route, either an independent act or modification in the UGC Act.

It should also be clear that new companies act 2013 does not enlarge the scope of section 25 of companies act allowing the entry of foreign university for the promotion of education. Hence any reference to new companies act facilitating the entry of foreign universities, as reported in media, is also a misnomer. New companies act, schedule VII, certainly provides scope for corporate social responsibility for promoting education which is, however, a separate issue.

It is a common knowledge that in the past private university followed the legislative route under state legislation because of the force of section 22 (1) of UGC Act. Why private university could not be established under section 25 of companies act? The reason is that even if it is established under section 25 of companies act, the UGC Act will prohibit them to confer a degree, unless

authorised by the Parliament. It is for the same reason that foreign university's branch campus cannot confer a degree unless authorised by the Parliament. Under UGC Act it is quite plausible that deemed university, established under section 25 of companies Act, can, however, confer a degree. Therefore, only other possibility for the branch campus of a foreign university to confer a degree could be the declaration that such branch campus is a deemed university. I do recall that the first draft of the "Entry of Foreign University in India" had precisely followed the deemed university route which was later given up, however, even the earlier draft of the bill was prepared for the approval of the Parliament. It seems that as a matter of policy MHRD is opposed to the idea of promoting deemed university. Under that circumstance I do not find any possibility of the branch campus of foreign university to be established in India with the authority to confer a degree, unless amendment in the UGC Act is proposed. UGC regulation will not be legally sustainable to empower the foreign university established under section 25 of companies act to grant a degree.

**Moral**: This brings the whole issue relating to the entry of foreign university to a moral one. How just it is to provide an escape route to the entry of foreign university through the deemed university when the Parliament has not considered the passage of the entry of foreign university bill? Is this not an important question to be considered by the Parliament particularly when it relates to the entry of foreign entity in education? To talk of morality now a days might be considered cynical and hence I leave the morality question here itself and consider reports of Yashpal Committee and National Knowledge Commission on the entry of foreign universities in India.

Yashpal Committee, sceptical of the idea of the foreign university, favours foreign university among top 200 in the world only on the condition that it must have the features of university as suggested in the report and confer an Indian degree and be subject to rules applicable to any Indian university. National Knowledge Commission also favours entry of foreign university to promote competition after ensuring level playing field for foreign and domestic institutions within the country. As per the mandate of government appointed Commissions and Committees the level playing field argument would imply that Government should raise standards of Indian universities to compete in the global ranking before

permitting the foreign universities of global ranking to enter the Indian market.

#### **Recommendation**

- vii. The Branch Campus of Foreign Universities through Section 25 of Companies Act: Branch Campus not desirable nor practical.
- 4. Results of British Council Study: Recommendations in the Right Spirit

The British Council study Understanding India - The Future of Higher Education and Opportunities for International Co-operation notes that current international collaboration in India was artificial and could not be considered truly mutual. The report can be accessed on the website: http://www. britishcouncil.in/sites/britishcouncil. in2/files/understanding\_india.pdf. One of the questions the report asks is: How stakeholders would like to engage with the UK and what kind of relationships they need with UK institutions in the future? The report based on interview with 50 academic leaders noted that the internationalization of higher education in India should concentrate on following strategies: 1. 'top tier' institutions to embed internationalisation through the recruitment of foreign students, 2. to

employ foreign academics in Indian HE institutions to build capacity. However, this requires changes in government legislation to allow non-Indian citizens the right to work in Indian universities 3. bilateral faculty exchanges linked to teaching and research collaboration, 4. foreign providers should operate through institutional partnerships, rather than through overseas campuses or business affiliations, 5. network in social sciences and humanities to connect researchers and to share opportunities for research funding and collaboration.

#### Conclusion

Educational diplomacy through the internationalization of higher education has great potential for development. Government of India has promoted internationalization of higher education through a GIAN scheme. An evaluation of the scheme conducted by the author shows that the foreign teachers visiting Indian higher education institutions have promoted research partnership with the foreign universities and in quite a few cases, it has created developmental impact as well. Another important strategy of the Government of India is to promote the Institutions of Eminence thereby elevating the status of Indian universities in the global

ranking. The Institutions of Eminence scheme shall further promote educational diplomacy through the rise in the number of foreign students and faculty in Indian universities.

The paper further develops an argument in favour of sustainable model of partnerships which yields social benefits in the long run. A non-sustainable partnership is one which has private benefits in the short run and which is mostly market driven. The government should invest in projects that yield social benefits in the long run. The last but not the least important development has been in the field of multinational education through the partnership with the foreign universities. In this case attracting branch campuses of foreign universities has been policy agenda which has so far not been successful due to regulatory restrictions. The author notes that collaborative teaching and research programmes need to be encouraged to make partnerships sustainable in the long run.

# AYUSHMAN BHARAT AVENUES OF PARTNERSHIP FOR BI-DIRECTIONAL LEARNING THROUGH DIPLOMACY FOR DEVELOPMENT

DR MAYUR TRIVEDI ANJALI BHADORIYA YOGITA CHAUDHARY<sup>118</sup>

#### Introduction

The social sector – the broad spectrum of activities that contribute to human capital formation and human development – has been a traditional focus of India's planning process. Along with a range of its determinants, health remained an integral part of the social sector, despite slow improvement in social sector expenditure, in general, and health expenditure in particular. The Healthcare system in India has evolved with changing local health needs and global reforms and initiatives. For example, the Alma Ata Declaration of 1978, not only envisioned the concept

of health for all but also expanded the approach to health from mere medical treatment by doctors and medical institutions to include determinants of health, health equity, community participation and human rights. Following this, India adopted its first National Health Policy in 1983, which focused on comprehensive primary health care (PHC), in addition to its traditional focus on maternal and child health care services. Following the declaration of the International Conference of Population and Development in Cairo in 1995, India revamped its approach to Reproductive and Child Health and culminated

118 Dr. Mayur Trivedi, Associate Professor, Indian Institute of Public Health, Gandhinagar (IIPHG), Anjali Bharodiya, Student Research Assistant, IIPHG and Yogita Chaudhary, Research Associate, IIPHG Urging the government to increase financial resources in the public health sector, this policy focused on infrastructure and active participation by the union government in health financing and provisioning. This led to the launch of a National Rural Health Mission that brought a paradigm shift in India's health sector and improved India's health outcome rapidly.

its overall efforts in the form of the National Health Policy 2002. Urging the government to increase financial resources in the public health sector, this policy focused on infrastructure and active participation by the union government in health financing and provisioning. This led to the launch of a National Rural Health Mission that brought a paradigm shift in India's health sector and improved India's health outcome rapidly. (Kaur & Rathi, 2019) Over the last few decades, India has seen a lot of improvement in the Infant Mortality Rate (IMR), the probability of death before one's first birthday, and Total Fertility Rate (TFR), the average number of children to a woman. Corresponding changes in the structure and composition of the population

in terms of declining proportions of

children, increasing proportions of

elderly, and altering sex ratios in these

groups are also observed. Alongside the demographic transition, India is uniquely poised in terms of epidemiological transition too. With a decline in the share of communicable diseases, the burden of non-communicable diseases (NCDs), in terms of the proportion of total disabilityadjusted life years (DALYs) doubled from around 29% in 1990 to 58% in 2019<sup>119</sup>. The burden of NCDs is rising across the spectrum of society, irrespective of location and economic status, making the poor and rural population more vulnerable and the need for grassrootslevel intervention for NCD control has become essential in India. While cardiovascular diseases are on the rise, the risk factors like the prevalence of high blood pressure, high cholesterol, high fasting plasma glucose, and overweight have also increased in all parts of India in recent times. (Bhargava & Paul, 2022)

