NatStrat

Centre for Research on Strategic and Security Issues

Perspectives on Strategic and Security Issues from an Indian Lens:

Special Inaugural Edition

GEOPOLITICS | SECURITY | TECHNOLOGY & ECONOMY

NatStrat

Centre for Research on Strategic and Security Issues

NatStrat is an independent, not-for-profit centre for research on strategic and security issues under the aegis of the Foundation for Pluralistic Research and Empowerment, a company incorporated and registered under Section 8 of the Companies Act, 2013, India.

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Pankaj Saran

Convenor, NatStrat

Welcome to
NatStrat India

We are a Centre for Research on Strategic and Security Issues with an authentic Indian perspective. We invite you to join us in our journey of reflection and research.

The world has undergone major changes in the last few years. The post-World War II international order looks increasingly frayed and outdated. The US and China are simultaneously competitors and collaborators. The global strategic landscape is shifting, creating unknown and unpredictable security challenges for nations.

Even as old threats remain, new threats to societies have emerged from climate change, inequality, unemployment and extremism. Technology has become the new determinant and metric of national power. The distinction between internal and external threats has become blurred. The meaning of national security has changed. We need a holistic and integrated approach to deal with the contemporary world.

Accompanying these changes is the transformation of India. India's population is larger than the population of Europe and the US combined. It has become the fifth-largest economy. The challenges faced by India to accelerate its pace of development, safeguard its civilisational values and secure itself are of gigantic proportion. They do not have a parallel. We have to find Indian solutions for Indian realities. We have to think on a scale that is commensurate with our size.

Globally, the world's interest in India has grown. India's actions are subject to global scrutiny. India's opinions are visible on all significant issues ranging from climate change to terrorism. As India finds its rightful place in the world, it faces headwinds from the established order.

The Ukraine conflict and the Covid pandemic are a reality check for India's national power, just as the rise of China is. India has had to defend its interests and provide solutions, even as our State and other institutions are overwhelmed with day-to-day governance challenges.

It is these new realities that NatStrat intends to focus on. We will analyse future trends, offer policy recommendations and make India's voice heard internationally.

About Us

NatStrat is an independent, not-for-profit centre for research on strategic and security issues. It is headed by its Convenor, **Pankaj Saran**, and has **Shantanu Mukharji** as its Adviser.

Vision

The 21st century is upon us. The post-World War II global architecture is becoming unsustainable. The international security and strategic environment is changing. The centre of gravity of global influence is shifting, and new powers are emerging. India is one of them.

Despite the odds, India has withstood internal and external challenges to preserve its democratic and constitutional ethos. Its diversity and pluralism have grown while being firmly rooted in its civilisational heritage. As a result, the states of India are more empowered today than before. More than half its population, larger than the combined size of Europe and the US, is under the age of thirty.

The transformation underway in India will unleash powerful impulses beyond India's borders. This will profoundly impact the world's political, social, cultural and economic systems. As India rises and finds its rightful place on the world stage, its unique identity, traditions and value systems will become critical to global peace and stability.

India is looking ahead to mark the centenary year of its post-independence existence. How India thinks will matter. How India acts will matter even more.

The success of India is crucial to humankind.

We seek to understand the domestic and external security challenges facing India and what drives India's strategic calculations. We will ask the right questions without fear or favour and provide our views and insights fearlessly.

We will bring an authentic Indian perspective to understanding the world. We aim to make India's voice heard and count in the international community.

Aims and objectives

NatStrat undertakes research on issues that impact India's security and foreign policy interests with a focus on three areas – geopolitics, national security, technology, and economy. NatStrat's research is objective, impartial and rigorous. It upholds the highest standards of excellence and scrutiny.

NatStrat seeks to reach out to decision-makers, policymakers, practitioners and the strategic community within and outside India. It engages with international counterparts and with institutions and scholars across India.

NatStrat will produce a variety of material, including research papers, commentaries, monographs and policy briefs. Its contributors are among the most authoritative and experienced professionals with international repute and acclaim. It also promotes new and fresh perspectives by encouraging young thinkers to write and work for it. As part of its activities, NatStrat hosts seminars, round table discussions, lectures, podcasts and interviews.

Geopolitics

Security

Technology and Economy

Special Feature

PS Raghavan

Chairman, National Security Advisory Board of India.

GEOGRAPHY SHAPES GEOPOLITICS

P.S. Raghavan

Well over a century ago, the English and American strategists, Halford Mackinder and Alfred Mahan, drew attention to the significant impact of geography on the political and economic behaviour of nations, across the world and over the centuries. In Prisoners of Geography (2016), noted journalist Tim Marshall provides modern-day illustrations of this truth.

In its broadest sense, geography includes the physical landscape – land, soil, rivers, mountains, but also climate, demographics and natural resources. Geopolitical perspectives of nations – the way they look at international developments – depend on the geography from which they are looking at them. Geographical factors have shaped their historical experiences, cultures and social structures. It follows that they play a significant role in influencing nations' security perceptions, strategic ambitions and responses to external developments.

Most foreign, and many Indian, analysts have not fully factored this reality in their analyses of India's international outlook and behaviour in recent years. The ravages of COVID-19 and the global churn caused by Russia's war in Ukraine have highlighted the concerns and opportunities of India's security environment. The Himalayan range to the north that divides Tibet from India has become a tense interface between India and China over much of its stretch. In the northwest, the post-independence dismemberment of Jammu and Kashmir, engineered by Pakistan and tacitly condoned by some of its Western collaborators, denied India its border with Afghanistan and direct land access to the Eurasian landmass. Terrain, political factors and economic limitations also hamper traffic across land borders to the east.

"Geopolitical perspectives of nations – the way they look at international developments – depend on the geography from which they are looking at them."

Effectively, therefore, India is largely a "sea-locked" country, with a huge coastline of over 7,500 km to defend against external threats. Over 90% of India's trade (including a substantial proportion of its energy supplies) are carried by the surrounding ocean. The marine resources of the Indian Ocean are important for the economies of the littoral Indian states. It is a

vast area, supporting arms, drugs and human trafficking by state and non-state actors. It is also a valuable piece of maritime real estate – an open stretch of the ocean, across which there is a huge flow of commercial and (increasingly) military traffic, between bottlenecks in the east and the west. It is also a part of India's historical consciousness that its dominance in the global economy until the 17th century owed significantly to its maritime economic reach.

It is, therefore, in India's economic, security and strategic interest to prevent external dominance in this maritime domain. This is at the heart of India's bilateral, plurilateral and multilateral initiatives to promote a broad understanding on the elements of an open, inclusive, rules-based order in the Indo-Pacific, based on international law. In the longer-term, it is in India's interest to draw China into meaningful discussions for an open and inclusive security architecture, reflecting a multipolar Asia. This effort has obviously to be underpinned by strengthening India's own economic, technological and defence capacities.

"India is largely a "sea-locked" country, with a huge coastline of over 7,500 km to defend against external threats. Over 90% of India's trade is carried by the surrounding ocean. The marine resources of the Indian Ocean are important for the economies of the littoral Indian states."

The chaotic withdrawal of the US and NATO from Afghanistan initiated a churn in the Eurasian landmass in India's immediate neighbourhood, further aggravated by the ongoing Russia-Ukraine war. Over a vast expanse from Afghanistan to the Caspian and Caucasus, we see the advancing footprints of a number of countries, including China, Iran and Turkey, seeking to replace the receding footprint of Russia and (to a considerable extent) the US and Europe. The outcome of the Ukraine war will determine the extent of diminution of the Russian footprint. These developments provide a powerful argument for India to be engaged intensively in this region, expand its own political and economic presence, and monitor the Russia-China dynamics.

An important part of India's history was the evolution of a strategic partnership with Russia, including a strong defence cooperation. As External Affairs Minister Jaishankar has publicly, repeatedly and forcefully pointed out, this was the product of a Cold War geopolitical reality. Over two decades now, India has been diversifying its sources of defence acquisitions. The goals have been to avoid overwhelming dependence on a single source, acquisition of a wider range of sophisticated technologies, and the development of robust indigenous technological and manufacturing capacities. The goals remain unaltered, but the pace of their achievement has been determined by domestic and external factors. The war has, of course, introduced new variables that may impact the course of this process. Whatever its outcome, India would have to look closely at the military tactics, strategies, and technologies that enabled the Ukrainian military to perform as it has done in a situation of great asymmetry.

India's response to Russia's invasion of Ukraine and its subsequent diplomatic actions were driven by the fundamental imperative to bring an integrated approach to the security and strategic challenges from its maritime and the continental neighbourhood. In a sense, India connects the Indo-Pacific with Eurasia. This is the thought behind India's engagement with diverse plurilateral groupings like the Quad, I2U2, BIMSTEC, BRICS and SCO, alongside intensified bilateral engagement with the US, Europe, ASEAN, Japan, Australia and other partners.

"India has so far coped better with the political flux and the economic travails than most countries, with sure-footed diplomacy, political pragmatism and economic resilience."

There are other consequences of Covid and the war in Ukraine which impact India's national security strategy. We see a disruption in every institution and arrangement of globalisation, as geopolitics dominates decision-making on trade and economic policy. Multilateralism is now hostage to polarizations. The IMF has pointed to concerns about fragmentation of the global financial system. Supply chain resilience has become a popular refrain, but if closed groups of countries protect their own interests, it may severely impact the materials security of others. The experience with COVID-19 has brought into focus the imperative of all aspects of biosecurity: mechanisms need to be developed for mitigation of biothreats from natural outbreaks, accidental dissemination, biowarfare or bioterrorism.

Climate justice is vanishing: in their rush to boycott Russian energy supplies, rich countries have fallen back on the most polluting energy sources and have reneged on their commitment to assist energy transition costs of developing countries. India has to constantly recalibrate its strategies to achieve its climate commitments, while protecting economic growth, as well as energy, food and water security.

India has so far coped better with the political flux and the economic travails than most countries, with sure-footed diplomacy, political pragmatism and economic resilience. The overwhelming response to its invitation for the 'Voice of the Global South' Summit reflected a recognition of this fact in the developing world, much of which grapples with the high costs and shortages of food, fuel, fertilizers and finance, even as a climate emergency approaches.

As the world order appears to be in the throes of change, India – with its democratic, economic, geographic and demographic attributes – is in a position to participate meaningfully in shaping the course of this change.

@ps_raghavan

PS Raghavan

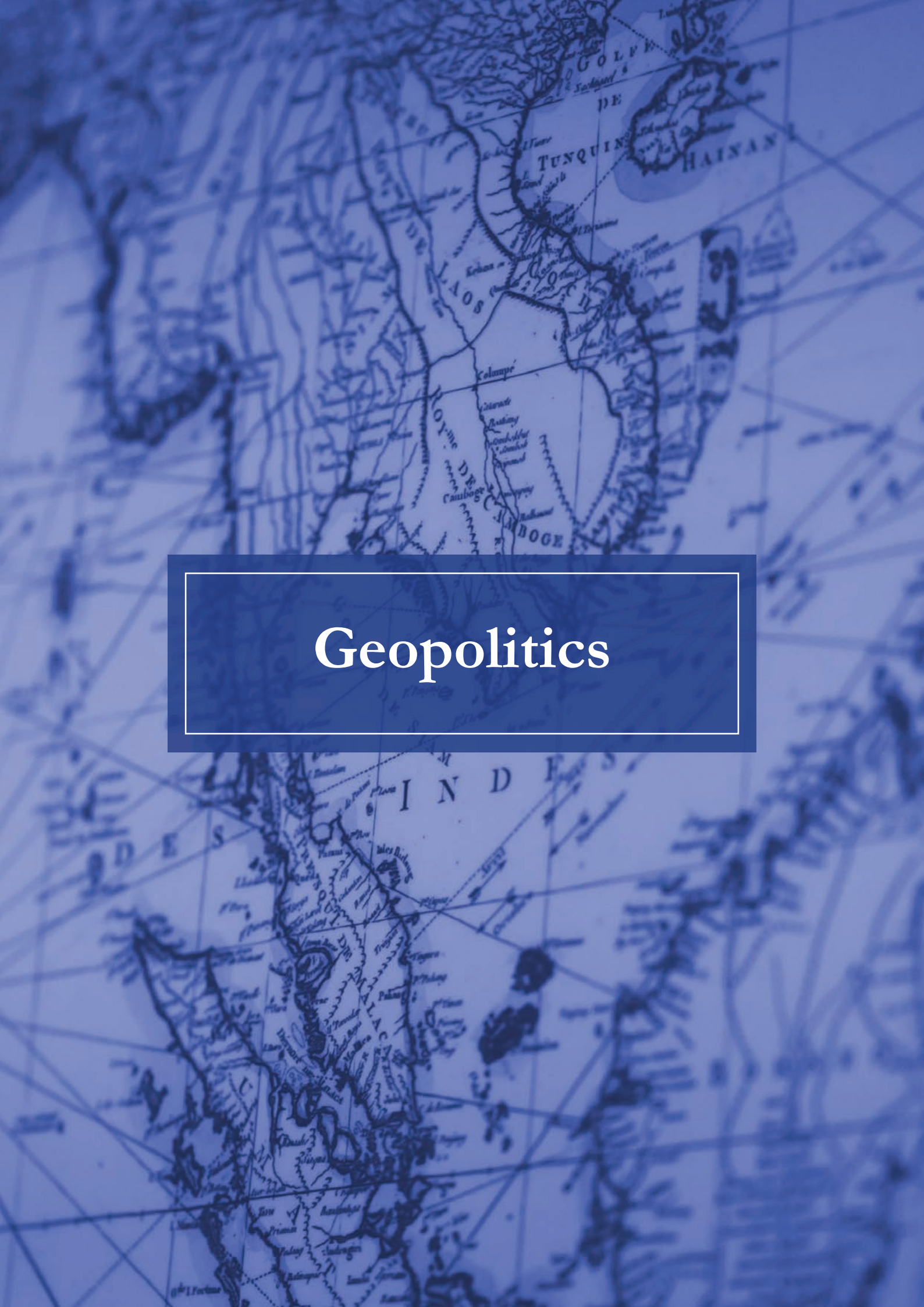
PS Raghavan is a former diplomat, who is now Chairman of the National Security Advisory Board, an advisory body of India's National Security Council.

In a 36-year diplomatic career, he has served in different capacities in the USSR, Poland, UK, Vietnam and South Africa, as well as in the Ministry of External Affairs (MEA). He has been India's Ambassador to Russia, Ireland and Czech Republic.

He served as Joint Secretary in the Prime Minister's Office (2000-04), dealing with Foreign Affairs, Defence, National Security, Space and Atomic Energy.

He founded and headed the Development Partnership Administration in the MEA, which implements India's projects abroad. He was Secretary (Economic Relations), steering India's external economic engagement.

He lectures widely at civil and defence institutions on national security and strategic affairs.



Geopolitics

The Big Picture

We explore the fundamental issues of our times that will shape India's future – its comprehensive national power, evolving international balance of power, interlinkages between geography, politics, security, economics and technology and the meaning of sovereignty and territorial integrity in a digitalized world. We will study India's role on the global stage as a civilisational state and examine India's grand strategy.

Major Powers

We examine the attributes of major powers and civilisations, what makes countries great powers, what drives their actions and what this means for India. Major powers include the United States, China, Russia, Europe, and Japan. Civilisational states include Iran and Turkey.

Neighbourhood

As a peninsular country, India has both a continental and maritime neighbourhood. We study India's immediate and extended neighbourhoods from Morocco to Indonesia, Central Asia and the Indian Ocean Region. We look at regional processes, fragile states and conflicts and the role of external powers.

CHANGING CONTOURS OF INDIAN FOREIGN POLICY IN 2023

Syed Akbaruddin

The year 2023 promises a transformation of Indian diplomacy, as the country takes on the mantle of G 20 presidency.

There will be heightened focus on economic and social issues, unlike any seen in our post-independence history. In the past, such subjects were part of an umbrella of Indian foreign policy; but were not the primary focus of diplomatic engagements. They were niche aspects of bilateral relationships or relegated to sporadic multilateral meetings. This year that is set to change.

"Actively seeking the views of those without a voice in the G-20 fora is a reflection of India's willingness to be a bridge between the developed and developing world."

India's G-20 presidency is the catalyst for the shift. More than 200 meetings are to be held across the country on various topics including economic development, environment, energy, finance, food, health, infrastructure, sustainable growth and technology. India's foreign policy agenda is set to broaden considerably.

This is not India's first foray into the G-20 or with tackling such matters. The difference is the intensity of engagement due to India's role in the G-20 this year. As the G-20 does not have a Secretariat, the responsibilities of the rotational presidency include functioning as a de facto think tank, pacesetter, troubleshooter, and institutional memory, on all matters on the agenda. The G-20 is the 'premier forum for international economic cooperation' in a rapidly evolving world. Nothing can be counted as off the agenda of a group with around 80% of Gross World Product (GWP), 75% of world trade, two-thirds of the world's population, and 60% of the land area. With this, India's multilateral responsibilities are set to grow manifold.

India has reached out to more than 120 countries of the Global South, which are not at the G-20 negotiating table but have a crucial stake in the common objectives of sustainable global growth. For India, a leading member of the G-77 and the NAM, expressing solidarity with developing

countries is not new. However, actively seeking the views of those without a voice in the G-20 fora is a reflection of India's willingness to be a bridge between the developed and developing world.

The breadth of engagement on such a broad canvas necessitates a whole-of-government approach to cross-boundary issues, which were previously considered peripheral to several parts of the Indian government. Foreign policy matters will not be distant from the thinking of those whose primary objectives lie elsewhere. It augurs well that a range of Indian decision-makers will better understand the thought processes of other key countries and the practices they follow. The public diplomacy campaign accompanying G-20 events will help build a more informed public opinion on foreign policy issues.

For India, all this is important. As the Reserve Bank of India's report on the state of the Indian economy predicts, "2023 may well be the opening ajar of a window in which India's time on the world stage is arriving." As a US $3.7 trillion economy, India will remain the fifth largest economy, maintaining its lead over the UK in 2023. By International Monetary Fund calculations, this will propel India into fourth place in 2025 and third place in 2027 as a US$ 5.4 trillion economy. Further, as the RBI put it, in April 2023, India's population of 1.4 billion will be the largest in the world. A sixth of the increase of the world's population of working age (15-64) people between 2023 and 2050 will be Indians. Coupled with a median age of 28, this is India's chance to seize the demographic dividend and herald its emergence as an economic powerhouse of the future.

"The G-20 presidency provides India an opportunity to begin the transition from playing a 'balancing' role in large multilateral settings to stepping ahead on the long road of becoming a 'leading' power through more substantive engagement in crucial but limited membership platforms."

Economic, commercial, financial, and environmental jurisdictions are intertwined with elements that impact national security. The happenings during the pandemic, the growing rivalry to host semiconductor industries, the race to incentivize on shoring of green technologies, and friend shoring of supply chains to ensure their resilience are all examples of this.

Muscular forces like trade, industrial and environmental policies have the potential to impact the prosperity of national economies and bring about significant geopolitical implications. The concept of Security is no longer isolated, no more a distinct silo. The weaponization of various aspects of life has become the norm. This year India too will adopt a more calibrated approach to its global engagement, taking into account the rapidly changing international landscape.

The end of a successful term as a non-permanent member of the UN Security Council in December 2022, is an appropriate time for India to pivot from a narrow focus on matters of international peace and security in multilateral fora to a more broad-based approach towards national security. Ignoring the array of new and emerging issues vital for our sustainable development that have yet to find an international platform for serious consideration, is not an option.

