



College of Defence Management

VICTORY THROUGH EXCELLENCE

College of Defence Management is a premier tri-service institution imparting management training to officers of Defence Services. The College of Defence Management is entrusted with the responsibility of instilling contemporary management thoughts, concepts and practices in the senior leadership of the three services. Its Vision and Mission statements lead to identification of clear and unambiguous objectives.

VISION

To be the Nation's leading centre of excellence in developing management thought to optimize the effectiveness of the Armed Forces for meeting the challenges to national security.

MISSION

To develop and impart the skills of management thought that leads to effective decision making, enlightened leadership and efficient resource management in a knowledge-centric environment to enhance the effectiveness of the Armed Forces



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PROGRAMME

DAY 1: 27 FEB 2024 (TUESDAY)

Inaugural Session

0900 – 0915 h	Assy at Ashoka Auditorium & Logging In by Online Attendees & Speakers
0915 – 0930 h	Briefing on conduct of Day's proceedings
0930 – 0945 h	Opening Address Rear Admiral Sanjay Datt, VSM, Commandant CDM
0945 – 1015 h	Keynote Address Lt Gen JP Mathew PVSM, UYSM, AVSM, VSM, Chairman, Chiefs of the Staff Committee

Session I: Envisioning Economy

1020 – 1030 h	Introduction to Panelists
1030 – 1100 h	Towards Ethics-Based Enterprises Shri R Ravi Kumar
1100 – 1130 h	Achieving Sustainable Development : Managing energy security and climate change Dr Shamika Ravi
1130 – 1200 h	Transforming Fundamental Research Prof Ashok Jhunjunwala, Padma Shri
1200 – 1230 h	Interactive Session
1230 – 1245 h	Concluding Remarks Prof Ashok Jhunjunwala, Padma Shri
1300 – 1400 h	Lunch Break

Session II: Envisioning Society

1405 – 1415 h	Introduction to Panelists
1415 – 1445 h	NEP and Higher Education System : Imperatives for Evolution Prof Varun Sahni
1445 – 1515 h	Value-Based Society: Lessons from Past Prof N Ganesh Rao
1515 – 1545 h	Empowered Society : Driving Politics and Economy Prof Varun Sahni
1545 – 1615 h	Interactive Session
1615 – 1630 h	Concluding Remarks Prof Varun Sahni

DAY 2: 28 FEB 2024 (WEDNESDAY)

Session III: Envisioning Security

0900 – 0910 h	Assy at Ashoka Auditorium & Logging In by Online Attendees & Speakers
0910 – 0920 h	Briefing on conduct of Day's proceedings
0920 – 0930 h	Introduction to Panelists
0930 – 1000 h	World Order and Security Architecture: 2047 Amb DB Venkatesh Varma (Retd)
1000 – 1030 h	G20 and Beyond : Political Vision for Global Leadership Amb Pankaj Saran (Retd)
1030 – 1100 h	Military Power for Securing India's Global Interests V Adm Pradeep Chauhan AVSM & Bar, VSM (Retd)
1100 – 1130 h	Interactive Session
1130 – 1145 h	Concluding Remarks V Adm Pradeep Chauhan AVSM & Bar, VSM (Retd)
1145 – 1210 h	Refreshment break

Valedictory Session

1220 – 1250 h	Valedictory Address Lt Gen Raj Shukla PVSM, YSM, SM, ADC (Retd)
1255 – 1305 h	Vote of Thanks Comde Prashant D Shidhaye VSM, HF PAT, CDM



APPROACH PAPER: CDM ANNUAL SEMINAR 2023-24

VIKSIT BHARAT @ 2047: ENVISIONING ECONOMY, SOCIETY AND SECURITY

Introduction

The twenty-first century is spoken of as the 'Asian Century' to acknowledge the shift of the pivot of economic growth from Europe and Americas to Asia. Asian powerhouses like China, India and Indonesia are expected to drive the global growth. India has set ambitious targets of growth over the next three decades with the aim of achieving a developed nation status by 2047, when it completes 100 years of Independence. However, it is worth reminding that India as a nation-state has a rich history spanning thousands of years. In the golden era of Indian History, it not only attained the status of being a Global Leader, but also sustained this position for more than a millennium. India's influence on the World is deep-rooted in history, with this golden era signifying an age when India was considered as a powerhouse in a wide spectrum, spanning not just economics and trade, but also education, science, culture, spirituality, administration and warfare.

The Government of India has termed the period from 2022 to 2047 as 'Amrit Kaal', with all its ministries preparing ambitious plans to achieve the desired targets. These are based on the five cardinals - termed as 'Panch Pran' by the Hon'ble Prime Minister Shri Narendra Modi. The five cardinals are – becoming a developed nation; getting rid of colonial / slavery mindset; unity and solidarity; pride in heritage and legacy; and duty towards nation. These five cardinals are the fundamental guiding principles driving a wide-array of strategies of the Government of India that aim to transform India during the 'Amrit Kaal' period. Various documents describe the economic growth, social progress, technological advancements, and sustainable developments that should define Indian @2047.

Based on the elaborate work being undertaken by the Government, it may appear that the journey of next 25 years would only require effective and timely implementation of the ambitious and focused plans prepared by the different stakeholders. A study of the context and intentions driving this great endeavour of 'Amrit Kaal' reveals that this could not be farther from the truth. A 'barebones' analysis of the discourse on the subject reveals that the two core concepts driving our vision of India@2047 are 'Vasudhaiv Kutumbkam' and 'Vishwaguru'. 'Vasudhaiv Kutumbkam', meaning one world one family, seeks to propagate the values of love, understanding, cooperation, and shared destiny. Complementing this, the other pillar of 'Vishwa-guru', seeks to recreate India as a Centre of knowledge, learning and education, as it existed in the days of Takshshila and Nalanda. To achieve these hallowed goals, there may be a need to not just revisit, but also re-design a number of assumptions that define the vision of India @ 2047.

In this light, the forthcoming Annual Seminar of the College of Defence Management seeks to raise some fundamental questions about the economy, society, and the security that India should aspire for @2047 and beyond. In other words, the seminar seeks to focus upon our vision of "India@2047: Developed, Value-based and Comprehensively Secure". It is important to add that the approach adopted is to question the underlying assumptions and understand the mental models of stakeholders, keeping in mind that the path that we choose is of a greater relevance than the quantified objectives we set for ourselves. Some salient aspects that need to be addressed are summarised in succeeding paragraphs.



Session 1: Economy

Growth Trajectory. Most estimates indicate that by 2047, the Indian economy would achieve a GDP in the range 30-35 trillion USD, with per capita income being more than 10,000 USD. It is important to add here that, for the large part of last two millennia, from 1 CE to 1530 CE, India had the highest GDP in the World. This fact gives us the reassurance that the target of achieving the above economic growth is do-able. Taking this vision further towards implementation, during her budget speech in Mar 2023, the Hon'ble Finance Minister, has articulated seven priorities for the economic development of the nation during 'Amrit Kaal', namely, Inclusive Development; Reaching the Last Mile; Infrastructure and Investment; Unleashing the Potential; Green Growth; Youth Power; and Financial Sector.

Growth Model. The question that needs to be addressed is, 'Will India represent a typical developed economy, product of the existing capitalist market-driven eco-system?' Whilst the existing capitalist model has delivered results in terms of GDP growth, it has also led to a large-scale over-exploitation of resources, corruption, amoral business leadership, pollution, climate change and a dangerous rich-poor divide. It is therefore important to address two fundamental aspects of the vision of Indian economy @2047. Firstly, how do we ensure that we balance fast-paced growth with challenges of pollution, bio-diversity loss, environment degradation, and over-exploration of the resources? The second fundamental aspect is what set of ethics drive our business entities and enterprises? Will Indian enterprises also have a predominant focus on profit, without integrating values for society and community? Will they be based on 'Brute Force capitalism' and 'amoral character'? It is therefore important to devise a vision and strategy for developing ethics that must govern our business enterprises and entities.

Sustainable Development. As the country strives to combat climate change and foster sustainable development, tailored strategies need to be implemented in each region to harness their specific strengths and address their distinct environmental concerns. Such strategies would also need to address Sustainable Development Goals (SDG) through balancing of the twin key areas, namely energy security and climate change. Under the Paris Climate Change Agreement., India is committed to reduce carbon intensity of its economy by 45 percent as compared to 2005 level, while 50 percent of its cumulative electric power installed capacity is expected to be from non-fossil fuel-based sources. The key to achieving these targets is the use of renewable energy sources such as solar, wind, biofuels, and the currently-under-experiment green hydrogen. It is therefore important to assess our plans for achieving the above twin objectives of energy security and climate control.

Transforming Fundamental Research. Transition from a middle income to a higher income economy requires continuous improvement in the value-chain of economic activities, which in turn depend upon our ability to create knowledge. This transition would thus require transformation of the eco-system for research and innovation in the country. Whilst the Government of India has initiated a number of steps like setting up of National Research Foundation; there is a need to assess this from the 'systems' point of view as a mission capability package. The assessment must cover institutional framework, regulatory framework, financial support system and human-resource management.