<sup>119</sup> This is based on the global burden of diseases 2090 and 2019 data produced by the Institute for Health Metrics and Evaluation. Available at https://vizhub.healthdata.org/gbd-compare/, Accessed on October 9, 2022

The changing demographic and epidemiological patterns need to be seen contextually with the shortage of medical doctors, especially in the resource-constraint settings of rural India. Acknowledging certain ambiguities (Karan et al., 2021; Kumar & Pal, 2018), India has 7.35 medical doctors per 10,000 population<sup>120</sup> (WHO, 2022a), against the WHO recommendation of 10, with lower proportions working in the public sector and serving in rural areas. This warranted a paradigm shift in the approach to the health system to expand access to healthcare provision and improve health financing performance. India's recent progress in health can be understood through its improvement in the universal health coverage (UHC) index of service coverage. This index is an amalgamation of performance in coverage of fourteen interventions, including reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service

capacity and access, among the general and the most disadvantaged population. India's index value (ranging between 0-100) improved from 31 in 2000 to 61 in 2019.<sup>121</sup> While India's performance in access to health services has improved in the last two decades, there is a huge scope for improvement in its global ranking, which improved from 142 among 194 countries in 2000 to 120 among 198 countries in 2019. India has also seen slow but sustained improvement in its health financing indicators. According to the latest national health accounts (2018-19), India's total health expenditure is 3.16% of its Gross Domestic Product (GDP). Out of this, around 41% is public expenses and 55% is private expenditures. With low penetration of private insurance, out-of-pocket (OOP) expenses constitute 88% of private and 48% of total health expenditures. (Centre, 2022) The decline in the share of OOP from around 70% in 2004-05 to less than 50% in 2018-19 is an encouraging sign. However, the total

While India's performance in access to health services has improved in the last two decades, there is a huge scope for improvement in its global ranking, which improved from 142 among 194 countries in 2000 to 120 among 198 countries in 2019.

<sup>120</sup> This is based on the statistics available at https://www.who.int/data/gho/data/indicators/indicator-details/GHO/medical-doctors-(per-10-000-population), Accessed on October 1, 2022

<sup>121</sup> This is based on the statistics available at https://unstats.un.org/sdgs/indicators/database/?indicator=3.8.1, Accessed on October 11, 2022.

health expenditure per capita (at constant price) and as a % of GDP has been stagnant over the last few years, as can be seen from Table 1 below, which is a cause of concern.

On a global comparison, despite the improvement in absolute terms, India's relative rank remained stagnant in the last two decades across these aggregate indicators. According to WHO data, India ranked 168th in terms of current health expenditure as % of GDP, 160th in terms of government expenditure as % of GDP, and 159th in terms of OOP expenditure as % of current health expenditure, out of 181 countries in the world in 2019, as compared to 136th, 160th, and 176th, out of 186 countries in 2000, respectively<sup>122</sup>. This indicates that India needs to learn from the experiences of countries like China and Thailand, which could improve its financing indicators better recently from a similar baseline a few decades ago. As a health system in transition, India is at a juncture wherein although it has a lot of policy lessons to learn from better-

Table 1: Key indicators for India from various NHA estimates 2018-19							
Indicator	2018-19	2017-18	2016-17	2015-16	2014-15	2013-14	2004-05
Total Health Expenditure (THE) as percent of GDP	3.2	3.3	3.8	3.8	3.9	4	4.2
Total Health Expenditure (THE) Per capita (Rs.) at current prices	4,470	4,297	4,381	4,116	3,826	3,638	1,201
Total Health Expenditure (THE) Per capita (Rs.) at constant prices	3,314	3,333	3,503	3,405	3,231	3,174	2,066
Current Health Expenditures (CHE) as percent of THE	90.6	88.5	92.8	93.7	93.4	93	98.9
Government Health Expenditure (GHE) as percent of THE	40.6	40.8	32.4	30.6	29	28.6	22.5
Out of Pocket Expenditures (OOPE) as percent of THE	48.2	48.8	58.7	60.6	62.6	64.2	69.4
Social Security Expenditure on health as percent of THE	9.6	9	7.3	6.3	5.7	6	4.2
Private Health Insurance Expenditures as percent of THE	6.6	5.8	4.7	4.2	3.7	3.4	1.6
External/ Donor Funding for health as a percent of THE	0.4	0.5	0.6	0.7	0.7	0.3	2.3

122 This is based on the statistics available at https://apps.who.int/nha/database/Select/Indicators/en, Accessed on October 7, 2022.
As a health system in transition, India is at a juncture wherein although it has a lot of policy lessons to learn from better-performing countries, its own experience in improvement in health indicators can be useful to poor-performing low- and middle-income countries that are striving to perform better.

performing countries, its own experience in improvement in health indicators can be useful to poor-performing low- and middle-income countries that are striving to perform better. The National Health Policy 2017 and its follow-up programme initiatives are therefore needed to be analysed contextually.

The National Health Policy 2017 reiterated this commitment to "improve health status through concerted policy action in all sectors and expand preventive, promotive, curative, palliative and rehabilitative services provided through the public health sector with a focus on quality". The policy also reiterated the commitment to raise health expenditure to 2.5% of the Gross Domestic Product (GDP) by 2025, with a focus on improving general taxation as a source of revenue. The policy also indicated India's combined policy focus on providing primary care through public facilities and expanding coverage for secondary and tertiary care through a partnership with private sectors. As a follow-up to National Health Policy 2017 and India's commitment to UHC, the Government of India launched a flagship scheme called Ayushman Bharat in 2018, with twin objectives of ensuring comprehensive primary care and providing financial protection against catastrophic health expenditures. By adopting a continuum of

By adopting a continuum of comprehensive care approach, Ayushman Bharat was launched with two related components, viz. Health and Wellness Centres (HWCs) attempted to revamp the primary healthcare services in rural and urban India, and Pradhan Mantri Jan Arogya Yojana (PM-JAY) that aimed to provide government-sponsored health insurance scheme to poor and marginalized Indians. comprehensive care approach, Ayushman Bharat was launched with two related components, viz. Health and Wellness Centres (HWCs) attempted to revamp the primary healthcare services in rural and urban India, and Pradhan Mantri Jan Arogya Yojana (PM-JAY) that aimed to provide government-sponsored health insurance scheme to poor and marginalized Indians.