"We are situated in a turbulent region. Three neighbours will conduct difficult elections with outcomes uncertain. Three neighbours are engaged with the IMF to tide over financial distress. Afghanistan is an ungoverned space that can sprout unsavory elements. Myanmar is beset with domestic turmoil."

With the quest for a more significant role also comes greater responsibility. India has skilfully pursued its national interests as a middle power, expertly navigating the uncertain geopolitics of the current international order. The challenge is

to meaningfully shape the emerging new order. Usually, middle powers have limited abilities to partake in a significant way in such endeavours. Given the difficulties that inclusive multilateral fora such as the UN are facing, smaller groupings are helpful in germinating ideas that can be pollinated and partnerships that can be expanded in global fora once they are mature for broader consideration. The G-20 presidency provides India an opportunity to begin the transition from playing a 'balancing' role in large multilateral settings to stepping ahead on the long road of becoming a 'leading' power through more substantive engagement in crucial but limited membership platforms.

However, aligning national interests with the greater global good is never an easy task. Diplomacy always involves a balancing act of 'give and take', more challenging compromises lie ahead.

The 'Goldilocks' option of pleasing all constituencies will have to give way to a more realistic approach. Risk-taking and some errors are inevitable in any surge forward. That we have a strong leadership under Prime Minister Modi provides a degree of comfort.

Amidst all this multilateral focus, the hardy perennial concerns of Indian diplomacy may seem to take a back seat. They have the potential to disrupt the best-made plans. We are situated in a turbulent region. Three neighbours will conduct difficult elections with outcomes uncertain. Three neighbours are engaged with the IMF to tide over financial distress. Afghanistan is an ungoverned space that can sprout unsavory elements. Myanmar is beset with domestic turmoil. China's border forays can never be discounted. Hence, 'Neighbourhood First' will need to remain a watchword even as the globe beckons.

Ours is a neighborhood with a scarcity of serious platforms to address transboundary issues. The pathways to be adopted are different from those at the G-20 or other multilateral settings. In 2023, how Indian diplomacy balances the pursuit of these diverse regional and global objectives, bilaterally and multilaterally, will set the template for India's foreign policy postures for years to come.

@AkbaruddinIndia

Syed Akbaruddin

Syed Akbaruddin is currently the Dean of the Kautilya School of Public Policy in Hyderabad.

This follows a distinguished diplomatic career which culminated upon the completion of his tenure as the Permanent Representative of India to the United Nations. Prior to that he was the official spokesperson of India's Ministry of External Affairs and served in various Indian Missions abroad. He also has the distinction of working as an international civil-servant at the International Atomic Energy Agency in Vienna. He writes and speaks extensively on global issues.

WHITHER INDIA-CHINA RELATIONS IN THE 2020s

Vijay Gokhale

India-China relations stand at a crossroads. Over the past five years, events such as including Chinese activity along the Line of Actual Control (LAC), have not only eroded mutual trust, but have also undermined the foundations of a framework that had been laid down by the two countries after the normalization of relations in 1988. That framework is irretrievably broken because the bilateral understanding that force will not be threatened or used while both sides strive for a fair, reasonable and mutually acceptable settlement of the boundary question, has been violated in spirit and, possibly, in letter as well.

The hope for 'peaceful co-existence' may not be possible in the decade ahead. Instead, what is more likely to prevail is a state of 'armed co-existence'. Each has enhanced its status-of-forces along the LAC. Both sides will need to carefully manage their overall relationship in a trust-deficient environment if this jostling along the LAC is not to spill into conflict.

"Going forward, therefore, from India's perspective risk management is likely to become a key term for the India-China relationship. The alternative might be unintended miscalculation leading to open conflict. Such risk management cannot be limited to containing the problem along the LAC alone, but should be elevated to the political level."

Going forward, the Chinese playbook will likely be crafted by the key perception that India is tilting against China in the global strategic balance. Chinese actions in the decade ahead may thus be shaped so as to demonstrate that India

has no alternative to co-habitation with China in the Indo-Pacific. The multi-pronged strategy they are likely to adopt is to engage in grey-zone warfare short of conflict along the LAC in order to keep India off-kilter and to heighten India's sense of insecurity; to erode India's regional position by competing for influence in the political and economic space in India's South Asian neighbours; and to create sufficient doubt in the minds of other Indo-Pacific states that the US-India-Japan-Australia plurilateral platform will lead to regional de-stabilization, so that they do not bandwagon with QUAD in the Indo-Pacific.

Major military conflict is unlikely because they do not want to make India a long-term enemy. However, minor territory-grabbing efforts will escalate because it establishes a new power balance by means short of actual war. Therefore, we should prepare for action by the Chinese along the LAC in the middle and eastern sectors in a manner similar to what they have been doing in the western sector since 2013.

In our extended neighbourhood China intends to establish its strategic influence in South Asia in order to discourage American entrenchment with Indian support. South Asia will, therefore, become a front-line territory in the proxy rivalry between the two major powers. While China will press hard on our south Asian neighbours to tread carefully in their relations with the US, we will also see an escalation in Chinese attempts to isolate India through such initiatives as the China-Nepal-Pakistan-Afghanistan quadrilateral and the China-South Asia pandemic platform (minus India).

In the broader Indo-Pacific, we are seeing the beginnings of a serious Chinese maritime presence in the northern Indian Ocean. Thus far it has been limited to dispatching hydrographic ships and intelligence-gathering vessels into India's EEZ and Continental Shelf. The likely operationalization of the third aircraft carrier by the PLA Navy and the possibility of additional military bases besides Djibouti could mean that, by the second half of this decade, the Chinese navy could be capable of conducting FONOPS in the Bay of Bengal. The objective will be to test India's ability and willingness to challenge a greater Chinese presence to its south.

"As yet, despite the strains in the relationship, there are no grounds to believe that hostility is the only possible future direction. If China can respect that India is, both historically and in present times, a major political player with which it needs to find a modus vivendi, the relationship might return gradually to the normal track."

Going forward, therefore, from India's perspective risk management is likely to become a key term for the India-China relationship. The alternative might be unintended miscalculation leading to open conflict. Such risk management cannot be limited to containing the problem along the LAC alone, but should be elevated to the political level. An important requirement for this is the resumption of political dialogue that has been suspended since the end of 2019. The prolonged absence of political communication between two large, populous and nuclear-armed neighbours increases the risk of mishap. Conversely, the resumption of dialogue reduces such risk without necessarily entailing a compromise on the core concerns of either party. Established mechanisms such as the NSA and EAM level dialogues could be re-activated. It will permit India to directly convey the basic steps that it expects China to take in order to bring the relationship back to the normal track.

Domestically, the post-Galwan policy of the government would need to focus simultaneously in two directions. First, on reducing our over-dependence on Chinese exports and supply chains by identifying third-country sources or by developing local alternatives in a planned way. Secondly, by enhancing military capacities in order to deter Chinese actions along the LAC and to give the Indian forces the capacity for counter-response. Both will require significant policy initiatives and financing in a short-term time frame. This requires a Whole-of-Government Approach coordinated

through the NSC with clear milestones to measure actual progress in real time.

Risk-management at the ground level begins with an acknowledgement that the recent incidents along the LAC have exposed deficiencies in the existing bilateral border management framework. The 1993 and 1996 treaties that underpin the mutual efforts to keep peace and tranquillity and to promote confidence-building measures in the border areas, are more than twenty years old. The actual situation along the LAC as well as the concepts and methods of border management have undergone significant alteration during these twenty years due to new technologies in outer space, cyber-space and autonomous weapons, that did not exist at the turn of this century. Re-working of the existing agreements, establishment of effective hot-lines between the theatre commands and a secure political channel to manage serious incidents are all urgently needed.

In terms of the broader geo-political scenario, India is expected to push its Indo-Pacific agenda that the Prime Minister had outlined at the Shangri La Dialogue in June 2018. Efforts to build strong partnerships with both the Indian Ocean littoral states and important resident powers like the United States and France are likely to continue apace in keeping with India's multi-alignment strategy. Re-engagement with key Indian Ocean countries like Indonesia, Vietnam, Myanmar, Iran, Maldives, Mauritius, UAE, Saudi Arabia and the east African states are underway and will need sustained attention and provisioning. The suspended maritime dialogue with China should be resumed, since there is no moving away from the fact that China will have a semi-permanent presence in the Indian Ocean by 2035.

As yet, despite the strains in the relationship, there are no grounds to believe that hostility is the only possible future direction. If China can respect that India is, both historically and in present times, a major political player with which it needs to find a modus vivendi, the relationship might return gradually to the normal track. The leadership on both sides is mature and sober enough to make this possible, and a fresh diplomatic effort in this direction is required so that the process of building a new framework can begin.

@VGokhale59

Vijay Gokhale

Vijay Gokhale has served in India's Ministry of External Affairs for 39 years in various capacities. He retired as India's 32nd Foreign Secretary in 2020, holding that position from January 2018 to January 2020.

Prior to his tenure as Foreign Secretary, Vijay Gokhale was India's Ambassador to the People's Republic of China between January 2016 and October 2017. He has also been the Indian Ambassador to the Federal Republic of Germany from October 2013 to January 2016, High Commissioner to Malaysia from January 2010 to October 2013. Vijay Gokhale has also held key positions at the MEA's East Asia Division, including as the joint secretary (Director General) for East Asia.

Vijay Gokhale is one of India's leading experts on China. He is the author of three widely-acclaimed books - Tiananmen Square: The Making of a Protest (2021), The Long Game: How the Chinese Negotiate with India (2021) and After Tinananmen: The Rise of China (2022).

PAKISTAN'S NARROWING OPTIONS IN EXTRACTING GEOPOLITICAL RENT

TCA Raghavan

Pakistan's economic predicament suddenly has become more evident to an audience wider than simply economists or policy analysts. Its Rupee devalued in the space of 24 hours by about 10 percent over 24th-25th January. Alongside, the power grid crashed with acute power shortages and blackouts over large parts of the country. Both these disruptions animated economic dysfunctionality amidst other political and regulatory failures, underlining how real Pakistan's economic and political crisis is to its citizens.

"Pakistan's external environment today is certainly different. It finds itself marginal to and isolated from the principal themes that dominate international politics."

These domestic dislocations occur amidst an uncertain geo political environment with troubled and friction ridden interfaces with Afghanistan, India and even Iran. Pakistan's traditional allies and donors, in particular China, Saudi Arabia and other Gulf States-- while optically supportive as always, have been slow to step in given the uncertain politics prevailing and in the absence of a clear plan of how Pakistan intends to manage this latest financial crisis. The United States, an important donor during the 1980s and in the 2000s, has been similarly slow to step in, largely because there is no pressing reason for it to do so now. On the whole this reticence on the external front gives an added significance to Pakistan's ongoing dance with the IMF to somehow bring a funding program in abeyance for the past few months, back on track. An IMF programme back in place will inspire

confidence in other donors—or that is the expectation.

All this presages how turbulent a year 2023 is going to be--perhaps yet another annus horribilis. An IMF programme, regardless of its medium-term stabilization potential, means further devaluation, even higher inflation, financial stringency etc. All of this points to trouble in a deeply – perhaps irrevocably--divided polity as Imran Khan battles it out with Nawaz Sharif and Asaf Ali Zardari; each bout in this contest reveals the raw intensity of the political combat now raging.

If 2023 promises to be another difficult year, 2022 was no less. That year in fact provided a snapshot of Pakistan's history as multiple crises intersected - political conflict, intense civil military tensions, an economic free fall amidst devastating floods and rising terrorist attacks. This cocktail to be complete needed another, not unfamiliar, ingredient and this came in the form of an unanticipated degrees of tension and instability in its relationship with the Government in Afghanistan despite it being headed by the Taliban.

To those even sketchily familiar with even the bare bones of Pakistan's recent history, will find that none of this is particularly new and each of these crisis points is a recurrence of past patterns. But perhaps there is something different in these different arcs of crisis maturing and intersecting together. What also may be different is the regional and global environment. Devastated by a crippling pandemic and in the midst of the most acute geopolitical crisis in at least the past quarter century in the form of a war in Europe, Pakistan's external environment today is certainly different. It finds itself marginal to and isolated from the principal themes that dominate international politics. Leveraging its geopolitics for economic gains has become that much more difficult and challenging and this in itself is a relatively novel situation for Pakistan's policy makers.

"Leveraging geopolitics is becoming more and more of a difficult option for Pakistan's strategic elite."

We get a sense of this predicament from the handling of the IMF by the government of Pakistan in the past months. The IMF programme would have stabilized the economy and opened a channel for other funding arrangements to fall into place. It would have certainly meant a great deal of domestic pain in terms of devaluation, inflation, financial stringency etc-- all deeply unpalatable given the daily political battles rocking Pakistan. The view that emerged was that it would be possible to "stare down" the IMF and get better terms that would ease the pain to some extent. This strategy was underwritten by the assessment that Pakistan was geo politically too important for the IMF not to play ball.

In fact, the IMF did just that; it refused to proceed further unless Pakistan took the difficult decisions needed to bring back some economic sense in its policy. For 3-4 months a dangerous drift had, however, prevailed, a situation which is generally being blamed on the current Finance Minister Mohammad Ishaq Dar. There is, however, a wider mindset that sustains such views and it has been nurtured for a long period of time by seeing the possibilities of leveraging geo politics for economic ends. The current situation has, in brief, demonstrated how that older approach now faces numerous limitations.

The terrorist attack of 30th January on a mosque in Peshawar with over a hundred fatal casualties forms part of the pattern of a growing intensity of TTP attacks after November 2022 when it called off the year long ceasefire that had seen renewed efforts made by the Pakistan Army to reach some a kind of an agreement. The not unnatural expectation in Pakistan had been that with the triumph of the Taliban in Kabul in August 2021, a suitable environment now existed to settle the TTP question. It is well known that things have in fact not progressed in that direction. Pakistan therefore, struggles to

reconcile the contradiction between a strategic victory represented by the Taliban comeback in Afghanistan with the blow back impact of this within its own territory.

The intensity of the latest attack brings out that alongside a full-fledged economic crisis and a deeply polarizing political crisis, Pakistan may also now have entered the zone of a national security crisis. The recurrence of such multiple crises or the fact they overlap to such a great extent is not new in itself. However, the TTP crisis and the downturn in relations with the Taliban in Afghanistan, both also point to the phenomenon of the narrowing of Pakistan's options and equally the erosion in its capacity to address the issues concerned. In brief, leveraging geo politics is becoming more and more of a difficult option for Pakistan's strategic elite. Whether and how a traditional rentier state can transform itself into something different is the question that poses itself to Pakistan and the jury is definitely out on whether this question will be addressed at all, leave alone answered.

@tca_raghavan

TCA Raghavan

TCA Raghavan is a former Indian High Commissioner to Pakistan (2013-15) and Singapore (2009 – 2013). He has also served in Kuwait, Bhutan and the United Kingdom and also as Deputy High Commissioner in Pakistan (2003-07). In the Ministry of External Affairs, charges he has held include Joint Secretary (Pakistan, Afghanistan, Iran). From 2018 to 2021 he was Director General of the Indian Council of World Affairs in Sapru House, New Delhi.

He has authored Attendant Lords, Bairam Khan and Abdur Rahim - Courtiers and Poets in Mughal India. It was awarded the Mohammad Habib Memorial Prize by the Indian History Congress in 2017. He is also the author of The People Next Door - The Curious History of India's relations with Pakistan (2017), History Men - Jadunath Sarkar, G.S. Sardesai, Raghubir Sinh and Their Quest for India's Past (2020) and (coauthored) Sapru House: A Story of Institution Building in World Affairs (ICWA,2021).

UKRAINE AND INDIA'S RUSSIA RELATIONSHIP

Pankaj Saran

India's special and privileged strategic partner Russia has been locked in battle and confrontation with the US led West over Ukraine. The proposition could also be framed in the reverse order - that our natural partners and close friends are locked in confrontation with Russia. The verdict on which of the two propositions is more accurate depends on when we regard the confrontation to have begun. If the start date is February 24, 2022, the belligerent is Russia. If we look back, the answer is far less obvious. If we ask the two sides, their answers are poles apart. The ability to take a view on seemingly self-evident truths that is independent lies at the heart of India's strategic autonomy. It is a path India has chosen - one that satisfies neither side.

The first few weeks of the Russian 'Special Military Operation' were met with expected hostility and castigation by Western governments short of direct military action, accompanied by a shrill media campaign. We were witness to information and psychological warfare in western media and related circles about the abject failure of Russian military strategy and equipment on grounds that Russian forces had not been able to capture Kyiv in one week. Demonisation of President Putin snowballed into a crescendo, as if he was the first and only leader in our generation to invade another country. The sense of moral outrage over the killing of innocent Ukrainians, for all its validity, glaringly stood out in contrast to the perfunctory coverage of thousands of civilian deaths and colossal devastation caused by military invasions in West Asia, otherwise referred to as 'collateral damage'.

"The pursuit of our relations with Russia is sometimes attributed to Indian sentimentality and the old school of thought."

It is lesson for us, yet again, since public memory is short, as to how misleading sensational, judgemental and instant analysis can be when it comes to matters of war and peace. The conflict is now one year old. It shows little sign of abatement or resolution, leaving aside the relative winter induced quiet. We are in a cycle of response and counter response. Russia has and will pay a heavy price in different ways. So will Europe, but the biggest price will be paid by Ukraine.

It is tempting to recall here that the Soviet Union disintegrated and fifteen states were born from it without a single shot being fired. This time the violence is disproportionate to the stakes involved. Russia has weathered the initial sanctions and other isolation better than expected. Its economy and financials are relatively stable. It has its cards to play which it is doing. The challenges to Russia are more in the medium to long term. Apart from the sanctions which will take a few years to bite, they fundamentally arise from the lack of political reform without which meaningful economic restructuring is not possible. The other serious challenge is its dwindling population. A complete decoupling from Europe is not easy and may not happen, but Russia's dependence on China will grow. We will see greater militarisation of Russia.

The pursuit of our relations with Russia is sometimes attributed to Indian sentimentality and the old school of thought. India is called upon to explain its relationship with Russia while no such accountability is countenanced by those who, for example, have flourishing political, economic and commercial ties with China, which sits on India's borders. The attribution to sentimentality as a causative factor for India-Russia relations is an indictment of India's strategic thought process.

Walking away from Russia is the equivalent of handing over Russia to China. India cannot afford to follow the West in this self-defeating enterprise, the implicit assumption of which is that China is a lesser threat than Russia. This may be true sitting in Europe or the US, but not in Asia. Russia will remain relevant in India's strategic calculus for reasons of geography, external balancing and above all to meet our gargantuan development needs. It is necessary to remind ourselves that India and Russia neither share a border nor do we have bilateral disputes.

"India will press forward on building its ties with the West with whom we share many commonalities and interests. Nations are known to maximize advantage through multiple alignments."

It would however not be a surprise if India were to recalibrate its relations with Russia in the light of developments within Russia and the world at large. Our actions during the past one year of the conflict speak for themselves. Diversification of the relationship to sectors beyond defence will be an immediate manifestation, as we have seen in the case of energy. Other steps, such as use of national currency for trade, have been initiated.

India will also prove that its external relations are not a zero-sum game. This is a model at variance with conventional western thinking, but India will press forward on building its ties with the West with whom we share many commonalities and interests. Nations are known to maximize advantage through multiple alignments. Even alliance partners are known to seek friends beyond the boundaries of their alliance. India's position is not ideological but born out of a deep sense of who it is. Thus, if and when becoming part of an alliance is in India's interest, we may expect it to do so. The devil is in the detail.