Based on the above discussions, it is planned to conduct the session on 'Economy@2047' under three themes as under: -

Theme 1: Towards Ethics-Based Enterprises

Theme 2: Achieving Sustainable Development: Managing Energy Security and Climate Change

Theme 3: Transforming Fundamental Research



Session 2: Society

Current Challenges. The assertion that great societies make great nations stands as true today as it did a Millennia ago. Prior to Islamic invasions, the Indian Society had some distinct characteristics, such as being knowledge-based, values / moral-based, compassionate, practicing values of universal brotherhood etc. These, and subsequent European invasions, brought conflicts and turmoil upon our society during the period from 12th century until Independence, leading to creation of many friction points in terms of income distribution, ethnicity, caste, religion, and languages, that affect us even today. Equally important was the erosion of values like compassion, respect for women and tolerance. As India embarks on its journey towards 'Amrit Kaal', it is important to re-imagine the society that we want to create in terms of its values. To define the values that our society is based on, it is important to look at the roots – the values described in 'Dharma'. These are values of purity, self-control, non-violence, love, mutual respect.

Education System. The New Education Policy is based on the pillars of multi-disciplinary education, skilling, cultural rootedness. However, in order to become true global leaders, there is a need to shift knowledge from discipline-based units to the unity of meaning and understanding. This mandates a change from the current multi-disciplinary format to a trans-disciplinary format, and from a reductionist format, that sees the whole as the sum of parts, to an integrated format that views the system as a part-less whole. The concepts are certainly not new and have been described as 'purnatwa' in Upanishads. The education system needs to be built on the pillars of satyam (truth), nityam (sustainability) and purnam (wholeness). This view is endorsed by scholars like Professor Debashis Chatterjee, who advocate that our education must be based on a system based on the above-stated values of satyam, nityam and purnam. Such a change would need design, development, and fielding of a completely new system of content and a fresh look at the pedagogy employed.

Value-Based Society. The current discourse on what "the Indian model" of development will offer to the World highlights the values of 'Vasudhaiv Kutumbkam' and 'Vishwaguru'. The World will not follow just what we preach, but rather only what we practice. Therefore. Indian society itself must be an epitome of values that we need to propagate. Today, society faces problems of decay in morals, cultural values, character, and breakdown of discipline as may be seen from the rising crimes against women and child, corruption, and over exploitation of natural resources. The New Education Policy promulgated by Government of India seeks to address this gap through development of five universal values - namely Truth, Peace, Non-violence, Love and Righteous Conduct. Such a value-based education is expected to promote compassion, sincerity, connectedness, self-development and deeper understanding of life and purpose. However, to develop a value-based society we would need to go beyond the formal education system. There is a need to transform society-government interface, promote non-government organisations engaged in development of values among citizens, and inculcate above values at the family, community and work places.

Society Driving Politics and Economy. In a democratic country like India, a state exercises its power over citizens through the institutions of legislature, executive and judiciary. All these institutions are accountable to citizens directly or indirectly. Such an accountability requires a society that is aware of its duties and rights, follows these with sincerity and commitment and hence has the informal power to ensure that Political and Economic systems of the country function in accordance with the societal values. Values, beliefs, initiatives, and commitment of citizens is key to overall development of India in cultural, political, social, and economic spheres. The approach aims to inculcate Citizens as instruments in developing social cohesion, effective democratic institutions, preservation of environment, and enhancing of values and ethics while leading community developments. Encouraging civic engagement and participation in decision-making processes fosters a sense of ownership, addressing societal tensions through timely



intervention, impartiality, and accountability of various organs of the government. A concentrated and comprehensive deliberation is therefore required to develop the societal institutions so that these provide the compass and self-correcting mechanisms for an enlightened society that is able to effectively drive the political and economic activities.

Based on the above, it is planned to discuss the 'Society@2047' vertical under three themes as follows: -

Theme 1: NEP and Higher Education System: Imperatives for Evolution.

Theme 2: Value Based Society: Lessons from Past

Theme 3: Empowered Society: Driving Politics and Economy.

Session 3: Security

World Order and Security Architecture. The world order encompasses the distribution of power, the norms and rules that govern international behaviour, and the institutions and alliances that shape how countries interact with one another on the global stage. With the dissolution of the Soviet Union in 1991, the United States emerged as the world's sole superpower. This period was often referred to as a unipolar moment, characterized by American dominance in international affairs and a push for liberal democracy and globalization. However, globalization and liberal democracy has weakened over the period by rising protectionism, secularization of financial, trade and technology supply chains and the subsequent weaponisation of interdependence which reached its peak last year in terms of the responses of western world to the commencement of Russian military operations in Ukraine. The 21st century has witnessed the rise of multiple great powers, including China, Russia, and regional players like India and Brazil. This shift toward multipolarity has led to a more complex and competitive world order. It's important to note that world orders are not static; they evolve over time due to changes in the global balance of power, shifts in economic and technological dynamics, evolving norms and values, and geopolitical events. Countries should regularly reassess their alliances and partnerships to better align with their interests in the changing world order. As the world order shifts due to changes in power dynamics, technological advancements, and emerging threats, India as an emerging power should reexamine its security architecture to effectively maintain peace, stability, and the protection of national and international interests. Hence, it calls for a reflection on strategic realignment by reassessing strategic priorities and alliances in new world order.

Political Vision. India@2047 aspires to be a global leader. Global leadership is affected through the role played in defining agenda, activities and purpose of global governance institutions. These include fora such as UN (and its multiple agencies such as IMO, WHO, ICJ etc.), G20, G7, IMF, WTO, NSG, as also regional/ supra-regional institutions like ASEAN, BIMSTEC, BRICS, SCO, etc. The World today is governed by knowledge systems that emerged consequent to the Renaissance in Europe and the global governance institutions that emerge in the immediate aftermath of World War II. It may be argued that these systems and institutions and the power that they provide to the North American and European countries no longer represent the geopolitical and economic realities of today's world. If India has to play its due role at the global level through decision-making and agenda setting, it is imperative that the country would need to be included in these global institutions. Our stellar role as the President of G20 may offer some meaningful ideas and roadmaps to implement this. It is therefore important to create a political vision of India as a global leader, build it into our strategic thinking and then shape the environment to achieve the same.



Securing India's Global Interests. Global powers need strong militaries to discharge their obligations towards world and regional security. They must have capability to project power at far off places. Is there a need to develop capabilities for expeditionary forces to take the battle to the enemy, safeguard our global interests and to influence global decision-making? To achieve such capabilities, it important to develop all instruments of India's Comprehensive National Power in synchronisation, especially, economy and military power. It is therefore imperative that the most important instrument of India' national power, India's military must grow along with the economy. This growth needs to be in all components of the Military power - weapons, systems and war-fighting platforms, human resources, indigenous doctrine, strategy, and policy. As enumerated earlier in the approach paper, such an approach needs to be a 'systemic 'one. Hence, it is important that rationale and roadmap for developing military power are clearly articulated through the National Security Strategy.

In consideration of the above discussions, it is planned to discuss the vertical "Defence@2047" under three themes as follows: -

Theme 1: World Order and Security Architecture: 2047.

Theme 2: G20 and Beyond: Political Vision for Global Leadership.

Theme 3: Military Power for Securing India's Global Interests.

Conclusion

India is determined to achieve holistic development by 2047 to regain its lost glory as a developed nation. The Seminar seeks to identify core areas that need to be addressed for India to achieve its vision of a Developed Country, value-based society and comprehensive security. Outcomes of the Seminar would certainly help India develop in a manner that is consistent with its fundamental values and beliefs addressing challenges and concerns that the world faces due to decay of morals, corruption, pollution, climate change and intra and inter-state violence.



OPENING ADDRESS REAR ADMIRAL SANJAY DATT, VSM COMMANDANT (CDM)



Rear Admiral Sanjay Datt, VSM was commissioned in the Indian Navy in Nov 1987 Post ab-initio training, the Officer has held a wide variety of appointments onboard frontline warships and shore establishments. He served with distinction at Naval Headquarters in three very diverse and challenging appointments at the Directorate of Electrical Engineering, Directorate of Personnel and Directorate of Dockyards. He also served in Command Headquarters in the IT, Refit and Electrical Divisions, and also in Naval Dockyard Mumbai and Naval EMC Centre. His afloat appointments have been onboard Indian Naval Ships Vindhyagiri, Gomati & Tacar. On the academic front, the Officer has undergone M.Tech in Fibre Optics and Light Wave Engineering at IIT Kharagpur and is also an alumnus of DSSC (Wellington), CDM (Secunderabad) & National Defence College (Delhi) On promotion to Flag Rank in Nov 18, the Officer has tenanted the appointment of CSO (Tech) Headquarters Eastern Naval Command and ACOM [IT&S] in IHQ/MOD (Navy)

Gen JP Mathews, Param Vishist Seva Medal Uttam Yudh Seva Medal, Ati Vishist Seva Medal, Sena Medal, distinguished panelists, Armed Forces institutions, Formations and HQ IDS, attendees from academia, civil service academies, CDM faculty and participants of HDMC-19. A very good morning to all of you.

I extend a very warm welcome to all of you to this Seminar and thank you all for accepting our invitation to participate in this milestone event of the Higher Defence Management Course. With the wide range of expertise available, we are eagerly looking forward to hearing the eminent panelists, as it will be of immense learning value to us as an institution.