# Health and Wellness Centers (HWCs)

In February 2018, the Government of India announced the creation of 1,50,000 Health and Wellness Centres (HWCs) across the country to deliver Comprehensive Primary Health Care (CPHC) closer to the homes of people. This was planned to be achieved through the transformation and revamping of the existing Sub Health Centres (SHCs) and Primary Health Centres (PHCs) with additional resources and infrastructure. In addition to the then-existing scope of the provision of maternal and child health services, the HWCs were expected to provide free essential drugs, diagnostic services, and teleconsultation services, especially for non-communicable diseases. The expanded range of services at HWCs that are planned to be implemented incrementally include

a) reproductive, maternal, neonatal, childhood and adolescent health services, b) management and general outpatient treatment of common communicable and non-communicable diseases, including implementation of national health programmes, c) screening, prevention, control and management of chronic communicable and Non-Communicable diseases, d) basic management of oral, ophthalmic, and ENT problems, e) elderly and palliative care, f) emergency medical services, and g) screening and basic management of mental health ailments. The additional focus of the HWCs was on health promotion and prevention by engaging and empowering individuals and communities to choose healthy behaviours and make changes that reduce the risk of developing chronic diseases and morbidities. The HWCs would also include the integration of traditional systems of medicine and healing, for example, Ayurveda and Yoga.

Posing to become a game-changer for expanding access to diagnostic services and essential medicines free of cost at the centres, the HWCs are expected to facilitate last-mile connectivity, especially for the most disadvantaged and vulnerable population, by bringing medical facilities closer to people. This will include a total of 105 free and essential medicines, HWC-SHC and 172 medicines at HWC-PHC, 4 diagnostic tests at HWC-SHC and 63 at HWC-PHCs. Envisioning a continuum of care approach, the HWCs expect to establish a network of referral and back-referral linkages through physical and digital connectivity with the secondary and tertiary levels, including the use of teleconsultation services.

An important innovation of Ayushman Bharat HWC is the introduction of a nonphysician mid-level healthcare provider (MLHP). This graduate in nursing/ community health/Ayurveda science is being placed at an HWC as Community Health Officer (CHO) after competency enhancements through a certificate course by Indira Gandhi National Open University (IGNOU) or a recognized state public health/medical university. The CHOs are entrusted with clinical, public health and managerial responsibilities of the subcentre HWCs. The CHOs are expected to consult the medical officers of their respective PHCs for teleconsultation and referrals. The CHOs are placed at the Sub Health Centre (SHC) level HWCs and will work with existing staff of two (male and female) Multi-Purpose Health Workers (MPHWs) and a team of Accredited Social Health Activists (ASHAs). The CHOs receive a fixed

payment plus additional Performance Linked Payments (PLPs) for outreach services, population-based screening and service delivery outcomes.

The PHC level HWC continues to have existing human resources of a medical officer, staff nurse, lab technician, and pharmacist will be present at the centre along with a team of MPHWs and ASHAs, deployed for outreach activities. The urban primary health centres (UPHCs) in towns and municipal corporations have also been upgraded to HWCs to provide CPHCs to the urban population with a focus on the urban poor.

As against the target of 1.5 lac HWCs by December 2022, India had 29, 414 functional HWCs by February 2020 (PIB, 2020b), 76,877 functional HWCs by July 2021 (MoHFW, 2021a), and 120,112 functional HWCs by June 2022 (MoHFW, 2022b). These include sub-centre and primary health centres in rural areas, urban primary health centres in cities, and Corporation urban primary health centres located in municipal corporations. The trend in the conversion of existing facilities into functional HWCs is presented in Figure 1.

The cumulative utilisation of functional HWCs also increased from 530 million footfalls in July 2021 to 1010 million by July 2022. The average footfall per HWC





increased from 6.8 thousand by July 2021 to 8.4 thousand in July 2022. The top performer in terms of cumulative footfall per functional HWCs in July 2022 was Kerala (27731 total footfalls), Haryana (19658), and Tamil Nadu (13176) among large states (with more than 1000 HWCS). Puducherry (66103) and Chandigarh (47454) topped the list among the smaller states with less than 1000 total HWCs. Similarly, cumulative Diabetes screening for individuals aged 30 years or more also increased from 94 million by July 2021 (1220 per HWC) to 178 million by July 2022 (1485 per HWC), corresponding to the increase in total functional HWCs. The top performer states by July 2022 in this regard were Maharashtra (2857 per

HWC), Tamil Nadu (2706 per HWC), and Gujarat (2575 per HWC). Another unique element of HWCs, the wellness or yoga sessions, has also taken off well. By July 2022, 12 million wellness sessions were conducted across the country, up from 7.2 million a year ago. Tamil Nadu (182 per HWC) and Chhattisgarh (156 per HWC) topped the chart in terms of total wellness sessions conducted per HWC. The All-India trend in the utilization of HWCs by their various functions is presented in Figure 2.

The on-time establishment of functional HWCs with a presence of CHO is an encouraging sign for its overall target of improving access to CPHCs across the country in the longer run.

The cumulative utilisation of functional HWCs also increased from 530 million footfalls in July 2021 to 1010 million by July 2022.

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Figure 2 Performance of HWCs across selected indicators – a trend over time

# Pradhan Mantri Jan Arogya Yojana (PM-JAY)

The second component of Ayushman Bharat is the Pradhan Mantri Jan Arogya Yojana (PM-JAY). Launched on 23rd September 2018 in Ranchi, Jharkhand by the Hon'ble Prime Minister of India, Shri Narendra Modi, the scheme has the potential to become the largest health assurance scheme in the world with health insurance coverage to over 107.4 million poor and vulnerable families (approximately 500 million beneficiaries). The beneficiaries comprise the bottom 40% of the Indian households identified based on the deprivation and occupational criteria of the Socio-Economic Caste Census 2011 for rural and urban areas respectively.

The scheme offers financial protection of up to Rs. 500 thousand per family per year against expenses on secondary and tertiary care hospitalization from empanelled public (15452) and private (13067) hospitals across the country<sup>123</sup>. The sum insured amount is available on a family floater basis which means that it can be used by one or all members of the family. An improvement over its predecessor RSBY which had a family cap of five members to be decided by the family, PM-JAY does not have a cap on

123 This information is available at: https://dashboard.pmjay.gov.in/publicdashboard/#/, Accessed on October 17, 2022

The entire PM-JAY scheme is run on a digital health ecosystem enabling IT-based integrated systems for beneficiary registration, hospital empanelment, and hospital-based transactions viz. preauthorization, treatment filing, and claims processing, as well as grievance redressal.

family size. The entire PM-JAY scheme is run on a digital health ecosystem enabling IT-based integrated systems for beneficiary registration, hospital empanelment, and hospital-based transactions viz. pre-authorization, treatment filing, and claims processing, as well as grievance redressal.

With an overall aim of consolidating piecemeal approaches towards health insurance in India, PM-JAY subsumed the then-existing Rashtriya Swasthya Bima Yojana (RSBY) at the central level. Fully funded as a governmentsponsored health insurance scheme, the financial, administrative, and technical responsibilities of the PM-JAY are shared between the Central and State Governments. The scheme is implemented jointly with 33 out of 36 state / Union territories (UTs) with state-level flexibilities of innovations and implementation. Keeping the spirit

of convergence, many state-level health insurance schemes were also subsumed under PM-JAY, streamlining the upper ceiling of financial protection from different schemes. In addition, certain states have expanded the coverage horizontally to include other beneficiaries at their own cost. For example, while Uttarakhand has added National Food Security Act (NFSA) database, government employees and pensioners to the eligibility list, states like Kerala, Tamil Nadu and Chhattisgarh used the civil supply corporation/department database for the purpose. Accordingly, the overall breadth of coverage under PM-JAY increased to 147.5 million families, amounting to more than 650 million beneficiaries.<sup>124</sup> (PIB, 2022) While various states have expanded PMJAY coverage to non-poor segments of the population<sup>125</sup>, efforts for co-branding are also on for joint ownership of the state-level

<sup>124</sup> This information is available at: https://pmjay.gov.in/states/states-glance, Accessed on October 6, 2022.