@PankajSaran11

Pankaj Saran

Pankaj Saran is a former diplomat with forty years of experience in foreign, strategic and national security affairs. He has served in key positions within the Government of India in the Prime Minister's Office, the National Security Council Secretariat, Ministry of External Affairs and in Indian Missions abroad. He has served as India's Ambassador to Russia and India's High Commissioner to Bangladesh, and as Head of the Northern Division in the Ministry of External Affairs dealing with Nepal and Bhutan.

He has served in different capacities in the Prime Minister's Office contributing to decision-making at the highest levels in a diverse range of sectors, including foreign affairs and national security. From 2018 to 2021, he served as the Deputy National Security Adviser for Strategic Affairs under Prime Minister Narendra Modi dealing with regional and global strategy formulation, including maritime security and Arctic affairs, neighbourhood policies and technology and economic security.

Pankaj Saran is presently Convenor of NatStrat and a commentator on security and strategic issues and a Distinguished Fellow of the National Maritime Foundation.

GEOPOLITICS FOR A MULTIPOLAR ERA

Dr Zorawar Daulet Singh

India's foreign policy in the past decade has shown the ability to navigate a complex and turbulent world and leverage, where possible, geopolitical and geoeconomic advantages from the changing world order.

Yet, as the world order undergoes further transformations, it has become imperative to conceive of a geopolitical framework. Without a prism to interpret different events and crises there is a risk of Indian policy responses becoming overly transactional or getting swayed by the geopolitical fads of the season. It also makes the task of Indian public diplomacy more difficult, with each policy requiring justification to the so-called international community.

Historical legacies

So how do we think about a geopolitical concept for the present era? India's foreign policy thought has been influenced by two key geopolitical approaches – British India colonial-era geopolitics and Cold War-era geopolitics. The emerging world order requires Indian policymakers to recognise these historical legacies while charting a course for the complex multipolar world that is coming into being.

British Indian geopolitics was driven by the objectives of leveraging the Indian subcontinent to fuel British economic power, project British power across Asia and at the same time isolate India from other centres of wealth and power. It also severed India's extensive pre-colonial geo-connection and geo-cultural connections with the wider surrounding regions.

We can also recall the image of the 'great game' where India was the prize to be secured in the great power rivalry between Britain and Russia.

Almost all British-Indian continental military interventions such as in Afghanistan and Tibet were in one way or another linked to the Anglo-Russian relationship. It was this period that also gave us the 'maritime versus continental' image where geographers like Halford Mackinder gave expression or a rationale to British grand strategy by outlining a geopolitical concept where the continental Eurasian heartland was seen as the main area to contain and, where possible, confront.

"We still have an insufficiently developed school of Indian geopolitics that has not yet consciously fused or come to terms with our three core international identities."

This was the context behind the articulation of non-alignment. India rejected the idea that there were only two options available. For India, there was a third area of the world order – a post-colonial group of countries, large, diverse and growing each year. It was a precursor to today's Global South. The intention was never to lead a third bloc or to solve the internal problems of the non-aligned world. It was primarily to provide a legitimate geopolitical identity to states like India that sought to preserve security and independence.

Any honest historical appraisal will credit India with being one of the main intellectual vanguards of freedom for those who did not wish to choose political or military alignment as the basis for foreign policy but needed a legitimate concept to underpin their international role.

Indian school of geopolitics

Does India need to revise or adapt its geopolitical framework to intellectually manage the transition to a multipolar world order? And if so, what would be the main features of this revised geopolitics?

If the global and regional setting has changed, historical concepts cannot alone suffice to help navigate the future. The temptation to grasp British-era concepts must be tempered by the power realities of our time and the national interest. The frontline security role played by India a century ago as a so-called 'net security-provider' for Britain's competition with its rival great powers, cannot in a new avatar serve as a realistic template for the future.

The Cold War era phase is more complex because Indian agency actually existed and geopolitical choices were pursued, which on the whole did provide security. Today, the balance of power and the complex forms of interlinks between the great powers might not allow for a conventional non-aligned strategy to provide the goods, though political-military neutrality continues to retain its obvious logic and advantage in the context of the various existing and potential flashpoints.

We also need to be careful how we think about the continental versus maritime binary. Remember that Mackinder and Spykman created concepts and a map of the world that was envisioned from the perspective of a maritime great power looking from the outside at the Eurasian supercontinent and its maritime littoral regions. But is that map relevant for India? What are the fundamental characteristics of India's geopolitical environment?

India is located at the crossroads of different regions, civilizations, and security complexes, each with their own local dynamics. Not all these security complexes require an extra-regional role for India. Part of the reason why India gets offered different political-security roles and pulled in different directions is we still have an insufficiently developed school of Indian geopolitics that has not yet consciously fused or come to terms with our three core international identities – the post-colonial identity of strategic independence or strategic autonomy, India's larger civilizational identity as a distinct geo-cultural and geo-political centre, and India's major power identity to emerge as a future pole in a plural multipolar order.

That being said, the continental and maritime

facets of India's immediate geopolitical environment around the subcontinent entails opportunities and risks; opportunities for new geoeconomic connections but also risks of costly security competitions.

"India's foreign policy, even from a vantage point of basic self-interest, has always sought a positive quest to reform and, where possible, transform the world order."

The continental dimension implies a certain role, the maritime one involves another role. It is important to be clear what these roles would entail in practice and then devote resources and a strategy towards each of them. For instance, it seems quite clear that classical geopolitical considerations of frontier and homeland security will always require a level of continental attention that cannot be compensated or substituted by an enhanced maritime role and identity. An Indian maritime role must strive to address the military security and geoeconomic interests of the subcontinent and not aspire to be a chess piece in Spykman's Rimland theory to encircle the Eurasian heartland.

The other aspect that any geopolitical concept must account for, is the continuing requirement for interdependence. Unlike the Cold War or even unipolarity, a multipolar world is proving to be a far more complex setting where competition and geoeconomic cooperation can and do occur with the same actor. Articulating a geopolitical concept that is less imbued with ideology and more with identifiable social and material interests will empower India's foreign policy with the creativity and flexibility to build partnerships and networks without being boxed into an all-encompassing ideological straightjacket that entraps India in bloc-based politics.

Finally, India's foreign policy, even from a vantage point of basic self-interest, has always sought a positive quest to reform and, where possible, transform world order. This again implies a geopolitical concept that can transcend geography to look at the international system as a whole. A concept that is open and outward-oriented to developing collaborative networks and innovative multilateral institutions that can advance reform or change in different issue areas and regions.

@Z_DauletSingh

Dr Zorawar Daulet Singh

Dr Zorawar Daulet Singh is an author and foreign affairs analyst based in New Delhi. He is an Adjunct Fellow at the Institute of Chinese Studies. He was previously a fellow at the Centre for Policy Research. Daulet Singh holds a PhD in international relations from King's College London.

For the past 15 years, he has been a commentator and columnist on India's foreign policy and its role in world order, diplomatic history and various dimensions of India–China relations.

Daulet Singh's critically acclaimed 2019 work on India's strategic history, Power and Diplomacy: India's Foreign Policies during the Cold War was released in 2022 as a paperback edition by Oxford University Press. His recent work on India-China relations, Powershift: India-China relations in a Multipolar World, received the Kalinga Literary Festival Book of the Year Award 2020-21 in the category of Diplomacy/Strategic Affairs. His previous books include India–China Relations: The Border Issue and Beyond and Chasing the Dragon: Will India Catch up with China?

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UNPACKING MULTI-POLARITY: INDIA'S STRATEGIC AUTONOMY IN AN UNCERTAIN WORLD

DB Venkatesh Varma

While there is general agreement that the current global situation is more multipolar than unipolar, different views persist as to the true meaning and implications of a multipolar world. Where India stands on this issue will have relevance for its foreign policy and its place in the world this century.

The United States unipolar moment came quickly but ebbed over time. The end of the Cold war saw the collapse of the Soviet Union and its associated structures - the Warsaw Pact as a military alliance and socialism as state ideology. The primacy of the United States as the pre-eminent world power and its associated structures saw NATO's expansion as a military alliance and neo-liberalism as the dominant ideology of US-led globalization.

"That the United States has chosen to push Russia, a peer nuclear power, to a corner shows that mutual deterrence has eroded substantially."

US primacy eroded over time – militarily in terms of its inability to prevail in conflicts such as Somalia, Iraq, and Afghanistan. The 2008 financial crisis exposed the limits of American capitalism, despite a two-decade dominance of its technology sector. The rise of China crept up on the world leaving the US scrambling to face it as a peer challenger and a pacing power. The Russia-Ukraine war may be seen as the dying embers of US unipolarity and the contested birth of multipolarity.

Ukraine conflict

The Russia-Ukraine war is unlike other wars this century. The US wars were with non-peers, where its superiority in firepower determined how wars started and ended - usually with the US prevailing militarily but failing to grasp the political fruits of victory. Russia is fighting with Ukrainian battalions which were trained to NATO levels since 2016. Over the past year, the Russia-Ukraine war has acquired the characteristics of a proxy war between Russia and NATO and more specifically with the United

States, especially in the field of battlefield Intelligence, Surveillance and Reconnaissance (ISR). Much of the advanced weaponry being provided by the US to Ukraine can be used only if the US assisted with target acquisition and cueing information. This is a US-led proxy war against Russia.

The prolonged nature of the Russia-Ukraine war is due to the ferocity of a bitter Civil War, where two separate but intertwined peoples are locked into conflict - the 'narcissism of minor differences' between Russians and Ukrainians putrefying into deep hatred during the last decade. The conflict has the territoriality of a geopolitical conflict – with Russia pushing back against NATO expansion and the use of Ukraine as a dagger against Russia in the Black Sea area. It also has the incendiary explosiveness arising from massive external intervention in terms of arms supplies from the US and other NATO countries to stiffen Ukrainian resistance against Russian aggression.

Fundamentally, it represents a breakdown in the Russian and American understandings of the Yalta and Potsdam Conferences on mutually demarcated geopolitical interests in Europe. Russia was too weak to prevent the changes of 1991 and the subsequent five waves of NATO expansion. It is now attempting militarily to defend what it considers as its existential geopolitical interests in Ukraine and the Black Sea area. That the United States has chosen to push Russia, a peer nuclear power, to a corner shows that mutual deterrence has eroded substantially, a line that both countries were careful not to cross during the Cold War. This will have a debilitating impact on the entire architecture of nuclear arms control. Proliferation controls may further weaken beyond repair, especially in DPRK and Iran, leaving China unfettered with any controls over its nuclear and missile build up.

"The grave deterioration of Russia - US relations over the past decade has been largely due to US miscalculation of the extent of Russian weakness and a deeply ideological decision-making calculus in Washington which hindered any modus-vivendi with Russia."

Limits of US Power

Despite massive sanctions imposed by the US and its allies, Russian ability to sustain a prolonged war has laid bare the limits of US power. In turn, it has catalysed alternative arrangements even among countries not directly involved in the conflict. While the blatant weaponization of global interdependence did not substantively degrade Russian ability to conduct war, it advertised to the world the downsides of overdependence on the petrodollar, risks of exclusive holding of US dollar reserves, western banking channels, airline, shipping, and insurance links. The political economy of Europe which was based on cheap American security, cheap Russian gas and cheap Chinese manufacturing has been turned upside down largely under US pressure, thus showing that while there are multipolar tendencies elsewhere, in Europe US unipolar influence has returned with a vengeance. Further NATO expansion to include Sweden and Finland may take place after a suitable price has been paid to accommodate Turkey's interests. Expanded NATO is also an extended NATO, which may not necessarily translate into an effective NATO. It may be a while for stable deterrence to be re-established, of the nature that European security took for granted over the past three decades.

Overextended US chasing weakened Russia

That Russia may eventually gain the upper hand in the war with Ukraine is a distinct possibility. However, this would call into question the credibility of US leadership, which may provoke the US to further double down on Russia with respect to its troubled peripheries - from the Arctic, the Baltics, the Black Sea, the Caucuses, the Caspian, and Central Asian regions. For the

foreseeable future, Russia will be a distracted power and may take a decade or more to recoup its economic strength. Unless there is a rethink in Washington, which is unlikely, the expected US response would be to chase Russia down this rabbit hole of keeping its peripheries unstable and on fire through interventions of various kinds - economic and technological isolation, energy and commodity bans and military aid to countries to wean them away from Russia. Perceived Russian weakness will be too attractive for the US to choose an alternative path but this pursuit risks overextending the US into strategic exhaustion.

The consequences of this policy will be an overextended US chasing a weakened Russia until such time this conflict is either addressed through sensible diplomacy based on mutual accommodation or settled using force. The grave deterioration of Russia - US relations over the past decade has been largely due to US miscalculation of the extent of Russian weakness and a deeply ideological decision-making calculus in Washington which hindered any modus-vivendi with Russia. Unipolarity and hubris have not been a good mix for Washington, laying bare its incompetence in handling key issues of grand strategy. Domestic divisions and polarization now make it difficult, if not impossible for the US to do a course correction. The longer Russian defiance stands, the longer will be the shadow of US inability to shape global trends.

"The 'Americanization of India's China policy' often overlooks key divergences between India and US, including the optimal balance between India's interests as a continental and maritime power."

Advantage China

The prolonged Russia-Ukraine war has thus thrown up a weakened Russia and an overextended US locked in geopolitical conflict on a fast-crumbling common ground last agreed upon in 1945. The country that is best positioned to take advantage of this triangular equation is of course China, which can pick and choose on playing the other two powers. It is advantage China, as it has leverage with the US and Russia more than either of them has with China, either individually or jointly. China is rest assured that the latter can be ruled out for the foreseeable future - by the US inability to grasp the gravity of its geostrategic conundrum and the severe material limitations of Russia. Their mythical 'no limits' partnership notwithstanding – only countries steeped in communist methods of propaganda typically exaggerate their common interests when facts speak otherwise, China has not assisted Russia in any substantive way in its war with Ukraine. This is due to the fundamental contradiction in Russian and Chinese interests. The more the US is compelled to commit resources for the defence of NATO against Russian aggression in Europe, the more it is a boon for China and a burden for Russia. In addition, China is well poised to harvest geopolitical space that Russia may be compelled to vacate in Central Asia. Russia-China partnership is two-sided in context and one-sided in content.

Dual containment fallacy

With record high debt, the US does not have the resources nor the policy bandwidth to conduct dual containment simultaneously of the two largest continental powers on the Eurasian continent. The resources committed to European defence – now expanding exponentially, will be at the expense of its needs in the Indo-Pacific. For China, this is the primary reference point for how it assesses multipolarity amongst the big powers. That said, Russia and China, as two continental powers, have a common interest in keeping at bay the world's foremost maritime power which places a lower premium on continental stability than they do. To count on an embattled NATO stuck with Russian aggression in Europe to spare resources against China in the Indo-Pacific is to tempt fate with fantasy. Russian advances in Africa at the expense of French interests is also significant.

Multi-dimensional multipolarity

Multipolarity is thus more than merely a dilution of US unipolarity. It is multidimensional, as the diffusion of power is not uniform or unidirectional, and leads to reordering of older hierarchies. The US is still the foremost maritime power and has a huge lead in global technological innovation. But it has been confined to the territorial margins of the Eurasian Continent with declining influence as a resident Continental power. Economic power dispersal has accrued to China but also more broadly to the Indo-pacific region, where the US has steadily lost market access and influence as compared to its position in Europe. The US is now the foremost fossil energy producer and exporter but has been unable to maintain its primacy amongst the Arab states of the Gulf. The growing influence of Brazil, Turkey, Saudi Arabia, Indonesia, and others shows that in addition to the more familiar examples of multipolarity in which India figures prominently (as seen in BRICS, SCO, RIC or even the G20), there is a dispersed multipolarity at play whose real impact cannot be ignored. The line up of new aspirants for BRICS or SCO membership is another attribute of the proliferation of groupings which seek to move past US primacy.

India and multipolarity

India is no stranger to multipolarity. The first green shoots were in the NAM during the Cold War period as no country or group of countries was able to dominate the NAM for long. The current generation of Indian foreign policy thinkers and practitioners are children of the era of globalization with a strong belief in US primacy as the main reference point for India's external engagement. Even our pursuit of multipolarity through various means -RIC, BRICS, SCO etc was seen as useful to the extent of creating additional leverage with the United States. This has yielded mixed results.

While the US has eased many of the barriers imposed by it on India's growth as an independent power during the Cold War, the vast potential of what the US can do materially to support India's rise is still largely untapped. This is despite the US occupying a position of pre-eminence in India's strategic thinking. The bilateral strategic partnership with the US is seen by many as the single most important of India's external relations. The same view is accorded to other foreign policy formats that are closely linked to US interests – Indo-Pacific, Quad, I2U2 etc. There has been a strong tendency in some sections of our strategic community to define the China threat through the US prism. This 'Americanization of India's China policy' often overlooks key divergences between India and US, including the optimal balance between India's interests as a continental and maritime power. US disregard of India's interests during its withdrawal from Afghanistan is a case in point; but mention may also be made of US restrictions on India using the INSTC through Iran which has exacerbated India's connectivity challenges on the continental dimension. Maritime connectivity looms far larger in India's strategic imagination rather than the more chronic problem of land connectivity, which leads to the question - can India ever be a secure, great power if it is isolated from its continental hinterland in Eurasia, perched precariously on its margins gasping for distant partners across the seas?

US shadow

India was quick to embrace in the past key US concepts in foreign policy only to realize that these do not always translate into promoting Indian interests consistent with its needs and capabilities. This gap has resulted in flipflops in Indian foreign policy on concepts such as Global Commons, whether these apply to maritime, cyber and space or only to the former two, whether freedom of navigation is derived from UNCLOS or from customary International Law, the meaning of Rules-based International Order and its relation with International law and the latest – the correlation between resilient supply chains and economic efficiency associated with classical notions of globalization and free trade. There is ambivalence in India's thinking on rule

or norm building in cyberspace and global e-commerce, data sovereignty and residency -whether these should be multi-stakeholder-led, or addressed multilaterally through forums such as the WTO or the ITU. Though in practise India has often stopped short of a complete endorsement of US positions, how its foreign policy choices would impact its relations with the US is a constant preoccupation in Indian thinking and a key filter for the pursuit of options provided by multi-polarity.

Road of self-doubt

While India's preoccupation with big-power sensitivities is understandable, in the past two decades, India's foreign policy has travelled a road of self-doubt on how to deal with the developing world. Until recently, there was a strong desire to stay away from the NAM summits- India stopped attending at the PM's level, or to take leadership of Global South issues at UN forums. This was before India hosted in January this year, a voice of the Global South online Summit as part of preparations for the G20 Summit in September this year. Even then India's ambitions are still evolving, as to whether this is an act of belonging or leverage – whether India's interests lie in being the leader of the South in Northern groups or an interlocutor for the North in Southern Councils. This issue willcome to ahead in the G20 Summit.

"Strategic autonomy is a policy concept that cannot be separated from state capacities or the purposes of power in the larger geopolitical context."

There were several somersaults on non-alignment, non-alignment 2.0, multi-alignment or even unalignment. With the general policy direction inclined not to deepen existing defence dependency with Russia, and the exclusion of any alignment with an increasingly hostile China, this zig-zag in policy, which in practical application meant avoiding a foreign policy pathway that would restrict space for closer relations with the US. It was felt that the only open pathway was with the US or with US-friendly derivates - EU, Quad, I2U2 and closer ties with countries which are already allies of the United States, be it in the Indo-Pacific, South East Asia, Gulf, Eastern Europe, Africa, or Latin America.