The College of Defence Management has been at the vanguard of developing Strategic Management thought and competencies in mid-level Armed Forces Officers for the last **five decades**. Since **1976**, **twenty-seven National Seminars** on subjects of contemporary relevance in the strategic domain have been conducted as a keystone event in the college almanac. The seminars have seen topics ranging from Leadership, Strategic Challenges, Organisational Transformation and Self-Reliance to Indian Ancient Knowledge System to Great Power Rivalry last year and boast of an eminent panel of speakers and participants over the years.



As we navigate through an era characterised by unprecedented technological advancements, pressing environmental urgencies, and rapidly evolving global relations, the ambition of transforming India into a developed nation by 2047 serves not just as a beacon of optimism but also as a compelling model for sustainable progress worldwide. This vision transcends the conventional metrics of development, aiming to weave together the threads of economic vitality, social equity, environmental stewardship, and robust security into a cohesive tapestry that reflects the aspirations of all Indians. Moreover, the evolving dynamics of global relations underscore the importance of India's role on the world stage. As a burgeoning economic power, India's journey towards development is closely intertwined with its diplomatic endeavors, trade policies, and strategic partnerships. These relations are not merely conduits for economic transactions but pivotal in fostering mutual understanding, addressing global challenges, and ensuring a secure and stable international environment conducive to development.

The College has, since inception explored the dynamics of National security while focusing on Economic and Societal imperatives for India through curriculum and researches. This pursuit has been marked by rigorous research, grounded in evidence, spanning the vast landscapes of Geopolitics, economic growth and National security. Numerous dissertations have ventured deep into the realms of India's economic acceleration, the pivotal shifts needed within its societal structures to ensure inclusivity and the enhancement of security measures to promote national interests in an increasingly complex global arena. The overarching goal is to foster a comprehensive understanding and strategic framework that can guide India's policies and actions towards realising the vision of a Vikshit Bharat by 2047, reflecting a deep commitment to not just national advancement but also in contributing significantly to global progress, aligning with the philosophy of Sabka **Saath, Sabka Vikas, Sabka Vishwas, Sabka Prayaas**.

Swami Vivekananda says, and I Quote "Each nation has a destiny to fulfil, each nation has a message to deliver, each nation has a mission to accomplish. Therefore, from the very start, we must have to understand the mission of our own race, the destiny it has to fulfil, the place it has to occupy in the March of Nations, the note which it has to contribute to the harmony of races." Unquote

To this end, the extensive efforts by the government towards India's development journey over the next 25 years has laid out a roadmap to a Vikshit Bharat. Since, it hinges on the successful execution of well-crafted plans by various stakeholders, there is a need of deeper exploration into the ethos behind manifestation of the ambitious period termed 'Amrit Kaal'. At the heart of the Viksit Bharat@2047 vision lie the profound principles of 'Vasudhaiv Kutumbkam' and 'Vishwamitra'. 'Vasudhaiv Kutumbkam', or the concept of the world as one family, champions the ideals of mutual love, understanding, cooperation, and a collective fate. In tandem, the vision of India as a 'Vishwamitra' aims to emphasize us as a friend willing to maximize our relations and foster a peaceful world. Attaining these noble objectives requires a critical assessment of the foundational beliefs that currently underpin the vision for Viksit Bharat @ 2047. In this light, the forthcoming Annual Seminar of the College of Defence Management **seeks to discuss some fundamental questions about the Economy, Society, and the Security that India should aspire for a developed nation status in 2047 and its sustenance beyond**. In other words, the seminar seeks to focus upon our vision of "India@2047: Developed, Value-based and Comprehensively Secure". It is important to add that the approach adopted is to question the underlying assumptions **keeping in mind that the path that we choose is of a greater relevance than the quantified objectives we set for ourselves**. This two-day Seminar on Viksit Bharat @2047: Envisioning Economy, Society & Security is planned over three plenary sessions.

We begin with deliberations on economic aspects to include strategies for balancing economic development with environmental sustainability, addressing the ethical dimensions of business in the era of profit-driven capitalism,



and meeting our ambitious targets under the Paris Climate Agreement. Specifically, we will examine how to integrate green growth into our economic model, the role of ethical governance in shaping responsible enterprises, and the roadmap for achieving energy security alongside significant reductions in carbon intensity. These discussions aim to chart a forward-looking path that aligns India's development objectives with global sustainability and ethical business standards, ensuring a prosperous future for the nation and its citizens. In addition, transitioning from a middle income to a higher income economy requires continuous improvement in the value-chain of economic activities, which in turn depend upon our ability to create knowledge. This transition would thus require transformation of the ecosystem for research and innovation in the country. **However, as our Honorable Prime-minister has remarked and I quote "Economic development cannot take a nation forward on its own. We need a society and economy which complement each other" unquote.**

Accordingly, in the second session, we'll delve into the critical areas of societal values, education reform, and the role of citizens in shaping India's future towards 'Amrit Kaal.' Central to our discussion will be the revitalization of India's ancient values of knowledge, morality, and universal brotherhood, through the lens of 'Dharma.' This exploration will segue into an examination of the New Education Policy's shift towards a trans-disciplinary approach, inspired by 'Purnatwa,' emphasizing an education system built on truth, sustainability, and wholeness. The conversation will also tackle the imperative of fostering a value-based society that transcends the formal education system, highlighting the necessity of integrating values like non-violence, love, and righteous conduct at all societal levels. Lastly, we aim to scrutinise the influence of a value-conscious society on political and economic governance, underscoring the need for active civic engagement and societal accountability in driving India's development agenda. **This session seeks to distill actionable insights and strategies to cultivate a society that embodies and champions the values critical for India's envisioned transformation by 2047.**

Interdependence of National security and development have been aptly highlighted in the Arthshastra by Kautilya where he describes that National security lays the foundation for a flourishing nation, as a secure environment nurtures the growth and prosperity of its people. Therefore, in the third and final session scheduled tomorrow, we'll navigate the complexities of the evolving world order and India's strategic positioning within it, aiming to redefine our security architecture and global leadership aspirations. We'll discuss the transition from a unipolar to a multipolar world, marked by the rise of new global powers and shifting alliances, emphasizing the need for India to reassess its strategic priorities and international partnerships. The focus will be on India's role in global governance institutions and the necessity of aligning with contemporary geopolitical and economic realities to enhance its influence on the global stage. Additionally, we'll explore the critical aspects of bolstering India's comprehensive national power, particularly the synergy between economic and military capabilities, to secure India's interests globally. This includes developing a robust military that can project power and influence decision-making internationally. The session aims to carve out a strategic roadmap for India to navigate the complexities of the 21st-century world order, ensuring peace, stability, and a significant global leadership role.

The last decade has seen **paradigmatic** changes in **the international order with India itself being a key player**. From an adroit position of non-alignment during the cold war era, India has emerged as a regional power in arguably one of the most contested regions in the world today. This has been enabled by unprecedented economic and technological growth, which has made several nations **look up to India for opinion, guidance and assistance**. Needless to say, this comes with great responsibility, grave implications and strategic imperatives. For us achieving a developed nation status is not merely a goal, it is journey that demands concerted efforts, research and strategic innovation and resilience from all stake holders. It requires us to harness the full potential of our human capital, foster innovation and entrepreneurship, and build robust institutions that uphold the rule of law and promote transparency



and accountability. Moreover, as leaders and future strategic leaders in defence management, it is incumbent upon us to recognize the symbiotic relationship between security and development. A secure nation provides the necessary foundation for sustainable growth, while development, in turn, enhances the resilience and prosperity of our society.

With this backdrop I am sanguine that **through this Seminar we would be able to identify essential areas for improvement to realise India's vision of becoming a developed country, cultivating a value-driven society, and achieving comprehensive security.** The outcomes of the Seminar should be able to stimulate our collective thinking into India's growth in a way that stays true to its fundamental values, tackling global issues like the erosion of ethics, corruption, environmental degradation, climate change, and violence at both domestic and international levels.

We are honoured to have a **pantheon of luminary subject matter experts** sharing their wisdom on the subject. We are also privileged to have a host of **eminent academic institutions, armed forces training institutions and think-tanks** in attendance online. It would have been befitting to host you all at CDM for the Seminar; however, **in order to facilitate wide participation and knowledge sharing** we are conducting this **seminar online in a webinar mode.** I also take this opportunity to thank Lt Gen JP Mathew, CISC, who, despite his hectic schedules, have graciously accepted to **deliver the keynote address** of this much-awaited seminar. We look forward to **enlightening and enriching sessions over the next two days.**

..... JAI HIND



KEYNOTE ADDRESS
Lt GEN JP MATHEWS, PVSM, UYSM, AVSM, VSM
CISC



Lt Gen JP Mathews, PVSM, UYSM, AVSM, VSM, CISC. The General Officer is an alumnus of Sainik School, National Defence Academy, and Indian Military Academy. He was commissioned on 14th December 1985 and has held instructional appointments at National Defence Academy, Khadakwasla, and Officers Training Academy, Chennai.