<sup>125</sup> These include Himachal Pradesh (Himachal Healthcare Scheme: HimCare), Jammu and Kashmir (PMJAY Sehat), Assam (Atal Amrit Abhiyan), Chhattisgarh (Dr. Baghel Swasthya Sahayata Yojana), Goa (Deen Dayal Swasthya Seva Yojana), Kerala (Karunya Arogya Suraksha Paddhati), and Maharashtra (Mahatma Jyotiba Phule Jan Arogya Yojana).

The scheme is portable nationwide enabling beneficiaries of any state to avail of the cashless hospitalization benefits from any empanelled hospitals across any state of India.

schemes along with the PM-JAY, when the schemes are not subsumed fully. The scheme is portable nationwide enabling beneficiaries of any state to avail of the cashless hospitalization benefits from any empanelled hospitals across any state of India.

The cashless hospitalization coverage includes up to 3 days of prehospitalization and 15 days of posthospitalization expenses such as diagnostics and medicines. A case-based payment system is used for purchasing healthcare services from providers, who are paid a fixed rate for a bundled set of services provided against defined Health Benefits Packages (HBP). These HBPs cover all the costs related to treatment, viz. drugs, supplies, diagnostic services, physician's fees, room charges, surgeon charges, OT and ICU charges etc. The HBPs are revised periodically in a consultative manner. To begin with, PM-JAY had 1,393 treatment packages, which were streamlined across 874 treatment packages containing 1,593 procedures as

HBP 2.0 in 2020. Subsequently, HBP 2.2 was launched in November 2021 with rate revision in 400+ packages. (NHA, 2022a) The revised versions addressed issues around the pricing of cross-speciality procedures, add-on procedures, standalone procedures, follow-up procedures, and stratifications. (MoHFW, 2022a) The purchaser-provider payment mechanism of PM-JAY incentivises the private providers for improved quality and for providing access in difficultto-reach areas<sup>126</sup>. The empanelled government hospitals are reimbursed for the healthcare services at par with the private hospitals and the hospitals have discretion in utilising the funds for local use.

The states use different models for implementing the scheme either directly on their own through a trust, through insurance companies, or a combination thereof. With 23 states/ UTs implementing the scheme directly through the state health agency (SHA) without the intermediation of

126 The incentives are as follows: 10% for NABH accredited hospitals, + 10% for hospitals providing PG courses, 10% for hospital in 115 backward districts, and 10% if state offers additional top-up

the insurance company, the Trust or Assurance model is most common. The SHA undertakes the risk and reimburses health care providers directly with the help of an Implementation Support Agency (ISA). It also does hospital empanelment, beneficiary identification claims management and audits etc. In the insurance model adopted by six states, the insurance company engaged by SHA manages the scheme against a competitively determined marketbased premium per eligible family. In this model, the risk is primarily borne by the insurance company, which settles the claim with the providers. The SHA has established a cost-saving system of paying insurance companies only a limited percentage of the premium for their profit and administrative costs. Adopted by the four brownfield states of Gujarat, Jharkhand, Maharashtra, and Tamil Nadu, which have existing schemes before PM-JAY, the hybrid model involves the engagement of the trust and insurance companies in different capacities.

Lastly, the existing employment-based health coverage schemes are being converged with PM-JAY to reduce the wastage of resources and to improve access to the beneficiaries. Accordingly, 130 million beneficiaries of the Employees

State Insurance Scheme (ESIS), 0.35 million beneficiaries of the Central Government Health Scheme (CGHS), 5.5 million beneficiaries of Central Armed Police Forces (CAPF), and over 70,000 beneficiaries of Building and Other Construction Workers (BoCW) scheme are being covered under the broader umbrella of PM-JAY. Discussions are underway to converge Ex-Servicemen Contributory Health Scheme (ECHS) and Railway Health Services (RHS), which together will add 8.5 million beneficiaries. (NHA, 2021) These initiatives will help improve accessibility to standardised treatment through a wider network of providers across the schemes.

By 30th August 2022, 195 million Ayushman cards (148 million through PM-JAY and 47 million through schemes of different states) were created. These cards, issued to verified beneficiaries to enable them to access cashless hospitalisation, are the manifestation of actual coverage under the scheme against its potential in the form of eligible beneficiaries. Since its inception till October 2022, PM-JAY has catered to 36.2 million hospitalizations, with Tamil Nadu (6.7 million), Kerala (4.4 million), Karnataka (3.5 million), and Gujarat (3.3 million) topping the list. The all-India cumulative performance of the creation of By 30th August 2022, 195 million Ayushman cards (148 million through PM-JAY and 47 million through schemes of different states) were created. These cards, issued to verified beneficiaries to enable them to access cashless hospitalisation, are the manifestation of actual coverage under the scheme against its potential in the form of eligible beneficiaries.

the Ayushman card and hospitalisation is presented in Figure 3 below.

In terms of payment, the scheme has paid Rs. 456 billion towards these hospitalizations. Cardiology (8.9%) and General Medicine speciality (8.6%) were the top two specialities in terms of hospitalization payment. Interestingly, while 29% of all hospitalizations were from General Medicines, the cardiology speciality accounted only for 2% of total hospitalizations. This meant that payments for cardiac procedures (Rs. 53364 per hospitalization) were 15 times higher than that for general medicine procedures (Rs. 3677 per hospitalization)<sup>127</sup>. This requires attention for greater focus on the prevention of cardiovascular diseases through improved effectiveness of HWCs and referral between the HWCs and PM-



#### Figure 3 Performance of PMJAY in terms of creation of Ayushman cards and hospitalization (in million) – a trend over time

<sup>127</sup> This information was collected from https://dashboard.pmjay.gov.in/publicdashboard/#/ Accessed on October 6, 2022.

JAY empanelled hospitals, as will be discussed later.

Overall, the PM-JAY scheme expanded the breadth of coverage by streamlining existing GSHIS (Government Sponsored Health Insurance Schemes) in India and through the registration of beneficiaries in a mission mode. In terms of the depth of coverage, it continues to improve the package list and expand on the procedures that are covered, although coverage for outpatient treatment remains an unfinished agenda. The upward trend of hospitalization is certainly along the lines of natural expectations from such a scheme. The efforts towards convergence quality assurance, and strategic purchasing are in the right direction for improved efficiency of healthcare services and expenditure. The ability of the scheme to ensure financial protection, in the form of reducing catastrophic health expenditure, remains to be evaluated in the long run.