These trends are now being put to the reality test not only as to how the world situation has evolved - where US primacy is eroding or grasping the US hand is proving to be less rewarding than previously expected. India's domestic needs and requirements, where Make-in-India or Atmanirbhar programmes have been ascendant and often clash with US objectives of open markets and free trade. Though strategic autonomy has come back into circulation, after being side-lined for almost a decade, its definition is still being contoured to keep it safe for an open-ended expansion of India's relations with the US. Our policy on Quad is premised on the deterrence utility of strategic ambiguity- what is known creates uncertainty as to what is not. Whether it works in practise, time will tell.

Strategic Autonomy

Strategic autonomy is a policy concept that cannot be separated from state capacities or the purposes of power in the larger geopolitical context. At a fundamental level, it means India's capacity and will for independent thought and action, on issues of war and peace. The post-1947 global order was mostly inimical to India's interests - on issues of sovereignty and territorial integrity of our western and northern borders; the economic order under the WB and IMF (over 120 billion dollars in development aid was given to India but constant pressure was exerted to change its pattern of economic development); the nuclear order tried to strangulate India's nuclear programme for three decades until the nuclear deal of 2008 and India benefited from liberalized trade and services for less than 15 years before the tide turned during the 2008 financial crisis. Pakistan and China, together and separately benefited from the geopolitical and geoeconomic largess of the US more than India during the Cold war period.

Soviet /Russian support for India, on the other hand, surpassed that provided by the US during the same period.

India has acquired some significant attributes of national power over the past seven decades - food security, rail and road connectivity, huge science and technology base including largely indigenous nuclear and space programmes, a defence production base, especially in missiles and other high technologies and new digital infrastructure. But huge gaps remain – India is still dependent on energy imports, does not have a civil maritime or air fleet of its own, huge exodus of its talented youth in the STEM sectors, uncertain capital flows, huge defence imports, critical imports of fertilizers, API and rare earths and low index of R&D, to name a few. On norm and rule-building, India is still marginal though an increasingly influential actor. The 2023 G20 summit will be a test of India's norm-building reach at the global level.

Importance of the US

The United States will be a critical partner for India's growth in the coming decade, including for access to capital, markets, technology, energy, and defence. But each of these factors will play out differently for India when viewed through the changing position of the US in an emerging multipolar world. With respect to capital and markets, the US remains an open and abundant source. But with respect to technology, especially high-tech such as semiconductors, information technology, advanced materials etc the US has tightened controls and sees external engagement primarily through its national security prism with the twin objectives of denial to Russia and managed access to China, given that the latter's market is still a big factor for the US. Nothing is more important for India than securing long-term preferential technological support from the US for its growth, and nothing else will be as challenging.

As the world's largest energy exporter in terms of fossil fuels and an important source of green finance and technologies, the US will be a major energy partner for India. In the name of decarbonization, India's growth will be burdened with the geopolitical pressures of fossil-fuel powers including the US and Russia. The US will thus be a key player in the weaponization of the climate change transition. With the cut-off in European markets, excess Russian energy can either go east to China or come south to India. It would be in our interest to conclude long-term preferential supplies to boost our growth, through an energy alliance with Russia. Multi-polarity for India would mean multiple options for its sustained growth and energy security.

"The US should endorse India's strategic autonomy as an objective that is good for US long-term interests."

In terms of defence cooperation and arms supplies, the US would seek to locate them in the context of its geopolitical conflict with Russia – to wean India away from its defence partnership and use China as a reason to build India into a credible military power consistent with US overall global interests. While the Indian transition away from Russian dependency is inevitable, the key question would be its time frame - some Russian-origin weapon systems will be in the Indian inventory until 2070. It would be an unfriendly act if the US were to force this transition against our interests through the enforcement of CAATSA. India should be left free to handle its inventory management according to its doctrinal needs, Make-in-India priorities, technology transfer and budget considerations. The US is a welcome partner in the defence sector but without pressure on India to jettison its relations with Russia. Multipolarity in the Indian defence inventory should move towards greater indigenization, not swap one foreign dependency with another.

Clarity of thought and firmness of purpose

The primary foreign policy challenge is for India

to derive the maximum benefits of its comprehensive partnership with the US for India's interests, where they match, while minimizing the costs of a closer alignment with the US on issues regarding which we have parallel or conflicting interests, including on Pakistan and China. This will require developing and using leverage that the multipolar world has to offer to further India's interests through the exercise of strategic autonomy. Getting the US relationship right in a fast-changing world is vitally important as it is vastly complicated. To help achieve this objective, there is a need for a new generation of American experts in India, more attuned to the complexities of the multipolar world rather than those who cut their teeth in the glitter of American power three decades ago.

For half a century, the US resisted accepting the merits of India's independent nuclear deterrent, until geopolitical developments induced a fundamental change in US thinking. Likewise, the US should endorse India's strategic autonomy as an objective that is good for US long-term interests. A strong and independent India should be seen by the US as the best guarantee of its global interests instead of an India that is boxed-in as a military alliance partner of which the US has more than 50 across the globe. For this to happen, it is for India to demonstrate with clarity of thought and firmness of purpose, its commitment to strategic autonomy in its global engagement as the true twin of Atmanirbhar policy in the domestic domain. If we want the world to take our strategic autonomy seriously, we should first show wholeheartedly a national commitment to it ourselves.

DB Venkatesh Varma

DB Venkatesh Varma served in the Indian Foreign Service from 1988 to 2021. During his diplomatic career, he worked in the Office of the External Affairs Minister and in the Prime Minister's Office. He served as India's Ambassador to the Conference on Disarmament in Geneva, to the Kingdom of Spain and to the Russian Federation, until October 2021. He has vast experience in India's security and defence policies and served as Joint Secretary in charge of Disarmament and International Security in the Ministry of External Affairs. He was the first recipient of the S.K. Singh Award for Excellence in the Indian Foreign Service in 2011 for his contribution to the negotiations of the Civil Nuclear Initiative. He is a Distinguished Fellow at the Vivekananda International Foundation.

National Security

Internal Security

We study threats faced by large pluralistic societies, particularly democracies, from terrorism, radicalization, extremism, illegal migration, narcotics, economic imbalances, religious and social tensions, and poor governance, and what this means for India as a civilizational state.

Military Affairs

We look at the challenges facing the Indian Armed Forces, India's military strategy and doctrine, the security environment, the future of warfare, defence modernisation and indigenisation.

Non-traditional Threats

New threats to a nation's security emanate from information warfare and influence operations, new weapons, dual-use technologies, and new domains of contestation such as information, cyber, maritime, space and artificial intelligence. We study the implications of this for the security of states.

DEEPENING DEFENCE REFORM

Sanjay Mitra

The appointment of the CDS and the creation of the Department of Military Affairs (DMA) in 2019 followed by the corporatization of the ordnance factories and the explicit emphasis on the use of indigenous defence equipment by the armed forces in 2021, have been truly transformative reforms. Is there a scope to deepen them? We explore.

The DMA is specifically charged with "promoting use of indigenous equipment by the services". This emphasis on indigenous capabilities makes it imperative to consider defence procurement as one major area where further reforms could be considered.

Over the years, the main reason for the general dissatisfaction in the armed forces over the role of civilians in the MOD has largely emanated from delayed procurement. Questions relating to pensions and other entitlements also figured in the discourse from time to time, but the narrative has been largely built around tardy procurement and its deleterious impact on capabilities and preparedness. That situation will continue in the post DMA era since procurement continues to remain with the DOD. The DMA's charter requires it to promote self-reliance and the use of indigenous equipment. Absent direct procurement powers, this aspect may then become dependent on inter-departmental coordination between the DMA, the departments of defence, defence research and defence production.

Further, indigenous products are likely to be more expensive than imports. In fact, they may even be more expensive than similar items bought earlier from foreign vendors. The rules have to explicitly provide for an "domestic premium", which could be set to decline to zero over the next four or five years. Several processes – leasing, stockpiling of special alloys and materials, advance payments for prototypes and spiral development, life cycle costing and performance-based logistics, have few parallels in non-defence sectors and will have to be formally recognized to avoid problems with audit and

vigilance. The possibility of failure of government-funded prototypes also needs to be articulated with greater clarity. Concerns remain.

"Over the years, the main reason for the general dissatisfaction in the Armed Forces over the role of civilians in the MOD has largely emanated from delayed procurement."

In our system, the devil is in the details. Changes in the acquisition procedures need to be matched with special dispensations in the financial rules. If required, the General Financial Rules that govern all financial decisions in the government should include a separate section on defence procurement or at the very least recognize the unique features of defence procurement. The parallel existence of two, quite different modes of operation within government finance has been problematic. Better harmonization will prevent confusion and forestall repeated objections and requests for clarifications to the Finance Ministry that are said to cause delays.

Leasing needs to be thought through. Dual use and support equipment, like tankers, tugs, transport and heavy machinery, already have well-developed leasing mechanisms and will pose no problems. Exclusively military items may pose a different set of problems, including the issue of prior authorizations or the likelihood of" remote switch offs" in the event of hostilities. It might be a good idea to test the "leasing waters" on the G2G route for high-end equipment at the earliest.

"The quest for India-specific, customised capability enhancements over standard products and insistence on specifications equal to or in some cases even beyond those of the NATO or the US, albeit in the interest of cutting-edge preparedness, could impact the entire indigenisation effort."

In the coming days, we are likely to see several OEMs open shop in India. Skilled manpower will be at a premium. Irrespective of everything else, we need to be careful about our existing lines of production, be it submarines, aircraft or armoured vehicles. Such lines grow slowly, and specialised expertise needs careful nurture. Very few countries can afford more than a single production line for major platforms. We would do well to recall that post the cancellation of additional units of HDW submarines in the 1980s, there was manpower leakage to foreign shipyards. This could happen again with the fighter aircraft line at Nashik, or the submarine line at Mazagaon, the helicopter unit at Koraput, the heavy vehicles unit or even at the strategic facilities for that matter. Experience from other success stories of Indian forays into globally competitive manufacturing, such as pharma, auto and LEDs, shows the significance of strong domestic manufacturing capabilities. More importantly, the experiences demonstrate the ease with which domestic systems and expertise can be re-engineered to suit new requirements without having to dismantle them altogether.

The Armed Forces will have to drive the entire process. They will have to balance operational preparedness and domestic capabilities. They will have to nurture gradual development through achievable specifications. This issue has been highlighted several times by the CDS. The quest for India-specific, customised capability enhancements over standard products and insistence on specifications equal to or in some cases even beyond those of the NATO or the US, albeit in the interest of cutting-edge preparedness, could impact the entire indigenisation effort. But this call has to be that of the armed forces.

Now that the vexed issue of civil-military relations has been firmly settled by the political executive and the military accorded primacy in matters of national defence, we can now put those issues behind us and move ahead with meaningful reforms to ensure that our military capabilities match with our global aspirations. Long-pending matters like fresh operational directives from the defence minister need to be finalized. The earlier version is now more than a

decade old. The onus will be on the CDS and the DMA to provide appropriate templates spelling out the impact, if any, of the indigenization drive on our military capabilities. This could enable a more realistic set of directives and prevent surprises.

Strategic buying has been an important part of our diplomacy. Till very recently, procurement constituted a significant proportion of the tangible output from diplomatic engagements at the highest level. Whether the Atmanirbhar focus will change the game and to what extent is not yet clear. It is also a fact that we will continue to be dependent on external players for critical items. Aero-engines is a ready example. Sensors, militarized drones and high -end ammunition are others. Targeted procurements needs arising out of specific capability requirements will have to be suitably dovetailed with both our diplomatic endeavours and indigenization initiatives.

"Long-pending matters like fresh Operational Directives from the Defence Minister need to be finalized."

The corporatization of the Ordnance Factories Board was long overdue. Now that it is a fact, we need to fully see it through. Defence PSUs need to be agile and responsive to instantaneous market demands. The usual financial and administrative delegations are unlikely to suffice, even at the "Maharatna" level. They will have to be quite different, in particular for cases involving the transfer of technology or foreign expertise or even acquisition of foreign firms with niche capabilities. Otherwise, these new DPSUs are unlikely to break through and contribute to the sector as envisaged.

It has been a while since the " foundational" agreements with the US were signed. These were expected to provide an impetus to the technology development. Now that the NSCS is to steer the process from our side, we could hope for faster progress. The commencement of production by the Indo-Russian JV in rifle (AK 203) seems to be an encouraging sign in the field of technology transfer.

Worldwide, offsets have been effective drivers of technology acquisition and indigenous capability development. Offset accounting needs to be opened up and OEMs given stiffer, non-negotiable targets for offset liquidation.

Sanjay Mitra

Sanjay Mitra was a career civil servant belonging to the Indian Administrative Service. He is an alumnus of Delhi University and Kennedy School, Harvard. He was the Head of civil service in West Bengal, and subsequently Secretary, Ministry of Road Transport and Highways, in the Government of India. He retired as Defence Secretary. He is currently teaching at IIT Delhi, School of Public Policy.

INDIA'S THREAT SCENARIO IN THE NEIGHBOURHOOD

Shantanu Mukharji

In the current environment of spiralling terror activities, no country is immune, including India. Due to the country's sharp vigilance and the efficiency of its security and intelligence outfits, major terror attacks have been prevented on Indian soil. A few stray incidents in Kashmir may be viewed as a desperate attempt by Pakistan to disturb the peace there.

The emerging khalistan problem has taken the center stage as a series of violent incidents have recently made headlines. There have been reports of violence and threats carried out by khalistani militants in the far west, Australia and even in heartland Punjab. These militants have used drones to regularly supply drugs, firearms etc., in an attempt to revive the khalistan movement in an otherwise peaceful Punjab. The khalistan issue was recently discussed at a high-level meeting in New Delhi of top cops. The meeting was also addressed by Prime Minister Narendra Modi. At the meeting, the threat from khalistani militants was emphasised by police officers as a matter of serious concern, among other security challenges

"ISI's role in fuelling Khalistani activities in western countries through aggressive propaganda, supply of material and logistic support is well-known, documented and chronicled."

ISI's role in fuelling khalistani activities in western countries through aggressive propaganda, supply of material and logistic support is well-known and documented and chronicled.

Pakistan continues to support the agitations

However, there is no room for complacency in this matter, as evident from recent incidents involving khalistan militants indulging in acts of vandalism in Melbourne and other parts of Australia, which have only added to ongoing

concerns. Judging by these developments, security experts feel that on expected lines, Pakistan continues to be the villain in mobilising khalistani agitations beginning from Canada, the US and other parts of Europe and even within India.

"Pakistan's powerful military establishment and the ISI remain possible causes of peril to Indian security interests and New Delhi needs to maintain a high level of professional preparedness to safeguard its security interests."

These disturbing developments are a testament to the frustration of the Pakistani Inter-Services Intelligence (ISI), which failed to create the so-called Khalistan as a new State in the eighties despite its persistent efforts. Hostile forces are once again attempting to cause disturbance in India. This is particularly concerning as India has recently assumed the G-20 leadership and holds a crucial position globally. ISI's role in fuelling khalistani activities in western countries through aggressive propaganda, supply of material and logistic support is well-known, documented and chronicled by German Scholar Hein G Kiessling in his book on the ISI. It is, therefore, not surprising that our next-door neighbour will not venture into further misadventurism to divert its public's attention from prevailing domestic ills as well as to hurt India apparently to avenge its humiliating defeat in 1971 and resulting creation of Bangladesh.

Pakistan's powerful military establishment and the ISI remain possible causes of peril to Indian security interests and New Delhi needs to maintain a high level of professional preparedness to safeguard its security interests.

Besides the khalistani issue, it is well known that the ISI systematically supports homegrown terrorists by training and dispatching them to carry out attacks in India. The memories of the 26/11 attacks and the attacks on Uri, Pathankot and Pulwama are still vivid in public memory. The ISI's blueprint for such attacks remain readily available.

Online indoctrination programmes

Ever since the rise of ISIS under Baghdadi in 2010 in the aftermath of collapse of the Saddam regime in Iraq and Gaddafi's end in Libya, coupled with an uprising in Syria, several otherwise peaceful countries reeled under the ISIS threat. More worryingly, there were vibrant online indoctrination programmes that led to massive radicalisation. A small section of Indians got drawn towards this, more out of glamour and curiosity, than true commitment. However, strict oversight by security agencies kept the situation under control. While radical elements from Indonesia, Bangladesh, Maldives and other countries responded emotionally and physically to ISIS online overtures, the response from such elements in India was feeble.

In the context of discussions on India's security challenges, it is important to take into account the security situation in its immediate neighbourhood, particularly Bangladesh. The country has seen several incidents of religious extremism and deadly terror attacks targeting minorities, places of worship, liberal and LGBT activists in a society where religion plays a highly politicised role. Further, the presence of nearly 1.3 million Rohingya refugees adds to the vulnerability of religious indoctrination. This is a major concern for Bangladesh intelligence agencies. Also, fanaticism remains a key threat in Bangladesh due to a large number of religious fundamentalists in political parties and outfits like Hefazat-e-Islam Bangladesh, Jaish-e-Mohammed (JeM), Harkat-al-Ansar etc. who have linkages across the border in India which increases the threat to India's security and requires increased alertness.

"A beefed-up intelligence machinery and an equally compatible security apparatus is imperative particularly in view of religious conflicts in various parts of the world."

Other than Bangladesh, Sri Lanka also poses a security concern for India. Despite its fragile polity, the island saw a series of violent terror attacks in 2019, known as the Easter bombings, targeting several churches. The radicalised perpetrators are suspected to have strong connections in southern India thus heightening India's security concerns.

The Maldives, a thinly populated island on the Indian Ocean, has a large number of radicals and worryingly a large number have joined ISIS and fought in Syria. This trend, close to the Indian shores, calls for increased vigilance on these elements and their contacts in India.

Incidents of religious violence in other parts of the world including France (attacks at Charlie Hebdo), Belgium, Holland, and Germany in Europe and in Somalia, Mali, Mauritania and Burkina Faso in Africa are a matter of deep concern. These incidents can have an impact or embolden young and impressionable minds and India is no exception to such a possibility. Recent incidents of alleged Quran burnings in Denmark and Sweden have caused angst among a certain community in India too. This may serve as fuel to extremism and is not very conducive to security demands. While the threat of Naxalism in some parts of India appears to be on the wane, it is still important to maintain vigilance and not let our guard down.

The penetration of Indian cyberspace by hostile quarters and circulation of Fake Indian Currency Notes (FICN), pose real time security threats to the Indian establishment. To effectively address these challenges, a beefed-up intelligence machinery and an equally compatible security apparatus is imperative particularly in view of religious conflicts in various parts of the world including religious and political instability in Afghanistan and Pakistan, fallout of the ongoing Russia-Ukraine war plus a delicate communal situation calls for India to address the challenges with renewed vigour and resolve.

@Shantanu2818

Shantanu Mukharji

Shantanu Mukharji lives and breathes expertise in security matters after a remarkable career as a specialist in policing and critical security assignments.

He joined the police service in 1976 and served with distinction in communally sensitive and trouble-prone districts of Uttar Pradesh. He was then deputed to the Ministry of External Affairs to strengthen the security of diplomatic missions abroad.

In 1985, he was handpicked for the Special Protection Group, where he spent seven action-packed years overseeing security arrangements for four successive Prime Ministers. Later he was inducted into the sensitive Cabinet Secretariat, where he served at home and overseas on special assignments vital to national security interests.