He is a graduate of Defence Services Staff College, Army War College, and Advanced Professional Program in Public Administration course at Indian Institute of Public Administration, New Delhi. His staff appointments include service in Mountain Division, Counter-Insurgency environment, in a Sub-Area, and key appointments at Integrated Headquarters of the Ministry of Defence, Army.

He has command experience of conventional and counter-insurgency operations in Northern and Eastern theatres and has commanded a Corps in the North-East. He has been awarded Param Vishisht Seva Medal, Uttam Yudh Seva Medal, Ati Vishisht Seva Medal, and Vishisht Seva Medal. The General Officer assumed the appointment of CISC on 3rd April 2023.

Rear Admiral Sanjay Datt, Commandant, College of Defence Management, Esteemed Panelists at this National Webinar, Distinguished Veterans and Invitees, Members of the Faculty and Officers of Higher Defence Management Course-19 and participants from a large number of reputed military and civil Academic Institutions. I consider it a singular honour and privilege, to deliver the keynote address at this flagship event on the CDM calendar.

Ladies and gentlemen, in 2023 India became the most populous country in the world, with many negative connotations associated with it rapidly diminishing. We have also become the fifth largest economy in terms of GDP : some would argue 4th. The GDP, in nominal terms, is supposedly somewhere in the region of four trillion USD. We have many billionaires, some of them among the richest people on the earth. But, the per capita GDP of around USD 2600 languishes at rank number 132; a kind of a paradox?



Many leading global companies have Indians at the helm, and in several critical positions. 8 of our private & public sector enterprises are in the global Fortune 500 List. We are today the fastest growing large economy, in fact in the 21st century only China remained ahead of us in GDP growth for a period of time. It is natural that India aspires to become a Developed Nation, a Viksit Bharat, by 2047 as the government has envisioned.

The question which obviously arises is what needs to be done to achieve this goal?

With these opening thoughts, I must complement CDM for identifying such a contemporary theme for the National Webinar, Viksit Bharat @ 2047: Envisioning Economy, Society and Security'. The twenty-first century is being called the 'Asian Century', mainly in anticipation of a shift of pivot of economic growth from the West to the Asian countries, in addition to economic powerhouses like China, Japan and Republic of Korea.

India is being viewed as a favourable destination for investments for many more reasons than I have already said. A recent Survey shows that India has risen to the fifth position as an investment destination for global CEOs, up from the ninth position it held in 2023. A major factor that may not be getting adequate attention is that the Indian economic growth is majorly being driven by strong private consumption, despite the low per capita GDP. India's fiscal position remains solid with steady revenue growth, and headline inflation is likely to remain within the target band. In addition, a strong banking system makes this outlook brighter.

India is being seen as a stable region despite the headwinds from the current volatile and uncertain Geo-political and Geo economic scenario. The coming years may well herald the Indian Century, if we capitalise the opportunities that are knocking on our doors. Most developed nations have seen such pivotal moments in their journey of development. The common thread has been that all these countries realized the importance of this turning point and seized the opportunity with both hands. Before we proceed further, we need to understand and probably define what a **Developed Nation means**, and more importantly what it means for us as a nation?

A developed country typically has a mature and sophisticated economy. These economies may not have a high growth rate currently, but must have shown rapid growth in the past. Developed countries have advanced technological infrastructure and diverse industrial and service sectors. Their citizens typically enjoy access to quality **health care** and higher education. The main benchmark that is used to determine the level of development of an economy is **per capita income**. Divide country's GDP by its total population - a rough estimate of how much a citizen is likely to earn in a year. Although it may be good to remember the paradox that I pointed out earlier some economists consider \$12,000 to \$15,000 per capita income to be sufficient for developed status. Yet there are others, who think it should be above \$25,000.

According to the World Bank, India's per capita income is around \$2,400. At the same time, USA's and China's per capita incomes are \$76,400 and \$12,700, respectively. Here it is important to point out the case of Qatar. It has one of the highest per capita income in the world at \$88,000. However, it is not considered developed due to vast income inequality and a lack of educational opportunities for citizens. For countries that are difficult to categorise according to per capita income, economists turn to the **Standard of living and Human Development Index**. Most developed countries have less than ten infant deaths per year per 1,000 live births. Moreover, they have a life expectancy of over 75 years. We are about 25.5 in the former and 70½ in the later.



The United Nations' HDI ranks countries on three parameters: literacy rate, education access and healthcare. The countries are scored between 0 and 1 based on these three parameters. A country with an HDI index over 0.8 is generally considered developed. According to the latest data, India's score is 0.633, and it stands at 132nd place out of 192 countries ranked. It is true that there is no single, universally agreed-upon definition of a 'Developed Nation'. The rhetorical question, 'is income the only criterion to characterise a nation's development?', also pops up time and again.

The vision of Viksit Bharat, in a nutshell, is that of a prosperous nation, in harmony with both modern infrastructure and nature, and giving opportunities for all citizens of all regions to reach their potential. It is imperative that we define a clear road map, and set milestones for the country to progress to the status of a Developed Nation. There are five factors that stand out.

Economic Growth: A resilient and strong economy that can provide opportunities and a high standard of living for all its citizens, across the strata of the society. A sustainable economy based on entrepreneurship, innovation and competitiveness, but counterbalanced by principles and ethics.

Environmental Sustainability: The growth to a Viksit Bharat must not be at odds with nature, but rather be able to mitigate the impacts of climate change based on restoration, conservation and resilience, leading to a clean and green environment that preserves India's biodiversity and natural resources

Social Progress: Developing an inclusive and harmonious society - based on the cultural heritage of the country, celebrating its diversity and ensuring justice, equality, dignity and well-being of all its citizens - should remain a hallmark of Viksit Bharat.

Good Governance: A nation is invariably identified by its quality of governance, which should be agile, based on sound policies and accountability. A system based on credible data-collection, and its analysis to ensure quick identification of problem areas, and swift action to rectify it, should be the backbone on which the policies are founded. Governance should be based on teamwork, reflection, empathy and consultation.

Security: For a Viksit Bharat, a security architecture capable of not only securing its sovereignty and national interests, but to emerge as a net security provider in the region, would be imperative.

The three sessions of the seminar are; economy; society; and security. From the Approach paper, I notice that there is an emphasis on ethics, values, sustainability, culture, natural and social sciences, and the likes. Therefore, I intend do a bit of a sidestepping, and focus on the economy, especially the hard numbers, in the remaining part of my address. The magic number is USD 30 trillion, the GDP goal set for 2047. You all are well aware of the Rule of 72. If the growth rate continues to hover around the 6.5 percent mark till 2047, India's GDP will become 4.5 times the current official GDP of USD 4 trillion, that is, 18 trillion. It is 12 short of 30 trillion, and to make up we need to grow at about 9% annually. That is a tall order. And this brings to fore the critical question- is it only the number that we should be looking at.

To put this in perspective, I am going to take the help of the PwC's 26th Annual Global CEO Survey (of 2023). The survey predicts a **bright future for India**, stating that India is entering an exciting, but also uniquely challenging phase in its history, and what it will take to achieve this. PwC's own projections show that India could become the world's third biggest economy as early as 2030, and have a GDP exceeding that of the US by 2060.



However, India must transition from a largely agrarian informal economy to a services, advanced manufacturing, and knowledge-led hub, positioning itself to take full advantage of the world's increasing technological sophistication and drive for sustainability. In fact, the Survey shows that business leaders believe the economic winners of the future will be those that achieve profound transformation, aligning with major forces changing the game from tech disruption to decarbonisation.

They have gone on to identify **five springboards** for India to accelerate its economic growth in a way that is good for both people and the planet. These springboards can propel India faster to a developed country status, executing efficient and economic projects at pace and scale.

Springboard One: Seize the Opportunities of the Green Revolution

The transition from a high to a low carbon economy will involve a profound rewiring of the global economy, birthing whole new industries. India is at the forefront of this transition, growing new sectors from renewable energy to biofuel. For example, India announced the National Hydrogen Mission to make itself a hub for the production and export of green hydrogen, enabled by a sunny climate that can provide cheap, plentiful solar power to make green hydrogen in vast amounts. India is striving to scale up emerging technologies like low-carbon steel, cement and fertilizers. The International Energy Agency believes India could become a global leader in renewable batteries and green hydrogen, bringing India potential revenues of \$80 billion. The Survey shows that 60% of CEOs in India plan to innovate new, climate-friendly products or processes. India is positioning itself to thrive in a global economy that increasingly demands alignment with net zero. Though we still rely on oil and coal, India is now the world's third largest producer of renewable energy, sourcing 40% of its electricity from renewables and adding renewable energy capacity faster than any other major economy.

Springboard Two: Be a Leader in Technology

We've heard it said that **society is in the first minute of the first hour of the first day of the tech revolution**. That may or may not be true, but what we do know is that technology disruption will continue changing the game for all businesses, creating massive **opportunities** for those who can lead the shift. Some outside India do not yet recognise it as the tech pioneer that it really is - rivalling the United States and China, with tech companies equal in their sophistication and prominence to international counterparts. For example, India is a leader in digital transactions, processing about as many digital payments in India alone as Visa processes payments in any form - globally. Incredibly, India has rolled out biometric identification to 99% of its population, even those in rural areas. India is boldly adopting cutting-edge tech, rolling out India's first digital rupee pilot in December 2022. The digital rupee could grow India's economy by making its financial system more efficient, secure, and inclusive. This kind of boldness can make India an even bigger tech contender in coming years, making the most of its young, digitally-savvy population, rapidly expanding internet connectivity, launch of 5G, and data costs that are among the lowest in the world.