## Learning from HWC experiences

As discussed earlier, the HWC aims to revitalize the primary healthcare efforts at the village level in the contextual reality of changing disease burdens and shortage of trained doctors. The early evidence of the implementation of HWCs are indicating positive results and offers important lessons for low and middle-income countries that are struggling with a shortage of physicians, especially in rural settings, as presented below.

# Task shifting and expansion of services through CHO

The HWCs are equipped with a unique human non-physician healthcare worker in the form of a CHO, who is trained to act like a doctor – in terms of dispensing medicines that are prescribed by a medical officer. This introduction of HWCs and CHOs has been reported to have nudged the health system toward comprehensive primary health care by

The early evidence of the implementation of HWCs are indicating positive results and offers important lessons for low and middleincome countries that are struggling with a shortage of physicians, especially in rural settings.

expanding a range of preventive and curative services. Highlighting a range of capabilities of CHOs in Assam, a study indicated that the CHOs were providing a range of services during pregnancy and childbirth, neonatal and infant health care, and diabetes and hypertension screening. They also manage minor ailments, such as fever, common cold, and skin diseases across the districts. They were also conducting minor surgical procedures such as stitches for injuries while referring trauma and emergency cases to higher facilities. (WHO, 2022c) Similarly, a study in Chhattisgarh in central India found CHOs competent in dealing with NCDs and locally endemic Malaria. The study results also documented that the model held the potential in expanding access to primary care for important diseases through advanced training of the CHOs. (Garg et al., 2022)

#### Trust building among community

This additional human resource at the level of sub-centre is a value addition for the local community that is habituated to seeing Auxiliary Nurse and Midwives (ANMs) and MPHWs at these facilities who focus on maternal and child health interventions. In contrast, the new position deals with screening and treatment of illnesses, in general, and NCDs, in particular. For the local community, the physical presence of a CHO is notionally equivalent to the subcentre having a doctor, someone who in liaison with PHC medical officer for consultation, can give medicines. Such presence can be a morale booster for the community and can bring back their faith in the government system. Research in Assam pointed out that the community across the study districts referred to the CHO as a "doctor" and noted improved access and availability to basic health services after the posting of CHOs. Indicating acceptance and trust in the services provided by CHOs at the sub-centres, the study results indicated that about 52% of the participants were satisfied and 27% were highly satisfied with the services that they received. (WHO, 2022c) Similarly, a demandside assessment of primary health care in Chhattisgarh documented that although there were issues of perceived ineffectiveness of the medicines provided at the government health system, people mostly acknowledged improved quality of services over earlier days, especially where HWCs was established. (WHO, 2022d)

#### Focusing on NCDs at the sub-centre

HWCs have made a noticeable addition to the capacity of the public sector to manage the NCD burden at the village level through the availability of screening and treatment of common NCDs. A study on the functioning of 26 HWCs in Punjab, after one year of their operationalization, indicated that while the screening for hypertension, oral cancer and breast cancer was being performed at all the facilities, diabetes screening was hampered in half of the facilities due to supply related issues. (Brar et al., 2022) Another study in Punjab also highlighted the high involvement of CHOs (40% of their time) in the delivery of NCDrelated services. (Brar et al., 2021) Similar findings from Chhattisgarh indicated that with the establishment of HWCs, people commenced seeking treatment for minor ailments from HWCs allowing scope for opportunistic screening of NCDs. The results indicated the importance of the location of HWCs being near villages and the behaviour of the staff for the shift of patients who were seeking treatment for BP and diabetes from private practitioners to HWCs. (Garg et al., 2022)

#### The complete cycle of NCD care

As discussed earlier, the HWCs provide screening services and medicines for the primary care of NCDs. The other arm of Ayushman Bharat – the PMJAY provides hospitalization care for NCDs, if and as needed. Research, based on the implementation of PMJAY from September 2018 to February 2020 in all states/union territories (UTs), indicated that while claims from cardiac (cardiology as well as cardiothoracic and vascular surgery) speciality accounted for 5% of the total PM-JAY claim volume of around 9.6 million and 26% of the total financial outgo of the scheme indicating high utilization of the scheme for free cardiac care. (Naib et al., 2021) The two schemes catering to the different needs of the poorer segment of the population need to be strengthened through a system to provide a continuum of care through the exchange of information for referral and management of chronic illness. The Ayushman Bharat Digital Mission (ABDM) has an important role to play here. The Comprehensive Primary Health Care-NCD (CPHC-NCD) Information Technology System was launched in 2018 to enhance the delivery of population-based NCD services across the continuum of care. As of October 2021, 121 million individuals had been enumerated on the system. Of these, 37 million in the age group of above 30 years were screened for NCDs and referred to appropriate facilities, while 2.2 million newly diagnosed NCD cases were put on treatment. (WHO, 2022e) The lessons

INDIAN DIPLOMACY AND GOI FLAGSHIP PROGRAMMES The lessons learnt through these pilot initiatives are being expanded in the form of a common digital infrastructure with the national health ID, registries and consented data exchange under the Ayushman Bharat Digital Mission (ABDM)

learnt through these pilot initiatives are being expanded in the form of a common digital infrastructure with the national health ID, registries and consented data exchange under the Ayushman Bharat Digital Mission (ABDM) to reduce fragmentation in the primary health ecosystem.

# Comprehensive PHC, preventive care, and integration with alternative systems

In addition to the provision of essential allopathic medicines for primary healthcare, the HWC component of Ayushman Bharat is involved in health promotion activities through the Integration of traditional medicines and wellness approaches like Yoga sessions. The integration of allopathic systems with traditional and indigenous systems of medicine is an integral part of the vision of HWCs. The guideline accordingly provides for technical and financial coordination with the Ministry of AYUSH/ Department of AYUSH (Alternative systems of medicines viz. Ayurveda, Yoga, Unani, Siddhi and Homeopathy) at the state and district levels for training and implementation. (NHSRC, 2018) While the HWC guidelines provide granular details of training and execution of yoga sessions with the help of CHO or instructors, according to an estimate more than 8 million yoga sessions were conducted by September 2021. (MoHFW, 2021b) There is mixed evidence of the functioning system of Yoga sessions as part of HWCs; a study in Maharashtra indicated a well-functioning system (Ambekar et al., 2021), but a study in Punjab indicated that Yoga sessions did not happen due to supply and demand side issues. (Brar et al., 2022) The supplyside issues need to be dealt with through integration and convergence with the

The integration of allopathic systems with traditional and indigenous systems of medicine is an integral part of the vision of HWCs.