Shri Mukharji has twice been awarded prestigious police medals for his services. After his retirement, he served as the National Security Advisor to the Prime Minister of Mauritius between 2010 and 2015.

He is now a security analyst, columnist, and commentator on security-related issues. Beyond work, his interests include music, literature, poetry and writing.

NATIONAL SECURITY CHALLENGES IN THE DECADE AHEAD

General Manoj Naravane

If you do not read your scriptures, you will lose your culture; but if you do not pick up your weapons, you will lose your Nation.

When one thinks of National Security, the first thought that comes to mind is the Armed Forces and conjures up images of tanks, military equipment and soldiers in their ceremonial uniforms. However, National Security is not military security alone i.e., safeguarding the territorial integrity and sovereignty of the nation, but has many other dimensions, including, energy security, food and water security, cyber-security and even health security. National security also extends to trans-national crimes by state and non-state actors e.g., drug-running, that affects the very fabric of our Nation.

It is necessary, therefore, to adopt a Whole-of-Nation Approach to the issue of National Security, which is the primary duty of the Government. In this, the Diplomacy-Information-Military-Economic (DIME) concept leveraging all instruments of national power to ensure comprehensive National Security, is essential. Moreover, all four facets have to be complementary to each other in pursuance of a common defined aim. For example, on the one hand, it has been stated in a number of fora that relations with China cannot be normalised unless the border imbroglio is resolved. On the other hand, trade with China continues apace, and volumes have only increased post the 2020 stand-off in Eastern Ladakh. This sends mixed signals to the country, the global community, but most importantly to China, for whom resolution of the border issue becomes inconsequential, as long as trade is flourishing.

"It is necessary, therefore, to adopt a Whole-of-Nation Approach to the issue of National Security, which is the primary duty of the Government."

There is no getting away from the fact that India has un-settled borders, in the West with Pakistan and to the North and East with the Tibet region

of China, which will always be at the forefront of our national security calculus. Pakistan has a GDP of barely US $0.34 trillion, that is about one tenth of India's at about US $3.3 trillion, which is about one-fifth of China's at US $17.7 trillion, which in turn is little more than half that of the United States at US $23.0 trillion. Yet in this equation, China sees itself as a competitor to the United States, and challenges it at every forum, and Pakistan continues to be a thorn in our side. So, while the Markhor heckles the Elephant, the Elephant is strangely silent before the Dragon. The difference is that both these countries, China and Pakistan, are able to drive a Whole of Nation Approach using all the instruments of national power, overt and covert.

In the DIME paradigm, Diplomacy and Economy are perhaps being used effectively. If India is falling short, it is in the other two factors, of Information (Warfare) and Military. Much can be done in the Military sphere, but first and foremost, the Armed Forces have to be made part of the decision-making process, right from the policy level. A most welcome step has been the creation of the appointment of a Chief of Defence Staff and the Department of Military Affairs. Yet it falls short, as the CDS is equal in status to the Service Chiefs, a primus inter pares, and not elevated to five-star level, and not even a permanent member of the Cabinet Committee on Security. Unless this hesitation to take the Armed Forces fully on board, borne out of experiences of militaries in our neighbourhood is overcome, India can never hope to fully realise its potential in the global arena.

"There is an urgent need for a 'Revolution in Bureaucratic Affairs'. Existing procedures are archaic and need to be updated to keep pace with rapid technological advancements as systems are becoming obsolete at a faster rate."

Within the military domain, there is much that can and needs to be done. The first is to realise that we are preparing for the wars of tomorrow and we have to look at National Security challenges likely to arise over the next twenty to thirty years. Accordingly, we have to invest more in high technology and move from being a manpower intensive to a technologically empowered Army. But in doing so, the ground realities of un-settled borders and requirement of 'boots on ground' cannot be ignored. Finding the right balance between the two is the greatest challenge, for territory lost is lost. For this, we have to focus on niche and emerging technologies like Artificial Intelligence, Quantum Computing, Block Chains, Internet of Things, etc. to name a few. We have to identify what is going to be the proverbial 'high ground' in future conflicts. Will it shift from mastery over the air to control of space, or maybe in the cyber warfare domain? Or both? Identifying this military 'Centre of Gravity', developing competencies therein, and then using it to its own advantage, while at the same time denying its use to our possible adversaries, will decide the course of future wars.

The next major shift that has to be contemplated is that of Unmanned Systems. These systems are becoming increasingly autonomous, with the integration of Artificial Intelligence, potentially making human intervention redundant. Will piloted aircraft become a thing of the past? Yet this also raises some ethical issues. A first step in this direction could be through Manned and Unmanned Teaming (MAUT), where a human operated system controls several similar unmanned systems. These perform their tasks autonomously but with a human oversight and an ability to abort function. This would then bring in a measure of accountability. This is an aspect that must be addressed urgently as investing in platforms and weapons systems relevant in the past are unlikely to meet the requirements of the future battlefield. This would result in wasting critical resources at a time of budgetary constraints.

Finally, there is an urgent need for a 'Revolution in Bureaucratic Affairs'. Existing procedures are archaic and need to be updated to keep pace with rapid technological advancements as systems are becoming obsolete at a faster rate. If red-tapism delays the acquisition and induction process, the 'new' system may already be obsolete by the time

it is put into use. This is particularly true for Electronic Warfare systems where technological developments are exponential. That bureaucratic hurdles are a serious issue can be gauged from the fact that even Prime Minister Narendra Modi, during a National Conference of all Chief Secretaries held at New Delhi on 7 Jan, 2023, called upon the Chief Secretaries to "focus on ending mindless compliances and outdated laws and rules…. [He said] …in a time when India is initiating unparalleled reforms, there is no scope for over regulation and mindless restrictions". The focus has to be on the product and not the process.

The conflict in Ukraine has amply highlighted that conventional wars are neither passé, nor likely to be short and swift. The only way to prevent war is to be prepared for it, for which a careful analysis of threats, their relative priorities and desired (futuristic) capabilities is essential. It is well known that Intention and Capabilities are two sides of the same coin and that while intentions can change overnight, capabilities take decades to develop. The time to act is now.

@ManojNaravane

General Manoj Naravane

General Manoj Naravane (Retd) served as the 28th Chief of the Army Staff of the Indian Army from 31st December 2019 to 30th April 2022. He is an alumnus of the National Defence Academy, Khadakwasla (Pune); Indian Military Academy, Dehradun; Defence Services Staff College, Wellington and Army War College, Mhow, where he was also on the Faculty. General Naravane holds a Masters Degree in Defence Studies and an M. Phil Degree in Defence & Management Studies. He is currently pursuing his Doctorate, based on his experiences in Nagaland. In a distinguished military career of more than four decades, he also served as the Vice Chief of Army Staff and General Officer Commanding-in-Chief of the Eastern and Training Commands. He has vast experience of foreign affairs, having been part of the Indian Peace Keeping Force in Sri Lanka, Defence Attaché at Yangon, Myanmar, and as the Head of the Indian Delegation to several countries.

The General has many National and International awards to his credit including the Distinguished Public Service Award 2022 by the US-India Strategic Partnership Forum. He has delivered a number of talks on National Security and Leadership at prestigious Institutions to include the Royal United Services Institute for Defence and Security Studies, London. A few of his articles on similar subjects have been published in National Newspapers in India.

INDIA'S G20 MOMENT: REIMAGINING SDG 16 PRIORITIES FROM A SECURITY PERSPECTIVE

N Ramachandran

With its broad focus on macroeconomic policies, the principal mandate of the G20 lies in the stability of the international economic and financial system and prevention of catastrophic economic shocks. At the same time, there has been an increasingly holistic recognition within the G20 that economics cannot work in isolation, deeply interconnected as it is, with other factors such as political stability, security, governance, societal peace, culture, and the environment. Today, the international community better understands and appreciates the vital links between democracy, rule of law, good governance, security, human development, and economic prosperity. Successive G20 summits have repeatedly spoken that strong and effective institutions of governance and law enforcement are required to create stable and predictable environments for businesses and investors, to help combat corruption, money laundering and other forms of financial crimes that undermine the stability of the global economy itself.

"It is a truism that threats to peace and justice constitute threats to sustainable development and they must be addressed."

There are interesting studies, making use of the World Bank's worldwide governance indicators, that have concluded that effective governance and law enforcement and stronger rule of law institutions have a positive impact on economic growth. They conclude that social, human development and financial indices are positively correlated; countries with more robust governance and enforcement institutions tend to have better social and human development outcomes such as higher life expectancy, higher literacy rates and higher standards of living.

Conversely, nations with dysfunctional and abusive governance and law enforcement institutions that operate in an atmosphere of impunity and corruption, suffer lower productivity and see fewer economic opportunities. Such institutions cannot provide credible protection or justice to their people; in fact, they endanger democracy and breed political instability. What should be the priority of the global community? Strengthening the institutions of rule of law, good governance, accountability and other key enablers of peace and justice should be on their priority list. It is a truism that threats to peace and justice constitute threats to sustainable development and they must be addressed.

The crucial importance of Sustainable Development Goal 16 (SDG16) is to be seen in this context. Ever since the United Nations adoption in 2015 of the Sustainable Development Goals agenda, there has been a clear and consistent recognition among G20 leaders that realization of the SDG targets is crucial to the G20's own foundational mission of achieving sustainable and balanced growth. Of the 17 SDGs being pursued, SDG16 is not only seen as an enabler for all other SDGs but also as a globally recognized development objective. A determined focus on SDG16 could also help bring about a globally coordinated policy response to the looming threats to the national and international financial systems.

"Post-independence, India has done much towards strengthening her institutions of governance and rule of law, but much more needs to be done in terms of addressing issues like corruption, inclusive and participatory development and access to justice to the marginalized communities."

Herein lies India's opportunity in shaping international governance. There are hopes and expectations that India would leverage the tremendous political power that the G20 commands, towards addressing some of the lingering problems that afflict humanity. From her G20 leadership platform, India should strive for universal agreement and cooperation to tackle all forms of transnational crimes, as these pose a threat to global financial security and stability. The G20 has significant cohesiveness and the institutional capacity to coordinate and align policies and actions among its member countries, apart from the ability to drive concerted action on key global priorities. A well-crafted plan for international cooperation for the implementation of SDG 16 should also envisage financial and technical assistance to countries that require external support and assistance in capacity building. The immense potential of digital technology is another huge opportunity that the international community possesses today, to pursue this goal.

Of course, SDG16 is not all about combating and defeating crime. It is also about building robust and inclusive institutions of rule of law, access to justice and participatory governance. Much of the SDG 16 mandate is deeply political in character. Modernizing and reforming the institutions of governance and even combating certain categories of crime are highly political subjects in many countries, the handling of which would require sagacity, persuasive power and statesmanship. Considering the scale and ambition of the targets, the task may look formidable. But procrastination is no option and a beginning needs to be made. It is always possible to begin with actions that are politically acceptable and least contentious. The low-hanging fruits, if you will.

On the domestic front, India needs to walk the talk as well. The aspects of policing and criminal justice systems that require reform and modernization have already been identified by a plethora of past commissions and committees on the subject. Post-independence, India has done much towards strengthening her institutions of governance and rule of law, but much more needs to be done in terms of addressing issues like corruption, inclusive and participatory development and access to justice to the marginalized communities. While these are ongoing domestic processes that India should separately handle and address, there are a series

of actions that she needs to initiate, clearly articulating her commitment to the SDG 16 goals. India is also in a position to share her experience and successes in controlling crime and terrorism and promoting peace, justice and strong institutions that can be replicated in other countries.

Some suggested steps:

1. Establish a task force dedicated to the implementation of SDG 16 goals.
2. Develop a comprehensive national action plan in partnership with the States, with clear targets and timelines.
3. Build capacities and resources at the grassroots and State levels.
4. Make clear policy directives for increasing public participation in governance, including measures such as community policing.
5. Promote transparency and accountability in governance.
6. Strengthen the justice system, speed up the justice delivery process and promote access to justice for all sections of society, addressing issues such as affordability, discrimination and marginalization.
7. Regularly monitor and evaluate progress in the implementation of SDG 16 Goals. Make corrections and adjustments as needed.

As the largest democracy, India has the credibility and the moral authority to lead the international community towards this crucial aspect of global governance. India has a powerful political presence and a voice on the world stage; and she is widely admired for her commitments to peace and justice.

India at the helm of G20 should seize the opportunity to animate all members of the forum to invest in building robust and inclusive institutions in every country, capable of effectively striking at the roots of terrorism and terror funding, trafficking of humans, narcotics and weapons and every other form of transnational crime and cartel that have a destructive impact on global development. SDG 16 provides the most legitimate framework for achieving this. Above all, India should champion the timely implementation of SDG 16 targets across the world, towards achieving inclusive governance and access to justice for all. The essence of SDG 16 goals distils the Prime Minister's vision of sab ke sath, sab ka vikas. It is an extraordinary opportunity for India to take the lead and play its historic role in building a more sustainable, equitable and safer world.

N Ramachandran

N Ramachandran (IPS 1978 Assam – Meghalaya) is the Founder and President of the Indian Police Foundation (IPF) – a multidisciplinary, independent think tank and policy advocacy platform dedicated to research and idea generation for the improvement of policing, promoting professionalism, integrity and the rule of law.

Ramachandran has extensive experience in District and State level policing, intelligence, security, conflict resolution, combating militancy and terrorism. Long experience in the elite Special Protection Group, responsible for security of the Prime Minister. Served as Chairman and CEO of the Cochin Port (2005-2011). Was Intelligence Chief of Assam and retired as Director General of Police, Meghalaya.

@n-ramachandran-39b49623

INDIA'S EVOLVING MARITIME SECURITY OUTLOOK

Admiral Karambir Singh

This year, 2023, has begun on a buoyant note for India. As the Economic Survey 2022-23 notes, India's economy has "nearly 'recouped' what was lost, 'renewed' what had paused, and 're-energised' what had slowed during the pandemic and since the conflict in Europe". Having successfully navigated the vagaries of the global economic slowdown, resulting from the three challenges of the COVID-19 pandemic, the conflict in Ukraine, and unprecedented global inflation, India's growth is forecasted to exceed other major economies.

"India's security and growth are intrinsically and inextricably linked with the sea."

Yet, even as Europe is expected to narrowly avoid a recession, and China opens international travel after a three-year hiatus, several global security challenges remain. The Russia-Ukraine war has entered its second year without any signs of resolution. Great power rivalry in the Indo-Pacific, somewhat attenuated for the time being by the crisis in Europe, is likely to present an ever-increasing challenge in the region. Climate change concerns remain largely unaddressed, as the verdict on the success of COP-26 negotiations in Sharm-el-Sheikh last year is not very encouraging. And then there is the rising trend of de-globalisation, after years of 'slowbalisation' in the wake of the global financial crisis in 2008; implying that governments and global companies are increasingly seeking security and resilience over the benefits of global value chains. This protectionist approach was accelerated initially by the COVID-19 induced disruption, and now by the Russia-Ukraine conflict. Concurrently, there is also evidence of depleting trust in international institutions, which has been further accentuated by the threat to the international rules-based order.

Closer, in the neighbourhood, the year gone by was marked by political upheavals, natural disasters, and financial distress. India's security concerns, which are increasingly linked with the global security trends, were consequently impacted by these developments. There are, of course, more visible and immediate security concerns for India, the foremost of which is China, and to a lesser degree, Pakistan. Since Galwan, India's relations with China are contingent upon the latter's acceptance of India's stance on border issues. Similarly, relations with Pakistan, post-Pulwama, are unlikely to improve unless it ceases its policy of state-sponsored terrorism. The recent outburst of Pakistan's

foreign minister at the UN has not helped much to ease the situation.

These security trends and concerns mirror in the maritime domain as well. India's security and growth are intrinsically and inextricably linked with the sea. For a country that depends on the sea for more than 95 per cent of her trade by volume, India's maritime security serves as the lynchpin of her economic well-being. More specifically, these depend upon India's ability to legitimately use the sea for trade and connectivity with the world, the exploration and use of oceanic resources within her maritime zones, and the protection of her territory and people from threats arising in-, through- or from the sea. Any interference with the peaceful use of the sea, or weakening of the rules-based order in the maritime domain, or a direct threat to maritime security would therefore constitute India's core maritime security concerns.

China's aggressive behaviour continues to manifest against India, Taiwan, and in the South China Sea, even as the Philippines President had called out Beijing's illegitimate territorial claims at the recently concluded World Economic Forum in Davos. India's maritime linkages, which now extend globally and even more significantly in East Asia, are consequently under stress. The use of grey zone tactics and hybrid threats by China to intimidate its neighbours has resulted in a push back, and this also has a dimension of Great Power competition. Obviously, India wishes to avoid getting embroiled in this strategic rivalry between great powers and therefore looks at a 'multi-aligned policy' to seek pragmatic solutions to global security concerns.

But it is not merely State-versus-State friction that impacts maritime security. The other non-traditional dimensions of security are equally important and more immediate. A cursory glance at the reports of the Indian Navy's Information Fusion Centre Indian Ocean Region (IFC-IOR) reveals a plethora of maritime security challenges across the IOR – from smuggling and illegal migration to marine pollution and cyber threats. These incidents impact maritime security, sometimes quite dramatically. For example, the stranding of the container-ship Ever Given in March 2021 held up US$10 billion of trade for every day of the week it blocked the Suez Canal. And there are other less spectacular, but more invidious, incidents of large-scale narcotic and arms smuggling and human trafficking that have a much greater and long-term impact on national security. In view of the wide-spread and near ubiquitous presence of non-traditional challenges – both natural and man-made – it is obvious that these can best be addressed through a cooperative approach.

It is in this context that India must continue to contextualise her maritime security to the more broad-based and comprehensive conceptual framework of the Indo-Pacific. Within this concept, several 'gears-within-gears' are to work. The Indo-Pacific Oceans Initiative (IPOI) is an apt representation of this complex concept and allows India and other like-minded partners to focus on specific lines-of-effort that would ultimately reinforce security in a holistic way, not only for India, but also others in the region, thereby translating the policy statement of SAGAR to tangible actions.

"India has adequate bandwidth for one-to-one engagement in her extended maritime neighbourhood. Indeed, the Indian Navy's outreach in the region as a 'Preferred Security Partner' has burnished India's reputation as a dependable partner and friend."

India also participates in several multilateral, minilateral and bilateral forums that operate within these complex security frameworks. While each of these is focussed on specific areas of maritime security, the challenge would be to harmonise these efforts towards common policy objectives. Of particular note among these is the Quad. As a quadrilateral group of like-minded and influential democracies, the Quad has immense potential to galvanise maritime security cooperation in the Indo-Pacific. India will need to pull its weight in order to make this group more dynamic and action-oriented. While most of the Quad-led initiatives have a non-military dimension, it might be worthwhile to examine how institutionalised military cooperation among its members can contribute to regional peace and security. Additionally, India must also enhance its maritime security cooperation in the neighbourhood through dialogues such as the Colombo Security Conclave whilst simultaneously

stepping up operational-level interaction between maritime security agencies.

India must also engage proactively in maritime security operations in the Indian Ocean Rim (IOR). The spike in attacks on merchant shipping in the Red Sea prompted the US-led Combined Maritime Forces (CMF) to create a specialised task force last year - the Combined Task Force 153 - whose mission is to focus on international maritime security and capacity building efforts in the Red Sea, Bab-el-Mandeb, and the Gulf of Aden. As a net provider of security in the region, India must take cognisance of the evolving security dynamics and engage with multinational forces operating in the Indian Ocean in order to streamline collective response to maritime security threats. Accordingly, it could also consider elevating its current status as an associate partner in the CMF to a full-fledged member. A similar initiative, by the EU, is the Coordinated Maritime Presences (CMP) – a concept that aims to strengthen the EU's maritime security engagement around the world. The CMP for the North Western Indian Ocean was initiated in February 2022 and both the EU and India would benefit from engagement through this mechanism.