Springboard Three: Develop the Sectors of Tomorrow

Although a significant share of India's population is dependent on the agrarian and informal economies, the country is making the right moves to grow sectors from manufacturing to services. India is building the infrastructure to support a modern, connected, service-led economy. The Indian government has committed a full 10% of GDP, or Rs.270bn, to the Self-Reliant India initiative to achieve a range of development goals, including building the



infrastructure and technology to support a vibrant, modernising economy. Public-private partnerships are funneling massive amounts of capital to **economy-growing projects** like building roads and airports. The government is offering production-linked incentives (PLI) to attract manufacturing to India and support domestic producers, speeding India's progress toward being a **global manufacturing and export hub**. These incentives have been big draws for mobile phone and electronics manufacturers, making India one of the world's biggest exporters of smartphones. India is well-positioned to attract companies seeking to diversify their **global supply chains**, spurring the growth of India's industries.

Springboard Four: Build Skills for the 21st Century

Every nation faces a challenge to ensure its people have the skills for the future from creativity to tech know-how. The challenge for India is a formidable one - given the sheer size of the population, with the majority currently working in agrarian or informal roles - but it is imperative that IT overcomes it. The government is striving to upskill working-age people nationwide to prepare them for the jobs of the 21st century as part of its New Education Policy. The Policy helps people build skills needed for the modern economy by moving away from rote learning towards flexible, creative thinking, offering a strong programme of vocational education, and emphasising modular and lifelong learning to help people update their skills in a fast-changing economy.

Springboard Five: Harness the Potential of Young People and Women

India can **super-charge** its rise if it taps into the productive capacities of most of its people. For any country, the greater the number of people who can join the workforce, the faster the economy can grow. People under 30 and women make up more than 70% of India's population, so they represent a huge energy source for India's economy - if they have opportunities to fulfil their potential. By 2030, India is projected to have the largest working-age population in the world. If these people can find jobs, India could see a huge 'demographic dividend' - speedy economic growth from millions of new workers entering the labour force. There is danger too; if these people can't find jobs, millions of potential workers could instead become disaffected, fueling social instability; this danger underlines the importance of the government's work to help youth build skills. Women are another potential engine of future economic growth. Currently less than 20% of India's women work outside the home. Giving its women employment parity with men would provide India with more extra workers than the EU has of either gender, which would, according to the International Monetary Fund, make India at least 27% richer. The path won't be easy - India's female labour force participation has been declining - but the government is working to change that by, for example, removing laws that inhibit women working.

The **five springboards** that have been identified could propel a meteoric rise for India, aligning the nation with some of the most powerful forces shaping the global economy from tech to sustainability. The road is fraught with challenges such as still-poor infrastructure in many rural areas. But through continued investment in these five areas, India could make itself one of the world's great economic powerhouses while offering the global community a model of how to achieve inclusive, sustainable prosperity. What a great service it would be to the world if the full might of India's nearly 1.4 billion people were applied to creating a cleaner, greener, tech-smart future for us all.

If India navigates these challenges, it can provide a model for the world of inclusive, sustainable economic growth. It is in all the world's interest that India succeeds. Of course, there are many questions that need to be answered and many would arise as we march ahead on the path of transformation.



CDM ANNUAL SEMINAR - 2024

Over the next two days in this Seminar, you all would be fortunate to listen to the views of several luminaries, who are eminent names in strategic circles and have contributed extensively to deliberations on issues of Economy, Society and National Security. This seminar is an important step towards identifying challenges which lie ahead of us as a Nation, and more so, to identify tentative paths which we as a Nation need to traverse to be able to fulfil the vision of Viksit Bharat@2047.

In the end, I must compliment the Seminar organisers for having crafted a coherent approach paper that has set the stage for insightful discussions during the Seminar. I wish the Seminar all the success.

Thank you and Jai Hind

SESSION - I



VIKSIT BHARAT @ 2047: ENVISIONING ECONOMY, SOCIETY AND SECURITY

**CDM ANNUAL SEMINAR
27-28 FEB 2024**



SESSION - I PANELISTS



Shri R Ravi Kumar, a distinguished industrialist based in Hyderabad, serves as the Executive Director of Zetatech Technologies Pvt. Ltd., a global leader in defense and aerospace equipment manufacturing. Beyond his corporate role, he also holds the position of Vice President at the Federation of Telangana Chambers of Commerce and Industry (FTCCI), contributing to business community growth. Apart from his business endeavors, he is a senior faculty member of the Art of Living Foundation, conducting stress management workshops globally. His commitment to social impact is evident through initiatives like 'Prison Smart,' where he has positively transformed the lives of prisoners. With a unique blend of industrial acumen and social responsibility, R Ravi Kumar is a notable figure in both business and societal spheres. He brings his wealth of experience and insights to the topic 'Towards Ethics Based Enterprises,' showcasing a holistic approach that extends beyond corporate success to encompass ethical values and societal well-being.



Dr Shamika Ravi is a distinguished figure in the field of economics and public policy, currently serving as a member of the Economic Advisory Council to the Prime Minister and Secretary to the Government of India. She has held the position of Director of Research at Brookings India and served as Vice President of Economic Policy at the Observer Research Foundation. She is a Non-Resident Senior Fellow of the Governance Studies Program at the Brookings Institution. Her research, spanning over two decades, delves into critical areas of development economics, finance, healthcare, urbanization, gender equality, welfare and poverty. Dr Ravi has been a guiding force in postgraduate education, having taught in renowned institutions such as the Indian School of Business and BITS School of Management. Her research has garnered global attention, featured and cited by leading media outlets worldwide, as well as national and regional publications in various languages across India.



Prof Ashok Jhunjunwala, is a distinguished expert in technology and innovation at the Indian Institute of Technology, Madras, has played a pivotal role in advancing collaboration between industry and academia. His visionary leadership resulted in the establishment of India's first research park, showcasing a commitment to a robust R&D ecosystem. Beyond academia, he has dedicated two decades to telecom R&D, focusing on technology's role in rural development in healthcare, education, agriculture, livelihood, and financial inclusion. As a sustainability advocate, Prof Jhunjunwala pioneers decentralized solar power, aiming for 50% of India's peak power from solar by 2030, and envisions 50% electric traction in vehicles by the same year. His numerous accolades, including Padmashree, Shanti Swaroop Bhatnagar Award, and Vikram Sarabhai Research Award, underscore his impactful contributions. He has also been globally recognized through fellowships in IEEE, INAE, and WWRF.



TOWARDS ETHICS-BASED ENTERPRISES

SHRI R RAVI KUMAR

Introduction

This is a very interesting topic which was given to me and this is based on Ethics Based Enterprises and is the need of the hour. Before I get into the ethics of what it is, I would like to share about, exactly what is Viksit Bharat. All of us know about it is, that it is about touching a 30 trillion-dollar economy and as we all are aware that it is right now about \$3.7 trillion dollar economy. To achieve that the enterprises are significant and the SME Sector plays a major role in that. So, the purpose of this is that apex policy think tank of India creates a blueprint for India's development needs in the next 25 years. This is what Viksit Bharat, Developed India exactly means, by achieving US 30 trillion-dollar economy.

Factors Addressing Viksit Bharat

Per capita income as on today is something about 2600 U.S. dollars and we need to touch something like that about 18,000 to 20,000 dollars and this is what we need to do. In this growth of the middle class is going to play a major role. India's middle class is projected to expand from about 22 million right now in 2023, and we're going to touch 100 million by 2050 and this is going to create a huge domestic market and demands of goods and services. This is something that we need to really look into it.

Another thing which is also, demographic dividend of India. Right now, the demographic dividend of India is something like all of us are aware that we keep talking. We are presently 1.4 billion people as the population of our country and all of that 40 percent is below the age of 25. These are the things we are going to be the citizens of the country by 2048-2049, when we are getting that 30 trillion economy. This is the time where, we need to focus and these people are the ones who are going to be the entrepreneurs, these are the people that will be going into private sector and these are the people going to play a major role in the development of the country. These are the key factors which contribute in Indian Economic Growth and the other one is like accelerated Digital Economy.

All of us are aware that in the last decade, thanks to our Prime Minister, the digital system in the country has changed and everybody, across the globe talks about this digital economy. E-Commerce is the one which is really going to take care, and Health-tech and Agri-tech also has gone into it. So, there's a lot of business which is created in digital economy. We also have sustainable focused economy. Anything which we need to really focus on in the in the entrepreneurship is the renewal energy and the green infrastructure aiming to reduce its carbon footprint and enhance its environmental form. These initiatives can also create new opportunities for growth and development, and this is what we need to look into it

There are challenges to achieve all these and the challenges are the Middle-Income Trap. The middle-income trap is something which I really need to talk about. Once as we keep going when we touch this 5000 to 6000 USD per capita income, there will be some dip in the growth of the economy. There we need to have resilience, where we need to look into it and ensure that we come out of this Middle-Income Trap and we will do it.