AYUSH Department. The recent initiative of the AYUSH Ministry to establish 12,500 AYUSH HWC under the National AYUSH Mission holds the potential to address this issue. (PIB, 2020a)

# Mainstreaming traditional experts – case of AYUSH doctors

The shortage of medical doctors in the public system and the need for task shifting at the grassroots health facilities have remained important discourses in the recent past. The nudge of the appointment of CHOs at HWC is an important element in these deliberations by highlighting the possible role of the nurse and medical graduates with Ayurvedic backgrounds. While there are apprehensions about involving Ayurvedic graduates, alongside a nursing graduate at the subcentre level as underutilization (Samal, 2020), there are state-level innovations and experiments in the productive involvement of this cadre in public health systems and facilities. The recruitment and management of CHO were relatively easier in states that had a pre-existing cadre of diploma clinicians who have undergone a three-year training program in modern medicine (as Rural health practitioners in Assam and Rural Medical Assistants in Chhattisgarh) before Ayushman Bharat. (WHO, 2018)

The reports of a) friction between experienced in-service ANMs and MPHWs of subcentres and newly appointed contractual CHOs who are made in charge of the HWCs, and b) issues related to differential treatment between CHOs with nursing and Ayurvedic backgrounds need attention and resolution. (NHSRC, 2022)

### Learning from PMJAY

In a health financing scenario of a high level of fragmentation, low levels of risk pooling and passive purchasing, the long-term impact of PM-JAY must be assessed in light of the improvement in India's performance in these aggregate health expenditure indicators, as described earlier. However, it is early for such a scheme to be evaluated for its long-term impact. In this scenario, the following learnings from its implementation are important to consider for countries that aspire to expand their health coverage through GSHIS.

#### Beneficiary identification and targeting

Although it is an entitlement scheme that does not require enrolment, the manifestation of actual coverage can be related to awareness of the scheme and self-registration in the form of having an Ayushman card. A two-state study on analysing the effectiveness of targeting

INDIAN DIPLOMACY AND GOI FLAGSHIP PROGRAMMES Various inter-sectoral efforts undertaken under the Aapke Dwar Ayushman initiative of mass community mobilization for registration, in which different states use a variety of unique approaches to ensure improved and equitable access of targeted beneficiaries, are important learnings for developing countries.

in PM-JAY found that exclusion of the intended beneficiaries through design was low indicating the appropriateness of that SECC (modified SECC 2021) for identifying the intended beneficiaries. The study, however, indicated exclusion errors of implementation to be quite high. Being unaware of their eligibility status was the major reason for households not being registered under PMJAY, indicating the need for a strong public information campaign to inform the respective residents of the eligibility condition to enable coverage for the intended beneficiaries, alongside a robust grievance redressal mechanism at the local level to stem the implementation errors. (WHO, 2022b) Various intersectoral efforts undertaken under the Aapke Dwar Ayushman initiative of mass community mobilization for registration, in which different states use a variety of unique approaches to ensure improved and equitable access of targeted beneficiaries, are important learnings for developing countries.

While around 30% of Ayushman cards were issued against the potential coverage (190 million against 650 million entitled beneficiaries), the equity and targeting of beneficiaries are also important agendas that India can learn from countries which have used GSHIS as a platform for UHC. While PM-JAY has increased hospitalization and health insurance coverage in general, the possibility of leakage and exclusion errors and related higher levels of income-based inequity in inpatient service use also needs to be addressed. (Singh et al., 2021)

#### Strategic Purchasing

PM-JAY has put a lot of effort towards active efforts of purchasing healthcare services from providers through a series of revisions in Health Benefit Package (HBP) rates and providing incentives for equitable empanelment of hospitals. These are unique nationwide efforts of strategic purchasing within a health coverage scheme with pan-India reach through certification-based incentives based on continuous quality The recently released policy document on value-based care summarized learning from four countries of the United States of America, the United Kingdom, Norway, and The Netherlands to highlight that India needs to analyse its enablers and barriers for moving ahead with refined versions of strategic purchasing.

improvement provided in hospitals in difficult areas. The recently released policy document on value-based care summarized learning from four countries of the United States of America, the United Kingdom, Norway, and The Netherlands to highlight that India needs to analyse its enablers and barriers for moving ahead with refined versions of strategic purchasing. Accordingly, as the next level of strategic purchasing to move away from 'volume-based' bundled payment made for the magnitude of services, a 'value-based care' form of reimbursement is proposed, in which payments to the healthcare providers for care delivery would be made based on outcome and quality of care provided. (NHA, 2022b) The proposed scheme of value-based incentives includes five outcome indicators viz. a) Beneficiary satisfaction rate, b) Hospital readmission rate, c) Extent of OOP expenditure, d) Confirmed grievances, and e) Improvement in health-related quality of life. The learning from this approach would be very useful for developing countries once successfully implemented. Overall, a large proportion of states are using the Trust approach, which is an indication of improved institutional capacity to efficiently manage risk with a high level of welfare orientation, unlike insurance companies that focus heavily on revenue and profit. Successful approaches of modes of implementation – as means of strategic purchasing may also be useful for cross-country comparison and learning.

#### Fragmentation and Convergence

In addition to addressing the inter-state fragmentation of GSHIS risk pools, PM-JAY has also initiated convergence across employment-based schemes that are run as government or quasi-government schemes to reduce fragmentation of pools between formal employees (ESIS), government servants (CGHS and CAPF) and the socioeconomically poor and vulnerable population covered under PM-JAY. Although limited to secondary and tertiary hospitalization care, such efforts are useful foundations towards aligning various health financing functions. Learning from countries like China and Turkey may be useful in such convergence of tax-financed inpatient care coverage for the poor and vulnerable with the expansion of benefits and population coverage to other sub-groups through contributions from formal sector premium payments. (Tandon & Reddy, 2021) The convergence of various fragmented pools under the broader umbrella of PM-JAY can improve equitable redistribution of revenue, reduce fragmentation, and ensure the benefits of monopsony purchase and economies of scale.

#### **Financial Protection**

The extent to which citizens are protected from the risk of catastrophic healthrelated expenditure is an important indicator of any health financing scheme, as well as, system. Evidence on equitable financial protection from Indian GSHIS before PM-JAY is not very encouraging. A systemic review of the impact of publicly financed health insurance schemes in India indicated that while such schemes increased the consumption of health services, there was no clear evidence of their ability to reduce OOP expenditures or offer higher financial risk protection. (Prinja et al., 2017; Reshmi et al., 2021) The early experience of implementation of PM-JAY in certain states has indicated instances of OOP expenses among the

beneficiaries. (Trivedi et al., 2022) (Garg et al., 2020) Lastly, it is important to acknowledge that PM-JAY provides coverage for inpatient expenditure only, and expenses on outpatient treatment, which continue to be substantial (Ambade et al., 2022), remain beyond the realm of expanded coverage. Although a new scheme that is evolving with a range of innovative streamlining efforts, it is important for India and similar low- and middle-income countries to continue to assess the GSHIS for its ability to provide equitable financial protection.