Apart from cooperative mechanisms, India has adequate bandwidth for one-to-one engagement in her extended maritime neighbourhood. Indeed, the Indian Navy's outreach in the region as a 'Preferred Security Partner' has burnished India's reputation as a dependable partner and friend. While the Indian Navy has been the first responder in several regional calamities, it should also continue mission-oriented deployments such as 'Mission SAGAR' in 2020-21 in response to the COVID-19 pandemic and the SAGAR MAITRI mission undertaken by INS Sagardhwani under the aegis of the DRDO in 2019 to promote cooperation in socio-economic aspects as well as greater scientific interaction in ocean research among IOR countries.

"With increasing frequency of Chinese nuclear submarines in the IOR, it would be imperative to focus surveillance and monitoring efforts in the undersea dimension."

At the core are India's vital interests. In a neighbourhood afflicted by historical antagonism and territorial aspirations, India has naturally tilted towards a continental approach to security in the past. However, it is apparent that adopting an equally robust maritime approach to security is advantageous in two ways. First, it allows the freedom to use the seas for own purposes, and secondly, it can potentially present a counter to land-based threats. The Indian Navy's doctrinal underpinnings and its strategy recognise these advantages of sea power and seek to develop a balanced and future-ready force structure. In the near future, the Navy would need to focus on unmanned technologies and artificial intelligence to bolster its capabilities, particularly in augmenting what is called Maritime Domain Awareness (MDA). Other emerging technologies like hybrid propulsion, nano-systems, quantum computing, hypersonic weapons and smart sensors would also be required to be integrated on existing as well as next generation platforms.

Underwater Domain Awareness (UDA) is also an area of increasing importance to naval warfare. With increasing frequency of Chinese nuclear submarines in the IOR, it would be imperative to focus surveillance and monitoring efforts in the undersea dimension. The spectacular growth of the Chinese Navy – in numbers as well as in technology – and the more modest, yet noticeable, modernisation of the Pakistan Navy would need to be monitored in order to fine-tune future acquisitions by the Indian Navy as also to develop novel concepts and strategies to counter these emerging challenges.

India has also instituted far-reaching military reforms, specifically, the appointment of the Chief of Defence Staff and the creation of the Department of Military Affairs in the MoD, which seek to transform the way defence matters are managed at the apex level in the country. These reforms would need to be followed through to ensure swifter responsiveness and cohesive decision-making at the national-strategic level. Coupled with the proposed theaterisation of combat forces, these reforms are expected to introduce new concepts in warfighting. In the maritime domain, the Integrated Maritime Theatre Command is expected to amalgamate the existing Eastern and Western Naval Commands. With the induction of INS Vikrant last year, the Indian Navy would be operating two aircraft carrier groups in near future. This would require

effective carrier air wings on these carriers as well as conceptual and doctrinal guidance in application of large naval forces – singly, and in coordination with other Services.

In conclusion, India would need to adopt a balanced approach to maritime security. On one hand, India would need to be prepared to address her immediate security concerns, especially the conventional threats in her neighbourhood. The Indian Navy can deter conventional threats through presence, posturing, and deployments in its areas of maritime interest. The Navy can also present credible options in the maritime domain to counter land-based threats by leveraging the advantage of India's strategic location in the IOR.

On the other hand, as a significant regional power, India would need to contribute to holistic maritime security – primarily involving non-traditional challenges – in the IOR and the wider Indo-Pacific, while progressing security cooperation with friendly countries. India's cooperative approach must be to galvanise regional action along the seven thrust-lines of the IPOI, namely, Maritime Security, Maritime Ecology, Maritime Resources, Disaster Risk-reduction and Management, Trade-Connectivity and Maritime Transport, Capacity-building and Resource-Sharing, and Science, Technology and Academic Cooperation.

As India assumes leadership of the G-20 this year, it would need to expand her perspective of security holistically – both in the semantic as well as in the geographic sense of the word. For a group that represents around 85 per cent of the global GDP, over 75 per cent of the global trade, and about two-thirds of the world population, the perception of security cannot be defined narrowly. It would encompass all aspects of security that would allow human beings – as individuals, and collectively as societies and nations – to live in peace and prosperity. Therefore, the theme of "Vasudhaiva Kutumbakam" or "One Earth, One Family, One Future",chosen by India for this year aptly sums up the 'holistic' nature of security. This is also reflected in the identified priority areas which focus on sustainable development, resilient growth, climate change, and multilateral institutions. Essentially, it is an exhortation to move towards greater global connectivity and integration. The Indian view of maritime security would, therefore, continue to evolve along a post-modern paradigm which emphasises preservation and sustainment of global public goods, while at the same time, not losing sight of potential threats at close quarters.

Admiral Karambir Singh, PVSM, AVSM(Retd)

Admiral Karambir Singh took over as the seventh Chairman of the National Maritime Foundation on 17 January 2022. A naval aviator who has flown several variants of Kamov helicopters, he was commissioned into the Indian Navy on 01 July 1980 and is an alumnus of the National Defence Academy, Khadakwasla, Defence Services Staff College, Wellington, and College of Naval Warfare, Mumbai.

The Admiral has commanded the Indian Coast Guard Ship Chandbibi, and the Indian Navy's guided-missile corvette INS Vijaydurg, and two guided-missile destroyers, INS Rana and INS Delhi. His important assignments include Fleet Operations Officer of the Western Fleet, Chief of Staff of both the Eastern Naval Command and the Tri-Services Unified Command in the Andaman and Nicobar Islands, and the Flag Officer Commanding Maharashtra and Gujarat Naval Area. As Director-General, Project Seabird, he oversaw the development of the Indian Navy's expansive and modern base at Karwar. He has been Flag Officer Commanding-in-Chief of the Eastern Naval Command, has steered operations as Deputy Chief of the Naval Staff, and spearheaded policies and plans as Vice Chief of the Naval Staff. Prior to taking over as Chairman he was the 24th Chief of the Naval Staff from 31 May 2019 to 30 November 2021.

THE REPUBLIC AT THE CROSSROADS

SY Quraishi

As we enter the new year, there is cause for both hope and concern. Hope, because of our past record of holding regular elections and peaceful transfer of power in all instances. This level of human resources and potential dynamism is unmatched the world over. The conducting of elections has become safer, more holistic, and resourceful over the years. Finally, the electorate is more aware, willing and vigilant in its participation because of successful programmatic voter education. We have more women turning up to vote now than at any other time in our history. We take a lot for granted and realize its value only when we see the electoral process being sabotaged even in mature democracies like the US and UK.

"There are more than two hundred million Muslims in India and it is critical that they are not alienated and targeted. Social cohesion has emerged as one of the biggest security challenges in India today."

There are many concerns too because democracy is more than just the task of holding elections. Democracy means that all citizens have the freedom of exercising their fundamental rights, living in dignity and practising their faith and way of life in a secure atmosphere. Our elections have become hostage to money power, mob fury,

malignant misinformation, increasing intimidation and hate speech. Instead of striving to achieve long-term, holistic benefits, the party cadres in many states are busying themselves with sophisticated means of manipulation and coercion for achieving their own blinkered interests.

Democracy also means that every individual feels and is treated as equal before the law. Majoritarian politics is distorting how we treat and view each other. There are more than two hundred million Muslims in India and it is critical that they are not alienated and targeted. Social cohesion has emerged as one of the biggest security challenges in India today. It is not just the State and its institutions that have to work to better this, but all sections of society, above all the political parties, media, intellectuals and religious leaders.

Over the last decade, the government has successfully cultivated close ties with the Gulf, Arab states and other Islamic countries such as Indonesia, Malaysia, Bangladesh and Maldives. What it also needs to do with equal vigour is strengthen the social fabric inside the country. National integration is the call of the hour.

"The Election Commission must fearlessly uphold the integrity of our elections. It should not waver in its Constitutional mandate."

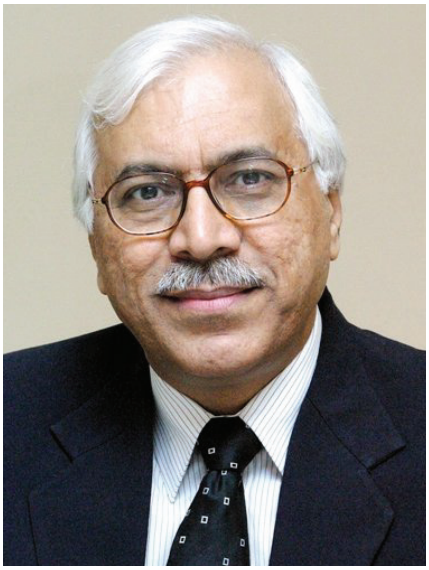
A special word needs to be said about social media. The information revolution has brought the world closer. Yet it has become a most dangerous tool that is increasingly being weaponized. Surveillance, misinformation, online radicalization have warped the platforms of social media into major security threats. It is the hundreds of millions of young Indians who are the most vulnerable to such indoctrination. Social media and misuse of online platforms through propagation of hate and fear need to be countered with all our might.

Regional economic imbalances, unemployment, and high variations in social development indicators across the country, in particular between the southern states and the most populous northern states, have to be treated with great sensitivity. If the present differences grow unchecked, they will lead to even greater intolerance, migration and social unrest. We are the youngest country with over 900 million under the age of 45 years. It is critical that the demographic dividend does not become a demographic liability. Providing the skills and creating jobs for the youth are therefore the most urgent national priority.

In 2023, nine States are due for elections. We have the requisite machinery to ensure free and fair elections. However, the Election Commission, political parties and the media must ensure that the campaigning and the broader electoral discourse does not make any community feel threatened as the target of violence. The multitude of laws and the Model Code of Conduct, with all its moral force, must be effectively used to increase accountability and fairness during the elections.

Strong institutions are the bedrock for democratic and open societies like ours. Not only do institutions have to be strong and objective, but the overall social and cultural contexts within which they operate must also be free of conflict and insecurity. This is necessary to instil confidence among the public. Our judiciary is in dire need of reform. 'Justice delayed is justice denied' is not just a hollow proverb but a sad reality. Similarly, the Election Commission must fearlessly uphold the integrity of our elections. It should not waver in its Constitutional mandate. Finally, a strong and credible political opposition is essential for the health of any democracy.

In order to protect the moral fabric of our republic, we must redeem ourselves of elements of hate and fear by powerfully reasserting, like our founding figures, the great values of non-violence, equality and communal solidarity. Plurality is our abiding identity and we must unitedly defend it with all our might. If we sincerely strive for it, the largest democracy can certainly become the greatest democracy.



@DrSYQuraishi

SY Quraishi

SY Quraishi was India's 17th Chief Election Commissioner of India from 30 July 2010 to 10th June 2012. He was the first Muslim to hold this post in India. Having joined the Indian Administrative Service in 1971, Dr. Quraishi has held strategic and key positions in the Government of India.

He figured on The Indian Express' list of 50 Most Powerful Indians of 2011 and 2012 and on India Today's High and Mighty Power List in 2012.

Dr Quraishi founded the Rajiv Gandhi National Institute of Youth Development and was its first Director, from 1993 to 1997. He was also Joint Secretary, Youth Affairs, from 1992 to 1997 and the Director General of Doordarshan from January 2002 to September 2003. S.Y. Quraishi also pioneered India's biggest AIDS awareness programme and IEC campaign, 'Universities Talk AIDS'.

He is well known in India and abroad as a development thinker and for his inclusive style of leadership and for bringing harmoniously together wide varieties of groups and institutions for achieving the common objectives of development.

Dr Quraishi has received several prestigious awards - the Nehru Fellow Award, the Secular Harmony Award, the Silver Elephant, and the Defender of Democracy. Currently, Dr Quraishi is Ambassador of Democracy at the International Institute for Supporting Democracy Worldwide.

GLOBAL SECURITY CHALLENGES IN 2023: THE INDIAN VIEW

Sundeep Waslekar

While geopolitical threats from Pakistan and China are bound to remain India's primary security challenges in the 2020s, it would be wise for the country to be prepared for new challenges on the horizon. These include threats arising from emerging technologies, climate change, terrorism, and economic fault lines.

The growing application of emerging technologies by advanced countries including the United States, Russia and China in their militaries is bound to dominate the global threat scenarios in 2023 and beyond. These technologies are Artificial Intelligence (AI), cybertechnology, space technology, and biotechnology.

"The risk of either accidental or intentional use of emerging technologies in a war of the 2020s is quite real."

The application of AI in early warning systems can be manipulated, while the AI application in NC3 (Nuclear command, control, and communications), which is currently ambiguous, can be dangerous. At the same time, the use of AI in biotechnology has given rise to the risk of a new generation of biological weapons of mass destruction. If AI is used in nuclear weapons, their early warning and delivery systems, and new types of biological weapons, the human race could become extinct, along with other life forms, in a global war.

AI refers to the ability of machines to mimic human behaviour using machine learning and automation. It processes huge amounts of data at tremendous speed. As a result, time for decision-making is reduced significantly. Another characteristic of the military use of AI is stealth - making it difficult to detect threats, particularly cyber threats to command-and-control systems.

The dual capability of biotechnology has three dimensions. The first is gene-editing with CRISPER CAS 9 which enables scientists to modify genes before the birth of a child. If it were to be used for gene-line manipulation, an entirely new type of population could be created. The second is synthetic biology which enables scientists to produce life in a laboratory. Thus, a new kind of pathogen can be created with artificial intelligence, with properties either beneficial or dangerous for humankind. The third is creating a chimera which enables scientists to blend human genes with the genes of other species, giving birth to a new kind of life. Scientists are experimenting with these three types of innovations with a view to service humankind by eliminating certain types of disease and creating sources of human organs which are currently in short supply. However, there is a risk of some of these experiments going wrong and resulting in the generation of biological weapons or a Frankenstein, either by intent or accident.

"India needs to undertake a comprehensive audit of its AI, biotechnology and cybertechnology capabilities."

The combination of these technologies will give rise to new types of weapons and threats in the 2020s including hypersonic missiles which determine their own trajectory to evade radars, lethal autonomous weapons which can destroy radars, unmanned submarines capable of launching nuclear attacks from a submerged position, swarms of drones, cyber-attacks against nuclear facilities, cyber-attacks for the manipulation of intelligence, surveillance and reconnaissance (ISR) systems, the production of deadly pathogens and biological agents, among others.

The risk of either accidental or intentional use of emerging technologies in a war of the 2020s is quite real. The danger of such a war very quickly expanding to the whole world and destroying human civilization is inconceivable but real. UN Secretary General Antonio Guterres has been reiterating that humanity is one miscalculation away from nuclear annihilation.

In order to respond to these threats, India needs to undertake a comprehensive audit of its AI, biotechnology and cybertechnology capabilities. It is necessary to initiate such an audit immediately and create a process of monitoring progress on a continuous basis. Simultaneously, it will be necessary to monitor developments with regards to emerging technologies and their application to the military in other countries. Second, India should also carefully assess its options if a future war between China and the United States extends to the lower geosynchronous orbit leading a path to Star Wars. If China sees India as the US ally, whether it will use A-Sat weapons against Indian satellites is a question to be examined before a crisis occurs. Third, India should carefully evaluate its options in advance, if nuclear weapons, especially in combination with AI, are used in the Ukraine war, the Korean-US discord, and the China-US conflict. These are the three potentially most dangerous hotspots in the world. A serious scenario planning exercise needs to be undertaken by the National Security Council Secretariat, involving the Integrated Defence Staff, Ministry of External Affairs, and the Cabinet Secretariat. India also needs to examine if it can play a useful diplomatic role in ending the Ukraine conflict, which is the most immediately plausible theatre of conflict, as the main protagonists are not on talking terms. India has very wisely pursued a neutral stance which provides it equidistant from the United States and Russia. The chairmanship of G-20 can provide India the moral authority for undertaking such a mediation endeavour. Fourth, India needs to work towards a new global treaty to prohibit the use of emerging technologies such as AI for production or operation of the weapons of mass destruction. Currently, such a regime regulating the use of emerging technologies does not exist. India should not take any unilateral measures in this regard. However, India should certainly use its political capital for a global diplomatic initiative with an objective to create a universal non-discriminatory and comprehensive agreement. If India does not take the lead, it faces the risk of a discriminatory regime being imposed by the big powers.

The efforts to create a new regime for preventing destructive uses of emerging technologies is not a naive proposal. It is in the interest of states to aggrandise their interests. It would be therefore natural to think in terms of expanding India's capabilities in the military application of emerging technologies, in tune with India's growing economic and political footprint, rather than making efforts to shape a beneficial and benign international global security architecture. However, it is also in the interests of states that humanity survives and does not become extinct because of wars managed by algorithms and machines. If there is no humanity, there are no states. Therefore, saving the world from future wars of extinction is a pragmatic necessity and not a Utopian dream.

@Sundeepwaslekar

Sundeep Waslekar

Sundeep Waslekar has worked with 65 countries as President of the Strategic Foresight Group, an international think tank on global future. He is the author of A World without War (HarperCollins India 2022). He is a practitioner of Track Two diplomacy since the 1990s and has mediated in conflicts in South Asia, Middle East, and Africa. He addressed the United Nations Security Council session 7818 on water, peace, and security. Waslekar read Philosophy, Politics and Economics (PPE) at Oxford University from 1981 to 1983. He was conferred D. Litt. (Honoris Causa) of Symbiosis International University by the President of India in 2011.

Technology and Economy

Technology Security

Critical and emerging technologies are the new determinant of national power. India is investing heavily in them. We examine the challenges ahead and put the spotlight on strategic materials, rare earths and competition for mineral and natural resources. We study the interplay between technology self-sufficiency, interdependence and dual-use R&D from a security point of view.

Economic Security

The weaponization of economic, trade, investment and financial flows, disruption of supply chains, reshoring, off-shoring, and on-shoring of manufacturing, and securitization of economic policies are challenging existing norms of state behaviour. We look at how these profound shifts are impacting the global South, the meanings of India's doctrine of self-reliance (atmanirbharta) and the challenges in developing India's human capital.

THE ECONOMICS OF NATIONAL SECURITY

Sanjaya Baru

A quarter century ago, in December 1998, Prime Minister Atal Bihari Vajpayee authorised the constitution of the first National Security Advisory Board. The then National Security Advisor, Brajesh Mishra, and the first convenor of NSAB, K Subrahmanyam, inducted a group of retired diplomats and officials, who had experience in national security management, retired service chiefs, and nuclear scientists and strategists as members of the NSAB. Two economists, Rakesh Mohan, (later to become deputy governor, Reserve Bank of India) and myself, (at the time professor, Indian Council for Research in International Economic Relations) were also invited to join NSAB. This was perhaps the first time that such an interdisciplinary advisory body was constituted to reflect on the national security challenges facing the country.

"In 2023, restoring the growth momentum remains a national security priority precisely in order for the country and the government to generate the required revenues for investment in development and national security."

In writing the economic policy section of the Strategic Defence Review (SDR), that was presented to the government by the NSAB, we made four key points:

1. First, that the Indian economy, which was on a rising growth trajectory, recording a growth rate of over 5.5% per annum at the time, compared to the long-term growth rate of 3.5% in 1950-80, should continue to grow at an annual average rate of growth of 7.0% to 8.0% over the next quarter century for India to eliminate the scourge of poverty, generate employment and provide gainful employment for all.