There's another factor which we, the government and the people, need to look into it is Aging Population.



Aging, population is not there, right now the population is around 1.4 billion, and the projected peak is something that over 1.64 billion, which we're going to achieve by 2048. So, this means that there are a lot of challenges such as rising healthcare costs, pension liabilities and things like that, which we need to look into it. Right now, another thing which I would like to highlight is make higher GDP growth rate. Today the growth rate is around 7% to 8%, but we need to maintain an average of 9.2% of growth rate if we are really looking at the achieving Viksit Bharat in 2047 goal. You need to maintain 9.2 average probably some years we need to cross 10 or 10.5 growth rate and then sometimes it is less depending on the global scene value. So, we need to focus on that and we also need to do something on that.

Another thing, that is the government and all of us have to look into it, is something astonishing. We call this as PLFS. This is called Periodic Labour Force Survey, which have been done in 2022-23. When the Indian labour force participation rate is something like about 40.4%, whereas the global average is 61.4%, so this is something alarming. The labour force participation is suddenly deteriorating in the country and especially there's a decline from the women in this sector. So, we need to work on this also, and ensure that the labour force also is boosted, and then we also look into it and ensure that in all sectors the labour is taken care of.

Something more has to be done if we really want to ensure that the mixed bag thing is achieved, you need to boost the middle class. The Indian middle class is a key driver of consumption and growth, but it is also burdened by high taxes and low savings. So, everybody talks about the GST and taxes and things and everything is. But I for once feel that by cutting tax rates or abolishing personal income tax and replacing it with a consumption tax is something I'm making a very tall thing. And this has to be reiterated, I repeat that by cutting tax rates or abolishing personal income tax and replacing it with a consumption tax, India could increase the disposable income and spending power of its middle classes while also simplify the tax system and reducing evasion. This is something where the government has to really look into it, which will play a key role in ensuring that ethics are based and the values of individuals are also taken care of when we look into implementing a consumption tax rather than increasing the personal income tax and things like that.

Another thing is increasing Labour Force Participation. India needs to invest more in improving the quality, accessibility of education and skill development for its labour force. Initiatives like New Education Policy and Skill India Mission, are the right steps towards this. I've been in the industry in the Defence Sector for the past 33 years. I am also associated with Federation of Telangana Chamber of Commerce and Industry, wherein there are 3000 industry bodies as members. I play major role in some 13 ITIs in Telangana as the chairperson for all the 13 ITIs. Why I'm saying this, is, Skill, that is something which we need to really look into. Even today, there are so many engineering colleges where the quality of education is not that great. And we in industry prefer more of diploma holders rather than engineering graduates because the standard of education has to really improve. If we really need to look into the entrepreneurs growing and the private sector coming in, we really need to focus on Skill, implementing skill development and initiatives like this.

India is really doing very well, but still, we need to accelerate the infrastructure. India needs to invest in its infrastructure, such as roads, ports, airports, power, water and sanitation, to improve connectivity, efficiency and quality of life. Those are few things we need to really look into. Private investment is really coming in. We do talk about private investment. We need to talk about Make in India. But, if SMEs have to grow, that's the backbone of the country's growth, it's not the larger industries. If smaller industries have to grow then we need to boost private investment. India needs to attract more foreign direct investments and encourage domestic companies to invest in the economy. The government can incentivize, private investments by offering support for infrastructure projects and manufacturing, and also implementing structural reforms, which we need. India needs to target competitiveness.



Also, we need to get increasing Capital Accumulation. Investment as a proportion of GDP need to increase to achieve the goals of becoming USD 30 trillion economy. This is something which we really need to work into and coming to the other side.

Role of Ethics & Values

I would like to now emphasize on the ethics and the values which are very important. Ethics, as we are all aware of, are a company based, society based but the values are individual. I would like to take an example of Japan after the Hiroshima Nagasaki attack. Japanese culture, they don't talk about nationalism and they say it is neo-nationalism. If somebody is asked to sacrifice something at their personal front or at first something which is going to help the country, they are ready to sacrifice that in the interest of the nation. That is called neo-nationalism and there's the need of the hour in our country. Being Army, Air Force and the armed forces you are out there, but as citizens, as normal citizens, the rest of the population also need to put nation first and then the personal interests. So, when it comes to neo-nationalism, this is something that we are not supposed to compromise on our values and ethics, in the interests of our nation. We need to work on our ethics and at the same time the values are also taking care of.

For this to ensure that all the SMEs have ethics we need to inculcate some spiritual knowledge, which is the need of hour. People should have some compassion, some caring and some belonging for the country, which can happen only when somebody lies inside and understand who they are. People normally talk about; I think that's the word is everybody using. But I would like to go a little deeper in some ethics and values have to be invited to the system or if somebody has to follow them every day, it's called Inner Transformation. In fact, I always tell people that there are seven layers of existence, called body, breath, mind, intellect, memory, ego and self. If somebody has to transcend all this and understand who they are, unless until I don't take care of my inner sense, unless and until I don't take care of my actions, unless and until I start understanding others and unless and until I don't control myself, I cannot implement these ethics or I cannot ensure that these values are taken forward in the sense if they are implemented. So, these are something which somebody has to really look into.

In the process of getting this, yes, we are going to come across lots of situations and challenges. I talk about YPS. Y is You; P is power and S is Situation. If I give the power to the situation and somebody becomes very small and I have what little energy is left in me, I utilized only talking about criticising about the finding faults. But if I keep the power with me, I become big and you become big, Y becomes big and then the situation becomes small. So, in the process, we have lots of issues and we come across lots of challenges and we also have lots of geopolitical issues with the neighbouring countries and we need to face all this and we need to work on our situations and we ensure this that we always are energetic for which we need to work on our spiritual quotient of our personality. So, this is how the SMEs, or SME Centre can grow in this world and at any given time we should not deviate from the ethics or from our value so that we don't need to compromise.

Lot of industries when they start investing money when they get money from venture capital or things after a couple of years, they start siphoning out money and then they try to remove the money they have invested and that's the wrong concept. And if that's the case, we cannot dream of 30 trillion-dollar economy. It's something all industries need to be, in fact, all the city and the MSME sectors should really look. It should not siphon out the money and they should re-invest the money. Most of the companies fail because they try to remove the money which is invested in span for 3 or 4 years. Once investors come in and that's how the downfall comes in.

Apart from this is 'Make in India' is happening. The quality of the product is something which we really need to adhere to. Till recently, the last 5-6 years or since, there was a lot of competition between the peer group, but which



is now, we should be converted into ethical competition rather than killing the peer group because there's a huge gain which we have in the process of development and growth which is going to happen in the next 20-25 years from now. So, there's a huge team and we need to support our peer group and ensure that all the companies grow in the form of clusters rather than feeling of growing rather than being selfish, intensity that our own company grows. In the sense people talk about ISO standards, ISO 9000 and ISO incident. I go a step beyond that, having ISO within my company is not sufficient. I need to have ISO standards outside me. Within the country, within the society, within the cluster, everywhere. So, I need to work, I need the standards of the nation rather than my own organization. ISO standards are there for the nation automatically my industry will definitely fall into the ISO standard. So, this is what I was feeling that we need to work on.

I need to re-iterate again the seven layers of existence. Mind is something which keeps posting like a pendulum to the past into the future. And mind not in my control. When the mind goes to the past, usually I think it's a sense of reason that you should have done it like this or I should have done better or this or that. And when the mind goes in future, there's a sense of anxiety. In other words, every flash of the second because the mind is oscillating like a pendulum, I think, like a sense of regret or a sense of anxiety. What we do is when I talked about spiritual development through breadth, we need to control our mind and ensure that I dictate terms to the mind and the mind to dictating terms to me. If mind starts speaking, it turns to me normally fall we get into shortcut methods. But if I start dictating terms to my mind, I don't react, but I take an action. And whenever I take an action, I always have a sense of happiness, sense of contentment. But whenever I reacted, there's a sense of guilt. So, this is also part of an efficient value so that we can have the strength in us to ensure that we control our mind and take actions in life.

Conclusion

Finally, it is not just my industry be ensuring that 140 Crore people in the country should be benefited and should have that feeling of Ethics and Values for the growth of the nation. It is in fact then I should. I should not think that it should be only my company. I should have a feeling that there should be at least another half a dozen companies, or there should be another 100 defence related companies which get into this. We should all strive and ensure that we don't deviate from the ethics or values of our nation, our culture and our industry, so that we exceed what we would like to exceed in this in this mixing bar, the aim and the goal we have.



ACHIEVING SUSTAINABLE DEVELOPMENT: MANAGING ENERGY SECURITY AND CLIMATE CHANGE

DR SHAMIKA RAVI

What a tremendous honour it is to be back here. I'm going to share a bunch of slides and talk to you through them. This I have done a couple of times before and it has always been a great way to connect with an audience and a group that I traditionally don't get to meet. Well, I have been asked today to speak about how are we going to achieve the sustainable development goals. While managing our energy needs and the pressures of climate change, I want to start off by first introducing you to India's group and how it compares with countries like China and South Korea over the last 50 years.