# Diplomacy for Development - What India can learn from other countries?

cAs health diplomacy regains its lost momentum in the interdependent post-Covid world, India needs to play vital dual roles as an emerging economy at the crossroads. It should continue to learn policy lessons from high-performing countries, and simultaneously provide its experience-based know-how and technologies to low-performing countries, especially in South Asia, Sub-Saharan Africa, and Latin America. As India strives to improve its health outcomes, it needs to focus on expanding its revenues for health for equitable spending on priority health interventions. While it can learn from European countries like Germany and the United Kingdom which has better

As health diplomacy regains its lost momentum in the interdependent post-Covid world, India needs to play vital dual roles as an emerging economy at the crossroads. It should continue to learn policy lessons from high-performing countries, and simultaneously provide its experience-based know-how and technologies to low-performing countries, especially in South Asia, Sub-Saharan Africa, and Latin America.

health coverage and high level of health expenditure, it can also learn from the recent experiences of the neighbouring populous country of China. In contrast to India's low public financing and dominant OOP sources, China increased its share of public financing (from 22% to 56%) and correspondingly reduced its share from OOP sources (from 60% to 35%) during 2000-2019. India can learn from China's incremental efforts of expanding coverage through a multitude of health financing options starting with a tax-funded inpatient coverage scheme like PMJAY. With a similar level of health spending of 3-4% of GDP, Thailand also offers an excellent avenue of learning in terms of providing universal coverage for both outpatient and inpatient coverage to the entire population under three different schemes. (Reshmi et al., 2021) The share of public finance increased from 55% to 72% during 2000-2019, with a corresponding decline in the share of OOP from 34% to 9%. These lessons are essential and timely for the next steps

of amalgamation of the two arms of Ayushman Bharat to reduce OOP in India, a big share of which continues to come from outpatient services and the cost of medicines. Similarly, lessons from the experiences of three Southeast Asian countries of Indonesia, the Philippines, and Vietnam would be useful to India, as they also provide GSHIS coverage wherein health care is purchased from both public and private providers. The lessons from expanding coverage in Indonesia, which expanded rapidly and is facing issues of financial constraints and implementation, would be especially useful as India progress on a similar path. (Atim et al., 2021; Pinto et al., 2016) Lastly, India needs to safeguard against the possibility of moral hazard, adverse selection, information asymmetries and market failure that are intrinsic to the health insurance market. While Indian evidence on the reduction of OOP because of GSHIS is not positive, the global evidence also suggests that countries with high reliance on an insurance-based system face

issues of poor stewardship and struggle to regulate the private providers and insurance market. Proper regulation of providers, and insurers and controlling monopoly power is imperative. Lessons from countries like the United States of America, which has been facing similar issues for quite some time now, can be useful to capitalise on the early experience of PMJAY implementation on strategic purchasing for eventually regulating the private healthcare market from the perspectives of pricing and quality of care. (Selvaraj et al., 2022) As a way forward, Indian policymakers, programme managers, and academia need to actively partner with their counterparts in relevant countries for collaborative research as well as experience sharing to improve the prospects of Ayushman Bharat, in particular, and India's health sector performance, in general.

# Development Partnership – What can be learnt from India's Ayushman Bharat?

The lessons from the planning and implementation of the two

arms of Ayushman Bharat are plenty. The Ayushman Bharat HWC heralds the beginning of providing access to comprehensive healthcare with a focus on prevention and control of NCDs at the village level as well as closer to the urban poor in cities and towns. The lessons from HWC initiatives on task shifting and expanding services are useful for countries with low physiciandoctor ratios and changing disease burdens that warrant the inclusion of NCD control interventions at the grassroots, in addition to their onGOIng focus on reproductive and child health interventions. This includes a range of countries from the Sub-Saharan Africa Region, including like Nigeria, the Caribbean countries like Honduras and Haiti, Conflict-affected countries like Sudan and Afghanistan, and neighbouring countries like Bangladesh and Indonesia. The use of traditional systems of medicines and providers thereof is an integral part of Ayushman Bharat HWC initiatives. The lessons from mainstreaming Ayurvedic doctors as CHOs and incorporating Yoga and other traditional approaches to health and

The lessons from HWC initiatives on task shifting and expanding services are useful for countries with low physician-doctor ratios and changing disease burdens that warrant the inclusion of NCD control interventions at the grassroots, in addition to their onGOIng focus on reproductive and child health interventions. wellness are very important lessons that can be useful for countries with similar socio-cultural and historical approaches to health.

The use of digital technologies in the form of telemedicine for HWC and a range of software for cashless and paperless transactions in PMJAY offers an avenue for learning the adoption of such innovative approaches in resource-constrain settings. The strategic purchasing efforts that culminated in value-based care and performance-based payment also offer valuable lessons for countries with a fragmented health system that relies on the private provision of healthcare. The efforts under both the arms of Ayushman Bharat are facilitating the development of a value-driven healthcare delivery system that a) organises care around medical conditions, b) measures cost and outcomes at the patient level, c) moves towards performance-based payments, d) integrates care delivery system, e) expands the geographical reach of providers, and e) enables digital integration of efforts. (Porter & Teisberg, 2006; Teisberg et al., 2020) If implemented well, these efforts can bring important lessons for a range of poorperforming and emerging economies striving to expand health coverage efficiently. (Atim et al., 2021)

#### Conclusion

The Indian health system is at crossroads in more ways than one. Rising from high population growth, the heavy burden of communicable diseases, and perpetual low investment in health, India is striving to improve health outcomes through improved health system performance. Ayushman Bharat spearheads India's initiatives to improve access through innovative and contextually relevant efforts. While its impact on improving macro indicators of health is yet to be evaluated, the initiative provides an excellent opportunity to analyse the inputs, processes and outcomes that could be relevant for bi-directional learning. India needs to continue its collaboration with better-performing countries to learn from their successes and failures with similar initiatives to efficiently fulfil its requirements. Such lessons are crucial because India has embarked on its journey towards UHC using PMJAY-like GSHIS as a vehicle. On the other hand, a range of policy and programmatic experiences of Ayushman Bharat can be very useful for other developing countries to fulfil their healthrelated developmental needs.

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# **BIO PROFILES**



# **Dr. Ajai Chowdhry** Founder, HCL Technologies Limited

Dr. Ajai Chowdhry is a visionary pioneer who cofounded HCL in 1976 with five others, with a dream of using the microprocessor and changing the world.

He spearheaded HCL's expansion into Singapore in 1980, and created a successful business spanning ASEAN, China, and Hong Kong. Today, HCL is a US \$10 billion dollar enterprise.

In 1995, he took over HCL Infosystems and in the next 15 years transformed it into a leader in hardware products, systems integration, and mobile telephony, with a staggering turnover of Rs. 12,000 crore (US \$1.6 billion). His stellar achievements have been recognized through many awards, including Electronics Man of the Year 2010, CNBC-TV 18's India Innovator of the Year Award 2010, and Cybermedia Business ICT Award 2013 for Lifetime Achievement.

Not content with just building HCL, Dr. Chowdhry has also played a vital role in shaping the electronics industry in India. As an advisor to government committees since 1999, he has been a powerful advocate for self-sufficiency in electronics. In 2009, he chaired a Ministry of Electronics & Information Technology (MEITY) task force that made groundbreaking recommendations that laid the foundations for India's electronics policy.

Dr. Chowdhry continues to contribute to India's growth story as a Member of the Advisory Board of India Semiconductor Mission (MEITY), as an Esteemed Member of the Consultation Group on Science & Technology and Innovation Sector (NITI Aayog), and as a Member of the Committee on the Semiconductor Sector (NITI Aayog).

His tireless efforts were recognized in 2011 when he was conferred the prestigious Padma Bhushan, India's third-highest civilian honor.

With an unwavering commitment to making India a leader in electronics, Dr. Chowdhry co-founded the EPIC Foundation in 2021, a not-for-profit organization aimed at making India a product nation in electronics, with the potential to unleash a staggering US \$20 billion in economic growth.