2. At such a pace of growth the government would be able to generate adequate revenues to provide education and health for all, improving India's unsatisfactory human development record. Such a rate of growth of national income would also generate the revenues required to meet defence expenditure, fund a credible nuclear deterrent and make India self-reliant in defence manufacturing capability.

3. A growing economy, we suggested, would

also enable India to be more open to global trade and investment flows, restoring historic and traditional international trade linkages with the wider Asian, Eurasian and Indian Ocean economies.

4. Finally, we pointed to the Chinese example of keeping the focus on 'comprehensive national power' (CNP) and suggested that India too should develop its CNP, investing in education and science and technology, to build a knowledge-based economy.

These four points of policy remain relevant even today. The economy did grow at an average annual rate of over 8.0% during 2003-2012 and did generate the revenues required for India to invest in human development and national security. The results are on record - a reduction in poverty, rise in employment, increase in India's share of world trade and so on during the period 2000-2015. However, over the past few years this momentum has been lost.

In 2023, restoring the growth momentum remains a national security priority precisely in order for the country and the government to generate the required revenues for investment in development and national security, generate adequate employment and eliminate poverty. Restoring the growth momentum will also enable India to increase its share of world trade and deal with external challenges to economic development in the light of Covid-19 pandemic and the Russia-Ukraine war.

The emphasis we placed in 1999-2000 on developing the country's CNP remains as important even today. Unless public investment is enhanced in education and health, promoting human development, India would not be able to address the opportunities that await it in a rapidly changing world, increasingly knowledge-based world economy.

What would be the most important challenges today in the global strategic environment that necessitate greater attention being paid to the four objectives outlined by the first NSAB? First, the widening of the CNP gap between India and China over the past two decades; Second, the retreat of developed economies from globalisation, the shrinking of trade preferences and of development aid for developing economies.

As the world's second biggest economy and biggest trading nation China is both an opportunity and a challenge for India. There is recognition of the fact that China is both a military and an economic challenge for India. In dealing with this challenge, priority has to be given to economic and technological modernisation. While there is considerable public and political focus on China as a military challenge, given recent clashes along the Line of Actual Control (LoAC), there is inadequate policy attention given to the challenge China's rise as an economic and technology power poses.

The gap between the two in the fields of education, labour skills, science and technology has continued to widen. Unless India catches up in these fields, it will not be able to construct a globally competitive and a knowledge-based economy. Moreover, unlike in the case of the former Soviet Union, China is today far more integrated into the world economy and most developed economies that politically differ with China remain economically integrated.

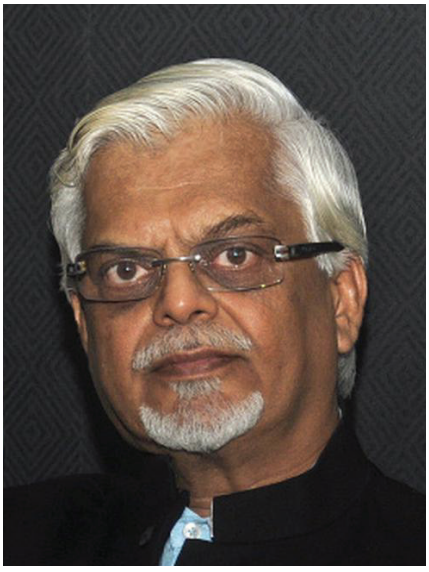
The Union government's recent focus on public investment in infrastructure, as put forward in the 2022 Union budget speech, is to be welcomed. However, this has to be accompanied by a revival of private corporate and household investment and savings. Policy stability and transparency, along with creating a more predictable policy environment, remain a priority. Both the 'Make in India' programme and the 'production-linked incentives' scheme are useful policy interventions but they are yet to bear any fruit. These initiatives will have to be pursued devoid of cronyism. The share of manufacturing in national income remains at around 16-17 per cent, where it has remained over the past quarter century. Indicators of labour and land productivity show little improvement over this period. It cannot be over-emphasised that these constitute the foundation of comprehensive national power.

"There is still little appreciation within major political parties of the strategic importance of building India's CNP as the foundation of national security."

Successive Prime Ministers have often said that 'creating a global environment conducive to India's economic development' is a primary objective of Indian foreign and national security policy. The fact is that in recent years, with the emergence of anti-globalisation sentiment in developed industrial economies and the growing geopolitical and geo-economic conflict between the East (China and Russia) and the West (the Group of 7 economies), the global environment has become less conducive to India's economic development.

It is, therefore, not surprising that India has decided to utilise the opportunity provided by its assumption of Group of Twenty (G-20) chairmanship to focus on matters of concern to the Global South, including climate finance, debt restructuring, trade policy and trade-related intellectual property rights. Given rising East-West tensions, a concerted effort by successive G-20 chairs - India, Brazil and South Africa - can help create a global environment more conducive to the development of developing economies.

Even as India seeks to make use of this external opportunity, much of the work required to bolster India's CNP lies at home. A domestic political consensus around key elements of fiscal, industrial and trade policy are required along with a concerted effort by the Union and State governments to improve health and educational outcomes. Despite the concept of CNP being more than a quarter century old and despite the economic policy priorities for national security being outlined by the NSAB in 2000, there is still little appreciation within major political parties of the strategic importance of building India's CNP as the foundation of national security.



@Barugaru1

Sanjaya Baru

Sanjaya Baru has been editor of India's major financial newspapers. He was Media Advisor to Prime Minister Manmohan Singh (2004-09) and member of India's National Security Advisory Board (1999-2001). He is Distinguished Fellow, Centre for Air Power Studies.

He was Director for Geo-economics and Strategy, International Institute of Strategic Studies, UK; and Professor, Indian Council for Research on International Economic Relations. He was member India-ASEAN Eminent Persons Group, 2010.

His publications include The Strategic Consequences of India's Economic

Rise (2006); India and the World: Essays on Geo-economics and Foreign Policy (2016); and India's Power Elite: Class, Caste and a Cultural Revolution (2021).

CYBER SECURITY IN 2023: THE NEXT FRONTIER

Subimal Bhattacharjee

Over the last two decades, India has imbibed digital technology for optimising governance delivery and empowering citizens in many ways. The success stories of the electronic voting machines, the Aadhar based unique identification ecosystem and the digital payments networks have gone a long way to leapfrog India in a position of global reference in the usage of digital technology. Alongwith large-scale hardware network deployments across the country, software applications for various services have provided online connectivity to more than 76 crore people to communicate, engage in citizen services and undertake online commerce. Usage of technology to bolster and reorient India's strategic security has also been a hallmark in the last five years. As India assumed the role of G20 Chair and proposed to showcase its successful adoption and utilization of digital technology for common good, as well as enhance its digital capacity building, it is imperative to understand the digital landscape in which secure and sustainable communication is imperative.

"In terms of priorities for 2023, the foremost step should be to announce a National Cybersecurity Policy."

Cyber technology and its dynamics

One of the focus areas that emerges is cyber security. Technology and the related dynamics is evolving very significantly in terms of the emerging geopolitics and global economies are shifting more to the digital horizon. So it is pertinent to understand the two broad avenues that define such attention and the related risks that emerge. First, the infrastructure that supports and sustains digital networks and second the issues arising out of the usage of the

technology. While there are risks that arise with such deployments of networks and thus entail functional risks, there is a growing menace of criminal syndicate, dark elements and rogue nations misusing their skills to target digital assets and launch cyber attacks ranging from hacking and distributed denial of services attacks to debilitating and destructing the networks. The recent attack on the AIIMS digital networks has shown how many aspects emerge with such attempts and attacks. The regular probing and hacking attempts at defence establishments, as well as the targeting of critical infrastructures like banking, power, telecom and civil aviation networks have reinforced the need for closer look and action on the cybersecurity front.

Importance of a National Cybersecurity policy

In terms of priorities for 2023, the foremost step should be to announce a National Cybersecurity Policy so that the technology governance by the government incorporates the recent developments in technology and related management aspects. Subsequently, the organisational and institutional structures must be realigned to ensure the sustained and optimal functionality of national security, law enforcement and digital assets availability, in accordance with the policy. Access management, network security, managed security services and mandatory audit reporting have to become part and parcel of every network.

"The linkages of cyber attacks to kinetic attacks is growing by the day and forcing nations to consider cyber security as a key element of national security."

These functions have to be performed as a standard task in an approach prepared on the basis of national security considerations. Both CERT In and NCIIPC need to be provided with more manpower and technical assets and should expand their cooperation with domestic and international organisations to be better equipped. As new legislations have been promised by the union government in the form of Digital India Act that will replace the existing Information Technology Amendment Act 2008 and the introduction of the Data Protection Bill, the legal edifice will be strengthened and give more teeth for effective encapsulation of the emerging technological scenarios. The law enforcement networks across the states have to be strengthened with more orientation of tech into the forces and building a network of trusted ecosystems where sanitised security providers are also incorporated who can be used for investigative and monitoring purposes. A special effort has to be undertaken to foster digital skilling at all levels where individuals are trained to be able to follow a cyber-hygiene regime as well create the work force that will be required for various roles as digital footprints further increase. The Digital India initiative of the government needs to be holistically built with cyber security measures at multiple levels being integrated to the core build up. At the citizen level, a concerted awareness drive has to be undertaken to educate the people on digital safety that would have to be undertaken by the service providers as well as civil society supported by the government to keep the last mile safe for networks.

Cyber attacks have no borders

As much as steps are taken domestically, there has to be work on the diplomatic front too. Cyber attacks do not have geographical constraints and more nations see this as a concomitant tool for expanding physical conflict and some of the recent conflicts have also shown that cyber attacks could become a key element of warfare. The linkages of cyber attacks to kinetic attacks is growing by the day and forcing nations to consider cyber security as a key element of national security. Globally there is no binding regulatory regime on cyber issues unlike for space and nuclear and while efforts through the UN Group of Government Experts are trying to work towards that direction by laying out norms of behaviour, there has to be real action on the ground. This is where India can take the lead being a nation that has worked on most aspects

of cybersecurity through its own critical deployments as well as its manpower managing cyber assets for many critical infrastructures across the globe. India's resources for software coding and Artificial Intelligence have also been at the forefront for building much of the cyber defence programmes whether for business continuity or for protection of critical infrastructures. As part of India's G20 leadership, it could bring together all the finer points of the many multilateral and multi stakeholder dialogues on cyber security to a common ground and foster a binding agreement among nations so that cyberspace functions as a safe and manageable medium.

There is a clear need to address cybersecurity at various levels, both nationally and globally. India's role is crucial, presenting an opportunity to showcase its global leadership in this emerging area, promptly and in a time bound manner.

@subimal

Subimal Bhattacharjee

Subimal Bhattacharjee spent nearly four years at General Dynamics Corporation India Pvt. Ltd. From April 2012 to December 2012, he was Country Head, and Country Director - India from January 2009 to March 2012.

Subimal Bhattacharjee is an independent consultant on defence and cyber issues. As a columnist on tech issues, he has written for The Indian Express, The Economic Times, The Quint, Mint, and South Asian Voices.

He is also a documentary filmmaker, with his film Netaji @ 125 receiving an Honourable Mention at the Tokyo International Short Film Festival 2022 in the Short Documentary category.

Subimal Bhattacharjee has an MSc. in Mathematics from Delhi University.

SECURING A CLEAN ENERGY FUTURE

Surya Kanegaonkar

Securing a clean energy future

Efforts to realign supply chains out of China are likely to result in Beijing exercising strategic and geopolitical leverage through commercial domains they dominate. Global initiatives to grow solar and battery capacity can face a combination of headwinds as countries become increasingly exposed to this heightened risk. Meanwhile, nations and firms will adjust to structurally higher interest rates and a bifurcated global commodity market. As the neoliberal system frays, commercial decisions will no longer be divorced from strategic ones. Across the world, a new wave of government measures – from India's Production Linked Incentive (PLI) scheme to the US' Inflation Reduction Act – are expected to shore up industrial strengths and protect critical sectors. Some major powers will seek to diversify their foreign exchange reserves away from traditional US dollar-denominated financial assets into real assets and commodities. Alongside, competition will heat up to secure minerals required for the green energy transition. India's push for self-reliance in clean energy must be part of a larger plan to capture a major share in global upstream and midstream. This can mitigate risks associated with the weaponization of trade, reduce dependency on imports from foreign firms, help stabilize the Rupee, guarantee supply to industries, and improve manufacturing scale and export capacity. Together, this can lend the country significant economic and geopolitical maneuverability and support steady, compounded renewables expansion over the coming decade.

"Across the world, a new wave of government measures – from India's Production Linked Incentive (PLI) scheme to the US' Inflation Reduction Act – are expected to shore up industrial strengths and protect critical sectors."

Solar

Of the global capacities for polysilicon, wafer, cell, and module production, China holds 79%, 97%, 85% and 75% respectively. The International Energy Agency (IEA) expects that

global manufacturing capacity must at least double by 2030 to meet its Net Zero trajectory. This will demand major investment in the mining sector given that according to IEA estimates, 11% of global silver, 6% of metallurgical-grade silicon, 2% of copper and 40% of tellurium production is consumed by the photovoltaic (PV) industry. Without mining expansion, these numbers could grow to 36%, 22%, 7%, and 140% respectively. Growth is expected, but with over a decade in lead times for new mining projects, the knock-on effects of supply squeezes on other industries that use these minerals can be materially disruptive and inflationary on a broad level. Given the resource scarcity, aggressive moves by China to expand PV manufacturing in the last three years has resulted in prices of products like polysilicon to triple. Market distorting subsidies helped China scale up its operations, even if firms continued to run into steep losses. Losses have been absorbed willingly so that sectoral dominance could be achieved, expanded and leveraged. In a move that has raised concerns, a report from late January, 2022 points to Beijing's growing intent to ban the export of advanced wafer technologies.

As India grows its solar capacity from around 68 GW to 333.5 GW by 2032, indigenization of manufacturing must get backed by access to Indian-owned resources. Stiff customs duties cut the solar import bill from north of $4 billion in 2021 by nearly 60% year-on-year in the two quarters after the revised tariffs were imposed. Meanwhile, exports of cells and modules, mostly to the US, grew over sixfold year-on-year to $157 million as supply chain reorientation away from China accelerated. Industry trade flows may be turning a corner, but policymakers must be mindful of the fact that scale in the Indian PV industry relies on Foreign Direct Investment (FDI) and domestic credit. Both are sensitive to project risks which will increasingly get linked to back-end supply chain resilience. Investment can get stymied when elevated risk is baked into a project's cost of capital in a high interest rate environment. The Q3-2022 year-on-year slump of 45% to $2 billion in PV investments has more to do with indigenous manufacturing not ramping up to offset prohibitive import tariffs than back-end supply chain risk, but the latter casts a looming shadow over future growth. Even while FDI flows in the sector remain strong, the Parliamentary Standing Committee on Energy revised up the required annual investment figure in the renewables sector through 2030 from around $10 billion to over $26 billion. Attracting capital at an exponential pace to meet this target against the backdrop of a globally tight metals market will require a comprehensive relook at supply chain integration.

Batteries

India's annual li-ion battery demand is currently 3 GWh, a figure that is set to grow to anywhere between 70 GWh and 116 GWh by 2030 according to industry estimates. Greater domestic renewables generation will demand grid-stabilizing batteries while the electric vehicle push will raise demand for li-ion cells. Currently, 70% of the country's requirements are met by China. India must ensure that its path to becoming a major producer and exporter of batteries is insulated from external supply shocks.

"The clean energy space may experience a cascading and substantive impact of great power competition, weaponized trade, raw materials supply shortages and price volatility. India can take several measures to manage these risks. India would be well placed to allocate a portion of its foreign reserves to a sovereign wealth fund that acquires stakes in mining firms and commodity trading companies."

China currently hosts around 900 GWh of manufacturing capacity and an 80% share of global cell production. According to Bloomberg New Energy Finance, battery prices rose in 2022, for the first time ever, up 7% in large part due to a fivefold price rise in lithium and a threefold price rise in cobalt. North America and Europe currently pay 24% and 33% respectively more than China for li-ion batteries. As with most of

China's clean energy industries, the battery business has been built out through vertical integration. While the lithium processing and cell production and segments have scaled up, domestic lithium mining accounts for just 14% of the global total. The story is similar in cobalt where processing capacity stands at 80% but most sourcing is done abroad where state-owned enterprises hold majority stakes in mines. A hegemonic midstream has ensured that raw material volumes can be pulled in as and when directed. Meanwhile, China enjoys near total dominance in rare earths. 63% of all rare earths are mined locally and this fits neatly into an 85% share in global processing. Japan was one of the first countries to face a Chinese export embargo on rare earths as early as 2010. Worryingly, China controls 92% of rare earth magnet and 100% of spherical graphite production. More than half of the world's graphite mining is done domestically and this has led to the government imposing tariff and non-tariff barriers to conserve reserves. The international market has since been subject to high price volatility and supply risk as Chinese firms took a majority share of foreign offtakes.

Proactive measures

The clean energy space may experience a cascading and substantive impact of great power competition, weaponized trade, raw materials supply shortages and price volatility. India can take several measures to manage these risks. India would be well placed to allocate a portion of its foreign reserves to a sovereign wealth fund that acquires stakes in mining firms and commodity trading companies. This serves four purposes. First, it diversifies reserves into real assets, the offtakes from which can feed into broader vertical integration and by extension, comprehensive national economic power. Second, since the value of pure-play mining firms is highly correlated with the price of the underlying commodities produced, such holdings act as hedges against price rises. Imports of raw materials for India's green energy transition may reach over $30-50 billion per year by the end of the decade, adding to the country's deficit and impacting the value of the Rupee. Third, trading firms typically benefit from price volatility and successful merchants can deliver profit when businesses struggle to adapt to frequently changing prices. Ownership in such firms opens opportunities for cross-subsidization by the government within the sector, a move which can preserve business confidence in low-risk, aggressive mid and upstream capacity expansion. Fourth, equity stakes will take forward the Reserve Bank of India's idea of holding physical gold as part of its portfolio, deeper into the commodities complex. Integrating strategic stockpiles of critical metals and rare earths will complement this effort to ensure security of supply. This fits the recommendation made in the Indian government's Economic Survey for 2023.

Critical to India's indigenization plans are initiatives by the public sector like KABIL and the Deep Ocean Mission's seabed mining program. KABIL's investments in Australian and Latin American upstream projects can effectively mirror the successful operations run in the energy sector by the likes of ONGC Videsh Ltd. Seabed mining has not taken off internationally to the same extent as land-based mining but the resource potential in India's Exclusive Economic Zones is enormous and might be the key to self-sufficiency in critical metals and rare earths. The recent find of 5.9 million tons of inferred lithium reserves in Jammu & Kashmir will also alleviate import dependence to a large degree in the long run. Given this, India can increasingly work with countries in the US-led Minerals Security Partnership group. By building and offering security of supply of domestic and internationally sourced raw materials, India can benefit from subsidies under the US government's Inflation Reduction Act. This will help build an integral, cost-competitive presence in the global battery supply chain. Lastly, investments in battery recycling and battery technology R&D can cut imports in the long run. Joint ventures with American, European and Japanese firms can raise India's technological capabilities with an eye on the decade beyond 2030.