Now, please recall, 50 years is not a very long period of time to think that in just that amount of time when an average Indian and average South Korean and an average Chinese had identical quality of life, which means the per capita income was exactly the same within a period of 4 1/2 decades. Today we have massive divergences in the sense South Korea is around fourteen times richer than us. China is around five times richer than us, and here we are. When you compare with countries such as China and South Korea, it tells you about the possibility of growth and what growth and what specific growth-oriented policies can achieve.

But if you look at the Indian case in isolation, we've had a very good run as well. If you consider the fact that since around 2000, that is the point when there's been an inflection when India's per capita income went into the phase, what we call now as exponential growth. What is quite remarkable is that along with this growth trajectory, and as economists are often accused of being over obsessed with GDP and just some macro metrics, we basically also look at the Human Development index because today's talk is about sustainable development, we will focus as much on economic metrics as on development metrics and what you will notice here is that in terms of the human development indicators, there is almost like a parallel trend. There is no divergent. In fact, after the pandemic, the latest numbers that have been coming out because of China as relative slowdown and India's pretty robust post COVID recovery, this parallel trend continues. So, in terms of economic growth, in terms of the GDP per capita, we are roughly 22 years behind China. But in terms of the development indicators, this gap is really less than 10 years and that tells you that democratic institutions, the nature of electoral democracy that we have, a large federal setup that we have, our focus cannot not be on development. That is just the nature of democratic institutions that exist in countries such as India. So economically we are around 20 years behind, but developmentally the gap is much narrower.

If you now consider post pandemic, what has happened to countries and the reason we have to talk about this is because one core metric that many countries have been following very closely are the sustainable Development Goals starting one which is reduction of poverty and post COVID, we have had many countries that are slipping back or that are going to miss the sustainable development goal, target number 1, which is reduction in poverty. In this graph, because this is put together by a body called the world poverty clock, brought together by a group of initially scholars from Brookings, etcetera, and the World Bank, here you will notice that India is one of the very few countries and this is by the way, this is more than a year back. Since then, we have had an economic crisis in Pakistan. We have had one round of IMF bailout discussions for Bangladesh and so many other countries have also gone into the same situation and India remains one of the very few and in fact perhaps the only major economy which is well on its path to achieving the Sustainable development Goals. Quite remarkably, if you look at this map, it tells you that far richer countries, more affluent societies such as Brazil, South Africa are all going to miss their targets of sustainable development goal number 1, So, it is not just amount of wealth that matters or the number of resources at disposal



of an economy. It is about the development policies and it's about active policymaking, pre-emptive policymaking, which can keep a country on its path to long term sustainable development and we are very proud to report that we continue to be the not just the fastest growing major economy, but also one which is well on its path to achieving the sustainable development goals.

Now, switching beyond poverty, you know one other sustainable development goal, which we watch very closely is the maternal mortality rate. There are several such indicators of health which pertain to maternal and child health, which are a policy priority as far as the SDG's are concerned. If you look at the reduction in maternal mortality rate, the orange box and the trend is for the world economy as a whole and you see that the world as a whole is making gains. MMR is declining, but just look at the Indian numbers. India numbers are the blue bars and just look at the speed with which maternal mortality rate is declining across India. It's happening very, very sharply.

It's also important to understand that we are a very large and a federal country, which means if you look at states in isolation, then around 10 states of the country have already achieved sustainable development goals pertaining to MMR and infant mortality rate, which is IMR. In fact, our problem of high MMR and high IMR is a problem which is focused to 7- 8 states of the country. So, India as a whole, in fact, when we speak about the country as a whole, it tends to hide these differences that you see across states that we have many states which have actually already achieved these targets and our problems of IMR and MMR are no longer Indian national problems.

Very lately we have been promoting the concept of self-reliance which we call Atmanirbhar Bharat and it is left really to us to define like, what are the sectors which we find strategic and what are the sectors in which we want to attain self-reliance or we do not want to be over dependent on any external power. Food is one of them. In fact, I recently wrote an essay in which I highlighted three core sectors, food, energy, and defence. What I consider as long-term strategic sectors for any economy, or at least for us, we have to attain strategic self-reliance, so we cannot be overly dependent on any specific external path.

Now, what has happened to food security? Every country considers food security a big concern, but today, not just because of what is happening in Ukraine, but also because of the Houthi attacks, many countries are at the verge of again see serious shortages of food grains.

If you sit through negotiations or international multilateral negotiations, in particular, food is actually at the centre of an order of discussions, because countries do not want to be vulnerable as far as food security is concerned. The graph on the left is a food production index and shows that we are producing significantly more than what we are consuming right now. Of course, food grains are a large part of this. We continue to import edible oils. We continue to import different kinds of pulses and different kinds of protein, but as far as overall food production, if you consider cereals at the heart of it and overall food production, we are self-sufficient right now. Therefore, agriculture policy today is more about distribution and about diversification away from cereals. It is no longer about increasing production of core cereals like rice and wheat, which has been the discussion for the last 50 years. In fact, the Green Revolution was largely based on the back of expanding production and yield of the basic food grains like rice and wheat. So today it is about diversification. It is about moving on beyond cereals, and if you've been following the latest consumption data that came out of the Ministry of Statistics just a couple of days back and the discussion and poverty are right now raging because of that new data that has become available, it is on the whole showing very heartening trends. The rural-urban gap has fallen. People are now spending less on food for the first time in our history. Modern history people are spending less than 50% on average of their overall, basket of consumption on food. So that is these are marks of progress, the consumption of cereals has come down significantly and it is getting replaced by proteins in the form of vegetables. It's happening in the form of meat, poultry, fish, etcetera.



What we call food security from a very wholesome, not just grains perspective, if you consider food import, then around 50 years back 1/3 of our imports used to be full. Today that number is down to less than 4%. In fact, that number will continue to decline as we diversify and produce more at home, but it will never be 0 because in our society we talk about averages, but we also have segments which are affluent and which have different consumption behaviour. So, we will continue to import very small amounts of certain things, but we're not import dependent. That is the moot point.

Moving beyond food, the second sector of strategic independence is energy. In fact, if you look at energy consumption in terms of just the amount per capita, how much we are consuming, it is shooting up and the graph has in fact risen faster still and that is because we are a young country. We are a country that has just come out of poverty. We are a country that needs growth. It is very fast-growing and energy is what fuels all that. So, this consumption of energy is only likely to escalate further, but if you consider the right side graph, what percentage of our energy consumption is imported and if you compare India with other major economies like US and China, and by the way, the reason we need to compare ourselves with major economies like China, US and not relatively smaller and more homogeneous economies like Bangladesh or Vietnam is because India's a very large and complex economy and that's what China and US are. We have many sectors. We have an entire spectrum. Even if you look at technologies, etcetera, so these are the right comparisons, not smaller economies which have one or two sectors, which are sectors of growth and that gives you a real picture now in terms of energy self-reliance, look at China, they have actually managed to taper their energy imports around 15% despite very high growth for the last 40-45 years. Now the other point to consider and why energy self-sufficiency also requires us to move towards more renewable, and that is the reason you're seeing a major push by the government to move towards climate is, of course, climate change is an overarching motivation.

The International Solar Alliance, spearheaded by the Indian leadership, they're very important, but this is at the heart of a lot of those strategic decisions that we have to move away from these sources of traditional sources of energy and actually begin to invest more and shift the energy basket towards more renewable and that is why you have a major push for all forms of renewable sources. Now important to note that we are trying to do in the energy sector through the renewable. You know, policy mission, what we did in terms of agriculture, in terms of the green revolution that beyond getting the technology from outside, we really need mass widespread adoption and currently in the country, the renewable movement is really limited to around 5-6 states of the country. It has to become and that's the effort we're trying to make it an All India. Now this is to give you a sense of how the economy, the real economy in India, has already transformed significantly in the last 10 years. Today, more than 95% of households in every district have Aadhar, mobile, and a bank account. So, the Jan Dhan, Aadhar, and Mobile and Jan Dhan is not just the Jan Dhan, it's basically bank accounts accessing this core infrastructure. Having access to these three core aspects of this digital infrastructure is like having access to hard infrastructure. When you think of roads and electricity. So, on this is important because the story that the government tells you how Jan Dhan has made welfare real-time and possible and how it has brought down leakages.

But that is the government side of the story, which looks at Jan Dhan from a welfare perspective. The other side of the coin is what is Jan Dhan doing to the private sector. It has really unleashed a major startup revolution, and it is largely on the back of the fact that now every Indian is connected digitally through mobile having a bank account which makes payments real-time and possible and having Aadhar which makes many kinds of transactions, authentication etcetera possible. So, there is a great degree of innovation that is happening in the private sector with a revenue model, which means these are business models, people are willing to pay for it. If you just think of e-commerce and the way the newer forms of newer sectors have emerged in the last 10 years is largely because you



have this core architecture of Jan, Aadhar, and Mobile, which exists on the ground. Now, it's important to be informed about what does inequality in the country look like because there is heightened debate around some of these things.