In recent years, Dr. Chowdhry has been nurturing and investing in startups, personally investing in more than 50 startups and serving on the board of the Indian Angel Network, the largest of its kind in India. He is also on the Investment Committee of IAN Fund, Electronic Development Fund, and Canbank Venture Capital Fund.

Dr. Chowdhry's legacy is not just limited to the electronics industry. He has also played a pivotal role in shaping centers of learning, such as IIT Hyderabad and IIIT-Naya Raipur, helping them become the reputable institutions they are today. As the Chairperson of NIFFT Ranchi, he transformed it into the National Institute of Advanced Manufacturing to spearhead Industry 4.0. innovations in India. As the Chairperson of the Electronics Sector Skills Council of India (ESSCI), he helped lay the ground for creating a future-ready Indian workforce.

Dr. Chowdhry's passion for education and philanthropy has led him to establish the Swayam Charitable Trust, which focuses on women's empowerment and education. He is also a Trustee of the Save Life Foundation and a Board Member of the Population Foundation of India.

Dr. Chowdhry's journey from Jabalpur, a small town in Madhya Pradesh, to becoming the 'Father of Indian Hardware' is nothing short of extraordinary. Capturing this remarkable life, his memoir, Just Aspire: Notes on Technology, Entrepreneurship and the Future, is being published by HarperCollins India.



**Deepak Maheshwari** *Public Policy Consultant and Researcher* 

Deepak Maheshwari is a consultant and researcher with a keen interest in the interplay of public policy, innovation, and socioeconomic development.

He is Senior Visiting Fellow at Indian Council for Research on International Economic Relations (ICRIER) and Advisory Board Member of Software Freedom Law Centre (sflc.in). Earlier, he led the public policy in Microsoft, Mastercard, Symantec, and Sify for over two decades with responsibilities spanning India, ASEAN and China regions.

A strong believer in the transformative power of public private partnerships, he co-founded the National Internet Exchange of India (NIXI) and the ITU-APT Foundation of India. He has also served as Global Chair of the IEEE Internet Initiative, elected Secretary of the ISP Association of India, CEO of Public Affairs Forum of India, advisory board member of the IIM Ahmedabad-Idea Telecom Center of Excellence, Distinguished Fellow at Consumer Unity & Trust Society (CUTS) and Senior Fellow at Centre For The Digital Future (CDF).

A graduate in engineering from Indian Institute of Technology, he also has a degree in law.

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Avni Sablok is a Research Associate at the Indian Council of World Affairs (ICWA), New Delhi. Previously, she worked as a Senior Research Fellow at Public Policy Research Centre (PPRC), New Delhi. Also, she has worked as a Project Consultant at Dalit Indian Chambers of Commerce (DICCI) NextGen. She holds a Masters Degree in Political Science from Panjab University, Chandigarh.

Her research interests include Indian Foreign Policy, Women Security, Soft Power, Democracy and Public Policy. She writes articles in leading newspapers and online dailies like Economic Times, The Pioneer etc.



**Prof. Sudhanshu Bhushan** Vice-Chancellor, National Institution of Education Planning and Administration

Dr. Sudhanshu Bhushan is Vice- Chancellor (I/C), Professor and Head of the Department of Higher & Professional Education in the National Institute of Educational Planning and Administration (NIEPA). He specializes in Internationalisation of Higher Education, Policy issues in Higher Education and Educational Planning. His recent contributions include Quality Assurance of Transnational Higher Education: Australia and India Experiences, Public Financing and Deregulated Fees in Indian Higher Education, and Restructuring Higher Education in India. He is the co-editor of a book on Teaching and Learning in Higher Education in India and Australia published by Routledge in 2018. His book on the Future of Higher Education in India has been published by Springer in 2019. Book on Governance of Higher Education in Bihar: Influence of Power Centers is published by Routledge in 2021. His present responsibility is to conduct and guide research and to provide policy support to the Government. He is the recipient of Amartya Sen Award 2012 for distinguished Social Scientist, an award instituted by Indian Council of Social Science Research, New Delhi. He is the Managing Editor of Indian Economic Journal. He is also the Academic Editor of Pariprekshya, Hindi journal of NIEPA.

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**Prof Mayur Trivedi** Professor, Indian Institute of Public Health, Gandhinagar

Prof Mayur Trivedi is an academician with 20 years of experience. Currently serving as Professor at the Indian Institute of Public Health, Gandhinagar, his areas of interest are health economics, health financing and health insurance, evaluation of health, population and development, gender and health, and the health of marginalized communities. He was involved in pioneering works on HIV and health insurance in India, and on India's flagship program i.e. Ayushman Bharat. He is driven to academia because of his passion for learning-doing-teaching continuum. He connects the academic exploration of science, system, and society to teaching and training through upgradation of resources and pedagogies. Following his interest in performing arts, he has contributed to the development of India's first set of television commercials for a range of precautions against heat waves, cold waves, and thunder and lightning. He is interested in creative writing and acting as well.



**Dr Anjali Bhadoriya** Scholar, Public Health from Indian Institute of Public Health, Gandhinagar

Dr Anjali Bhadoriya is a dentist and has experience of two years. Currently, she is pursuing Masters of Public Health from Indian Institute of Public Health, Gandhinagar. Her areas of interest are communicable diseases, health financing and insurance, immunization and health evaluation. She is passionate towards working in implementation area. She has also volunteered in some NGOs during covid-19. She also works towards motivating youth for donating blood and spreading awareness about the same.



**Yogita Chaudhary** *Research Associate, Indian Institute of Public Health, Gandhinagar* 

Yogita Chaudhary is currently working as a Research Associate at the Indian Institute of Public Health. She is concentrating on learning and unlearning at this early point in her career. After earning her engineering degree in Biotechnology, she pursued a Master's degree in Public Health. Her keen interest in bridging science with society served as motivation for this choice. Her areas of interest include health policy, social and behavioural sciences, the health of marginalized communities, and environmental health. She is an organised person with high organisational integrity. She is a recipient of the IASc-INSA-NASI Summer Research Fellowship Programme, P&G Public Health Scholarship and UGC Scholarship. She has participated in national-level tug-of-war tournaments in the past. She enjoys learning new skills. She is presently focusing on swimming and financial literacy.

This publication aims to gain a better understanding of how development objectives can be served by aligning Indian diplomacy with flagship schemes and programmes of GOI in social and economic sectors and by exploring avenues of cooperation with foreign countries in relation to these schemes and programmes.

INDIAN DIPLOMACY AND GOI FLAGSHIP PROGRAMMES



#### **About ICWA**

The Indian Council of World Affairs (ICWA) was established in 1943 by a group of eminent intellectuals led by Sir Tej Bahadur Sapru and Dr. H.N. Kunzru. Its principal objective was to create an Indian perspective on international relations and act as a repository of knowledge and thinking on foreign policy issues. The Council today conducts policy research through

an in-house faculty as well as through external experts. It regularly organizes an array of intellectual activities including conferences, seminars, roundtable

discussions, lectures and brings out a range of publications. It has a well-stocked library, an active website, and publishes the journal India Quarterly. ICWA has over 50 MoUs with international think tanks and research institutions to promote better understanding on international issues and develop areas of mutual cooperation. The Council also has partnerships with leading research institutions, think tanks and universities in India.



Sapru House, New Delhi