Surya Kanegaonkar

Surya Kanegaonkar is a commodities investor and columnist based in Zug, Switzerland. His focus areas are natural resources, international trade, geopolitics and economic security. He has formulated policy recommendations around these themes in over forty articles for media outlets including The Hindu, CNN News18, Fair Observer and India Global Business. Surya holds a MSc. in Metals & Energy Finance from Imperial College London and a BSc. in Economics from the University of Warwick.

@suryakane

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TECHNOLOGY AND FUTURE SOCIETY

Dr K Radhakrishnan

India@75 is celebrating 'Azadi Ka Amrit Mahotsav' under a strong and stable political leadership, proud of its achievements, a prominent role in the global community, renewed entrepreneurial spirit, an enabling environment, a determination to succeed and a robust demographic dividend.

"To achieve the ambitious goals of 'Vision India 2047', technology will definitely play a defining role. This necessitates a rapid shift from a state of 'technology-dependence' to 'technology-adequacy' across all core socio-economic and strategic sectors."

Technology and applied sciences are engines of economic growth, enabling sustainable development, and ensuring national security; India has made strides in several fields of science and technology, leading to significant socio-economic impacts. However, in today's technology driven world, excessive reliance on foreign sources for critical technologies could impinge on national economy and national security including food security, water security, health security, environmental security, and our ability to respond to climate change.

To achieve the ambitious goals of 'Vision India 2047', technology will definitely play a defining role. This necessitates a rapid shift from a state of 'technology-dependence' to 'technology-adequacy' across all core socio-economic and strategic sectors, including capital goods, electronics components and products, computers, telecom equipment, biomedical equipment, aircraft and modern transport systems. Besides renewed emphasis on materials, engineering and manufacturing technology, a national drive should be launched

to increase the technology intensity in our exports of manufactured goods. We need to set our sights on achieving technology leadership in a few selected areas.

Technology is advancing at an exponential rate and poised to drive the governance practices in the future. The word 'transformation' has given way to 'disruption'! If we have to judge by the developments in the last five years, the future promises an accelerated pace that we have never seen and envisaged before. It becomes apparent that disruptive technologies are transforming the way the society lives, communicates, travels, shops, sleeps or gets entertained. An illustrative list includes precision agriculture, communication and computational technologies; microelectronics; nanotechnology; quantum technologies; artificial intelligence, machine learning and deep learning; cognitive systems and robotics; energy production and storage; meta materials and additive manufacturing; extended reality and so on.

It is time to contemplate at this juncture whether we should continue on a path of incremental innovation and improvement or aim for a paradigm shift and follow the path of disruptive innovation. The confluence of 'Big Science' and 'Deep Tech' is becoming increasingly relevant to solve the most formidable societal problems. Also, it is noteworthy that several Indian brains lead disruptive innovation elsewhere in the world, and many more Indian brains continue to support from the off-shore development centres located in India. Concerted efforts are essential to maximally harness this talent to generate intellectual property for India.

It is well recognised globally that the hallmark of India in the space sector is the use of technology for the betterment of humankind incorporating an effective institutional tie up with all stakeholders to evolve and sustain national systems. In this pursuit, self-reliance has been our obsession, not just an objective and that is evident from Indian strides in satellite technology and launcher technology. India has achieved mastery over complex technologies and is self-reliant in its access to outer space. All Indian satellites, except a few heavy communication satellites, are lofted by Indian launchers. Chandrayaan-1 and Mars Orbiter Mission have demonstrated India's ability for precise navigation into deep space and for the tricky capture of the orbit of these celestial bodies. Some of the technological innovations dictated by our space exploration missions have been beneficially deployed for the operation of Earth-oriented application satellites. India is on the threshold of human spaceflight and complex interplanetary exploration which will open up enormous challenges and host of opportunities to the new generation.

"It is well recognised globally that the hallmark of India in the space sector is the use of technology for the betterment of humankind incorporating an effective institutional tie up with all stakeholders to evolve and sustain national systems."

What drives India's pursuit of such quantum leaps? It is a combination of factors, including belief in its capabilities, team excellence, learning from past missions, both failures and successes, a sublime combination of the wisdom of elders and innovative power of the younger generation, preparedness for all imaginable scenarios, and transformational leadership at all levels.

India's higher educational system is currently undergoing a transition, with a huge emphasis on innovation and entrepreneurship, aided by policy interventions to encourage innovation and start-up movement in the institutional campuses. At the higher educational institutions, the country has access to one of the world's best talent pools with its faculty, post-doctoral researchers and research scholars, enterprising post-graduate and undergraduate students. The stage is set for orchestrating core competencies, nurturing inter-disciplinary culture and mobilising institutional synergy to address impactful problem-solving for the nation and people.

As technology and business forecasters struggle

with disruptions, a lingering question arises about whether the society with varying geographies and demography is ready to accept these disruptions and embrace technologies without distrust. In other words, is society future-ready? The interventions that are required to prepare the society may need to happen at various levels – the Government, Organisations and Education.

The Government needs to promote and foster a society with the right skills, to harness the potential of any planned technology intervention for governance and delivery of services, with inclusivity, security and ethics. Organizations which are not ready for future disruptions or are in a 'wait-and-watch' mode risk falling by the wayside. At the educational level, technology is already changing everything about how universities deliver teaching, how their academic staff work and how research is delivered. A major portion of the responsibility of preparing future citizens to achieve the disruptive change, lies with the educational institutions. Fortunately, India has an excellent Educational Policy in place and thoughtful architects and visionary leadership who have geared up the nation for global prominence in a rapidly changing world, will be appreciated by posterity.

Last but not the least, we should not be oblivious of the humanitarian impacts of adopting the disruptions, especially in India with a predominantly labour-intensive and rural structure. The hype surrounding AI might lead one to assume that it is some kind of magic bullet to solve every complex problem. AI can also exacerbate social challenges through malicious use of private data and lack of transparency.

Thus, equally exponential growth is required in cybersecurity and secure platforms. The key question that any technology intervention must address is NOT "which technology should I adopt" but "how will the technology make a difference in the lives of its users". Thus it is essential to have a people-centred approach to ensure the technology meets the needs of its users.

@radhakr272

Dr. K. Radhakrishnan, FNAE, FNASc

Dr. K. Radhakrishnan was Chairman of Space Commission, Secretary of the Department of Space and Chairman of ISRO from November 2009 to December 2014, providing strong and successful leadership to 'Team ISRO' to execute 37 space missions during this period, notably India's first Mars Orbiter Mission from concept to fruition. A distinguished alumnus of IIM Bangalore and IIT Kharagpur, he was awarded Padma Bhushan in 2014. Presently, he is Member of Space Commission and National Security Advisory Board, Chairman of the Board of Governors of IIT Kanpur, IIT Ropar, the Standing Committee of the IIT Council, High Powered Committee on Indian Knowledge Systems, Oversight Committee of Science & Engineering Research Board and Expert Committee of SATHI-DST scheme.

REFLECTIONS ON THE INDIAN ECONOMY 2023

TCA Ranganathan

India, post liberalisation, has been one of the fastest growing economies in the world. While the global GDP growth from 1991 to 2021 was 2.9% per annum, India's GDP growth touched almost 6%. Though slower than China (9.2%), India has grown much faster than the advanced economies as also other BRICS countries, namely, Brazil (2.3%), Russia (1%), and South Africa (2.1%). As a result, it is now the fifth largest economy in the world and will soon, in a few short years, become the third largest economy, overtaking both Japan and Germany.

This growth has been fueled by several factors. Some visible ones include a large and growing population, an expanding middle class, a long-established entrepreneurial class and an active manufacturing base. The less visible but equally important ones include the existence of a previously under-appreciated comparative advantage in language, IT and other technical related skills in an otherwise tiny urbanity created by its ever -increasing integration into the global economy. This enabled India to become the "Office of the World" apart from attaining an increasingly visible standing in a variety of technical fields like software development and also silently created an extensive diaspora which is currently remitting back around US $100 billion annual savings, per annum. Interestingly, this amount is much larger than the more assiduously cultivated Capital Market inflows and similar, if not higher, than the total combined annual lending/investment budget of the Global Multilateral agencies. As a consequence, our ability to sustain sizable trade deficits has increased. Our trade dependency has accordingly been going up, compelled by higher import dependency rather than export capability though we have achieved notable successes in some niche areas. Our Trade to GDP ratio, which is indicative of our vulnerability to global forces, was 15.51% in 1990 but stood at 43.68% by 2021 and looks set to rise further. In contrast, though

the EU/UK have higher trade dependency, it is better balanced. The U.S. trade to GDP ratio is around 23% while China reports around 37%.

"India has grown much faster than the advanced economies as also other BRICS countries, namely, Brazil (2.3%), Russia (1%), and South Africa (2.1%)."

We, therefore, need to recognise the importance of the global environment in our country's economic results. The fall of the Berlin wall in the closing months of the eighties had created the foundations for a unipolar world. Trade blocs and restrictions started disappearing and were replaced by the WTO governed global trading order. Unfolding alongside was the Internet Revolution fueled by the then ongoing rapid technological progress summarized by Moore's Law which predicted that computation power would double every 18 months. Likewise, was the ongoing revolution in Logistics represented by the arrival of Jumbo -sized long distance air transport and Cape-sized ocean-going vessels which disrupted the age-old correlation between cost and distance and replaced it with volumes. Jointly, these forces unleashed a fresh wave of globalization as firms of Advanced Economies started shifting/ outsourcing to low-cost geographies to improve profitability. As a result, remarkable macroeconomics were experienced in the opening decades of the current century with output growth in the EMEs rising from 3.8% during 1989/98 to 6.4%in 1999/2008, even as Advanced Economies continued to grow steadily at around 2.7%.

In 1990, the combined share of EMEs in Global GDP was 20% at market exchange rates and 30.7% in PPP terms. By 2013, these share ratios were 39.3/50.9%. This was accompanied by sharply reduced inflation (from 3.3 to 1.7% in the same period in the AEs, from 9.7 to 3.1% in Asia and from 134 to 7% in the hyper inflationary EMEs of the western hemisphere). Rapid globalisation then seemed to be working and the newly unchained Indian economy had ridden this growth wave, better than most peers, notwithstanding the policy impediments left behind as remnants of a centrally planned economy, on account of our earlier overlooked skill sets mentioned earlier.

However, setbacks started getting experienced with the onset of the Global Financial Crisis (2007/09) which devastated not only global markets but also the earlier seemingly successful nations, such as Spain, Portugal, Greece, Iceland and Ireland. Concurrently, questions regarding the benefits of increasing Globalisation and the uncritical support to ever higher economic growth at the cost of planetary well being started emerging in the Advanced Economies. Unsettled conditions resulting in the Global Commodity Prices crash of 2015 further strained the globalisation fabric. Just as the global order was recovering from these shocks, the Sino-US trade war was triggered by an increasingly manifest challenge to the now long standing unipolarity. The upturns and downturns in India's growth achievement have followed these global twists and turns though the usually debated domestic issues of the last decade have also played their own role in de-stabilising our growth dynamics.

"India is likely to experience not only new growth avenues by getting an opportunity to offer an alternative destination to global manufacturers but also extensive turbulence in its currently, often neglected, traditional success areas. Economic warfare is likely to become the norm in a low growth environment."

The sudden emergence of the Global Covid-19 pandemic created additional disruptions/ growth barriers which were subsequently aggravated by the outbreak of the War in Ukraine. As 2023 begins, the world is facing, in the words of the World Economic Forum (Global Risks Report 2023) "a set of risks that feel both wholly new and eerily familiar. We have seen a return of "older" risks – inflation, cost-of-living crisis, trade wars, capital outflows from emerging markets, widespread social unrest, geopolitical confrontation and the spectre of nuclear warfare

– which few of this generation's business leaders and public policy-makers have experienced. These are being amplified by comparatively new developments in the global risks landscape, including unsustainable levels of debt, a new era of low growth, low global investment and de-globalization, a decline in human development after decades of progress, rapid and unconstrained development of dual-use (civilian and military) technologies, and the growing pressure of climate change impacts and ambitions in an ever-shrinking window for transition to a 1.5°C world. Together, these are converging to shape a unique, uncertain and turbulent decade to come.

However, against this sombre assessment is the emergence of a previously unanticipated opportunity to breach the Chinese Manufacturing monolith. Most observers concur that the ongoing US-China Trade war and the revealed Chinese governance over-reach /unpredictability in the post Covid period will induce the Foreign Invested firms in China, which number in lakhs, to modify their future plans by adapting a 'China Plus 1' policy if not exercising a total exit option in face of increasingly stringent US trade policy announcements. A strategic decoupling between China and the West is thus underway. Alongside the Ukrainian crisis, if it continues,could further fracture Energy and Trade relationships in unpredictable ways.

India is likely to experience not only new growth avenues by getting an opportunity to offer an alternative destination to global manufacturers but also extensive turbulence in its currently, often neglected, traditional success areas. Economic warfare is likely to become the norm in a low growth environment. Policies such as Quality Control, Environmental Sustainability and Migration Management may start getting used to create entry barriers in various markets. This could create a less transparent geopolitical environment. We could start witnessing growth divergence between rich and poor countries.

The strategy most desirable to adopt in this environment would be one that recognises these threats and corrects internal inefficiencies/deficiencies while concurrently strengthening our traditional strengths and also creating fresh comparative advantages. This would need an approach which specifically tries to unveil hidden weaknesses/fault lines to compel proactivity in seemingly 'good to go' environments and also bench mark Indian reality against global standards of quality and normality while continuing with the existing infrastructure development thrust.

TCA Ranganathan

TCA Ranganathan, a career banker for close to four decades, started his career with State Bank of India in 1975 and held diverse assignments within the bank including setting up the first Indian bank in China, and later becoming head of SBI's overseas branches. He was MD of State Bank of Bikaner and Jaipur, then CMD of Export Import Bank of India and Non-Executive Chairman of Indian Overseas bank during 2017-20. He co-authored a perspective on the Indian Economy, "All the Wrong Turns" and currently writes a monthly column on economic issues with Deccan Herald.

MODEL FOR DEVELOPMENT: THE SECRET BEHIND SUCCESS

Sridhar Vembu

It is impressive to witness the resilience of the Indian economy during the pandemic and the post pandemic period. Even as the global economic picture has darkened, the Indian economy has demonstrated tremendous dynamism. Atmanirbhar policy is taking deeper roots, as capital investment surges in manufacturing. Combined with massive increase in budgetary allocation for investment in infrastructure, in terms of highways, railways, ports, airports, telecom infrastructure, water and sanitation, India is poised for solid growth ahead.

"Atmanirbhar policy is taking deeper roots, as capital investment surges in manufacturing."

How do we sustain this growth momentum and channelize it so that its benefits are broad-based and are shared by our vast rural population? That is the focus of this article.

Visualizing India in 2047

It is useful to take a step back and visualize India in the year 2047.

- In what industries do our companies lead the world?
- Is prosperity widely shared in our society?
- How big do our cities get?
- Are our rural areas economically vibrant?
- Is our birth rate too low?
- Are we able to become prosperous in a way that nurtures our civilizational roots?
- Are we able to live in harmony with nature?

My primary thesis of this article is that all these questions are highly interconnected.

Rethinking the traditional economic development approach

Traditionally development and urbanization have been seen as almost synonymous. "Without urbanization, there is no development" is an underlying assumption behind a lot of economic discourse, even if it is never consciously stated. Economies of scale are often used as the rationale for this.

Here is the interesting insight. When we think about "What does it take to lead the world in a particular industry?" it comes down to depth of technology know-how and capabilities, and that comes directly from R&D. Interestingly, R&D is not subject to conventional economies of scale, in the sense that simply making a particular R&D team very large does not confer any benefit, and in fact, per capita R&D productivity actually drops when R&D teams get large.

This fact is well known in software development - large software teams all too often produce less quality software than small software teams. This fact is documented in the famous book "The Mythical Man Month" by Fred Brooks. It turns out that this applies not just to software development but to broad areas of R&D work in general.

World-class R&D teams in rural areas

How does this connect to rural development? It is possible to locate R&D work, capability building, in rural areas. This is high value work with massive leverage - the productivity could be measured in crores of value-added per person per year. As a result, R & D work can pay wages that are multiples of GDP per capita.

When a 200-500 person R&D centre is set up in a rural area, drawing a good part of its talent pool locally - which requires investment in skill development and training, which is very doable - we achieve many objectives simultaneously.

The most immediate benefit is that we create high paying jobs locally and those jobs become aspirational jobs for local youth, and we attract the best and brightest local minds. In the short term, that injects high incomes into the local economy. Long term. retaining that talent is crucial for the well-being of the region.

This investment in rural based R&D helps build capabilities more widely in the region.

"Given the vast investment in highways and railways and rural roads and fiber optics and 5G that is going on in India, this vision of making rural areas economically vibrant enough to hold and attract talent is very achievable."

I look at R&D in two ways: first in terms of designing products and services, and second in terms of achieving mastery over critical production technologies. Basic household products - products we depend on for our quality of life - exemplify the first part, from the humble nail clipper to washing machines to LED lighting to electric bicycles and autos.

The second part is mastery over the often complex production processes behind these goods. Even the humble nail clipper is not trivial to make in terms of its production process.

District-driven Development

My main point is that each of our districts can develop deep expertise in a particular category of products and become world leaders. The value chain, all the way from product design and development, underlying production technologies and processes, marketing - all of these are jobs that can be spread at a district headquarters level, accessible to talent in all the surrounding rural areas.

This enables the rural district to achieve a much more balanced regional economy, and that keeps talent at home, rooted. This is critical for maintaining our civilizational heritage.

It is also crucial for demographics. When there is more space per person, more children are born.

This model of district-driven, R&D driven development also keeps land more affordable, by avoiding excessive concentrations of people. That avoids real estate bubbles, which has trapped economies such as Japan, South Korea and now China in a massive demographic crisis, as housing became unaffordable for the average worker.

Crucially, the fruits of development are more widely shared, which is crucial to achieve social stability for the long term.

Finally, rural living also promotes more appreciation for open space and nature, and particularly highly skilled, high-income rural residents develop an interest in nature and heritage preservation, natural farming and sustainable living. This is an antidote to the pervasive "competitive consumption" mindset that traps affluent people who only see other affluent people around.

Rural Infrastructure

We can be highly connected and enjoy well paying jobs without all of us having to move to big cities and pay most of our extra income for real estate and pay the personal, familial and social price of being uprooted and atomized.

I will conclude with this: we are doing this in one district right now - Tenkasi - and ... it is my fervent dream to make Tenkasi as prosperous as Estonia (both have the same population, about 1.4 million people) over the next 25 years.

@svembu

Sridhar Vembu

Sridhar Vembu is the founder and CEO of Zoho Corp, India's first billion-dollar IT product company. Zoho Corp focuses on office suite and web-based business tools. He was awarded a Padma Shri on the occasion of India's 72nd Republic Day in 2021. He has been featured on the cover of Forbes India magazine.

Zoho Corp originally began in 1996, and was called AdventNet. It was only in 2009 that it became Zoho Corp.

Zoho Corp has launched a number of platforms - Arattai in 2021 (an alternative to Signal and Telegram), Zoho One in 2017 (a unified communications platform), Zoho Desk [a customer experience management (CMX)] in 2016 and began the Zoho University (an alternative to conventional colleges) programme in 2005.

In 2023, Zoho Corp recorded the highest profit among Indian internet companies.

Sridhar Vembu graduated with a B. Tech. in Electrical Engineering from IIT Madras, and a PhD from Princeton University.

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NatStrat India
D-319, Defence Colony
New Delhi 110024
India

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NatStrat
Centre for Research on Strategic and Security Issues

D-319, Defence Colony, New Delhi 110024, India

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