This graph is showing the wealth distribution across the country. Every green dot here indicates 1000 wealthy households. This is a consumption class. Every yellow dot indicates 1000 middle-class households and every red dot indicates 1000 poor households. So, these are my consumption, not income, just the amount of assets and consumption classes that we have. If you look at it, the green, in fact, if you look at it carefully, then the common myth that India has a North-South divide and that actually doesn't hold. But there is a divide. If you consider the fact that you can actually draw a line from Srinagar to Kanyakumari, the western part of the country is industrialized, is definitely wealthier. Poverty is largely concentrated on the eastern part, and that is why a lot of our large central schemes MGNREGA for instance, MGNREGA in Bihar looks very different from MGNREGA in Gujarat and over time you are going to see these kinds of fine-tuning and that's the whole idea behind aspirational district. In fact, now we are moving to what we call precision policymaking, which is aspirational blocks because a lot of these things, they cannot be uniform and standardized. They have to be highly localized because the country has various local problems. Like I mentioned, IMR, it's a 7 to 8 state problem.

Similarly, if you look at poverty, nature of poverty, you need to focus it. What about the urban-rural gap? Now this is consumption class. If you look at the statistics which came out two days back in terms of the monthly per capita consumption expenditure, the rural-urban divide has actually narrowed very sharply in the last 10 years. This is as per asset ownership. What kind of assets actually households hold and you will see the left side panel, which is urban is significantly green. Rural is significantly red. Now the reason this is important to understand is if I ask you a question, how urban is India? The reflexive answer which I get is India is around 30-35% of that and that is the census of 2011. In fact, this young, dynamic economy is moving so fast that the level of urbanization is defying all predictions and all past trends. So, we are urbanizing very rapidly like, so the country is by newer metric by satellite imagery and by looking at the density of the population residing in neighbourhoods, etcetera, India is anywhere between 65 and 67% of it today and which means governance has to reform and why do I say this? Because we've had places like Gurgaon, which is a millennial city, which did not have an urban local body till the year 2008, which was so Gurgaon, the millennial city was essentially being governed through panchayats. So, cities have very different governance requirements. They have a different financing model, they're different kinds of amenities that have to be made available.

If you think of solid waste management, think of water, cities need a different set of governance institutions, so the idea, and you're likely to see this in the next five years, there will be much more focus on urban planning and urbanizations of the renewal of urban planning now for India because the real economy of India is moving much faster, much, much faster than our data systems and our administration is able to capture and we need to really move and provide real-time support.

Now, it's a large country being a federal system. We have 28 very vibrant states. We have states like Goa and Delhi which are almost 12 times richer than, let's say, Bihar. So, the gap within the country between some of our states is what it is between India and South Korea today and this is the conversation that we have on divergences and why we are actively bringing about reforms and policies so that this divergence is really curtailed. We have breakouts, states which are bucking the All-India trends. We have states like Haryana, we have states like Tamil Nadu, Gujarat, Sikkim, Uttarakhand. They're moving much, much faster than the All-India growth, and these are basically pulling the averages upwards. There are many that are actually missing out on the nature of this growth, and the story which you will see here is the case of Punjab. Punjab used to be the richest state in the Union 18 years back. Today, all its neighbours are much, much richer than Punjab. So, Haryana today is 1 1/2 times richer than Punjab, while it was



actually poor in terms of per capita 18 years back. So, what happening is that we are talking about also policymaking at the local level which supports this kind of growth and cost subsidization. Where you tax or you charge too much to industry in the form of, let's say, energy tariff etcetera to cross-subsidize farming or agriculture.

There are limits to that as well because industry tends to move away, and Punjab has actually seen active deindustrialization in the last 20 years, where it has lost almost all its industry to Himachal, Haryana, Rajasthan. Some have gone as far South as Tamil Nadu. Now appreciate what this means for long-term job creation and growth of the state itself. I want to also sensitize you to this big debate. We are having in terms of beyond looking at the overall fiscal deficit level. Each state also has its own fiscal architecture, and it has its own fiscal health. It's very important to understand that the spending by a state is classified into two. There is development spending which goes into long-term growth health, education, road infrastructure, connectivity. They're all development, and then there is non-development spending. The non-development spending mostly goes into interest payment, pay & pensions and administration. These are the three main non-development spending. If you look at, why the pension reforms that happened 20 years back was so fundamental to the growth of states? These are graphs where the red line is showing All India average, and by the way, the red line is the same everywhere. It is the relative height of the blue bars which are specific to the state, which varies.

What do you notice in the 1st ten years of liberalization? In the 1st ten years, every state saw a massive escalation in its pension, so the more your commitment to pension, pensions is basically eating into the budget, you have less for development spending. So, if you just look at in the beginning, what is pension as a percentage of development expenditure state after state in the 1st 10 years, witness massive pension commitment, which means very little money left for development. That is why the pension reform and the new pension scheme was brought in and after 2003, you are seeing that the red line has stabilized and state after state stabilized in terms of the pension as a percentage of the development spending.

That's why these kinds of fiscal reforms are very, very important for long term growth and development of the country as a whole and specific states included. But if you look at this graph, look at and these, by the way, the states are rank ordered by the rate of growth average over the last 20 years. So, Gujarat has been the fastest growing state, Jharkhand amongst the major states have been the slowest and this is how they rank order. But today you look at the pension burden of Tamil Nadu, you look at Kerala, you look at the pension burden of Punjab. These are unsustainable. This is these states are hugely burdened and the electoral politics about reversal of pension reforms is extremely dangerous for the long term.

You know, sustainable growth of States and the country as a whole, the second non- development spending that states have to shell out money for is interest paid because they're borrowing, they have to pay back interest. Now what you see again in this case state after state, if you look at what happened before FRBM, the Fiscal Responsibility Act that was brought in, which was 2003, before that, see how every state, the interest burden just escalates. It is only after FRBM that this law, this reform, was brought in that you see the red line fall and state after stay begin to manage their debt responsibly. Look at Kerala. Kerala's interest burden today is extremely high. Higher the interest burden and this is as a percentage of development spending. It is telling you; you just have less money for development. You're not going to be able to maintain your infrastructure. You're not going to be able to put money into health, education, connectivity and the kind of things that are required for long term growth.

So certain amount of responsibility has to be roped in through institutional reforms. If you look at West Bengal at the bottom, it has a tremendous interest burden. Look at Punjab. It's unsustainable. So now these are the kind of issues that it's important for us to understand that if states are going to bankrupt themselves today without a view of



long term, what does it mean for long term sustainability of its own finances? It becomes very difficult. Centre has a role, but states have an equally important and the further devolution has meant that state roles are very significant and states need to be bound by, you know, these set of rules.

Now, looking at what is the growth model that we have witnessed in the last 10 years. Please note that besides ease of doing business and improving many things that are happening at the taxation, the fundamental growth strategy that we have under this regime is the policy of saturation, which means think of 1940s in the US after the World War, basically a major fiscal expansion of making basic amenities available to all citizens everywhere in the country. Because this is important for long term sustained growth in human productivity, access to electricity, access to pipe drinking water, bank account, having phone access, toilets, housing and you are seeing that list sort of grow and you are seeing the number of beneficiaries expand. But just to give you a snapshot, what is happening? This is not government data. This is survey data from households themselves and what do you see that the bottom 20%, which means the poorest segment in the society within 6 to 7 years of this policy, the poorest you had 53% are about half your poorest population, 20% of the poorest have electricity. That number, this is 2019 to 21, went up to 86%. In fact, the latest numbers tell you it is in excess of around 95%. Now, Look at the massive expansion. These are households and families are getting electricity for the first time. This has direct impact on hours that you can study number of hours that you can charge, number of hours you can run appliances. Factories run longer, however small, the production unit, etcetera. So, these are core infrastructure that is getting made available. Now, this is just to break the narrative that this is a majoritarian government. It favours one community, etcetera. There is politics and there is shrillness and we are going to stay away from that. But when will we look at the data in terms of administration? There is no discrimination if you consider the fact that Muslim households, Hindu households, General, OBC, SC/ST across social, economic categories, you are saying major gates in terms of basic amenities like electricity. If you look at access to mobile phones, I mean you have heard this, 1.2 billion mobile subscribers. In fact, Internet access improved from 12%, ten years back to it has more than doubled. It's more than tripled. In fact, the poorest 20% in the population have seen the biggest gains. Today, 80% of the poorest 20, you know, poorest quintile, have access to mobile phones and the country, and that is transforming their lives, but also the way the state does welfare and business opportunities. We are therefore moving into this whole realm, moving away from, you know, All India central schemes, standard uniform models into what we call precision policy making, where development policies are now getting tweaked and contextualized through the local conditions.

As I mentioned, 8 states have already achieved the sustainable Development goals for MMR and the problem today is focused on 7 states. They contribute 71% of their infant mortality rate. Ten States have already attained the infant mortality rate targets, so today we are moving towards not just aspirational district, but also aspirational blocks. I want to end with a very small story, but this is a very important story of our times. It's called narrative economics. In fact, I also request and I encourage you to buy this book by Nobel laureate Robert Shiller. You know, narrative economics used to be concentrated in the area of corporate finance firms used to plant stories about their rivals. They would plant stories about themselves to affect the stock price. But today, narrative economics is our live reality in terms of international relations, in terms of trade negotiations, in terms of foreign policy and international geoeconomics. In fact, this is a natural experiment that I'm showing you today. This is the data. This is hundreds of millions of data points and it is open source available on Google. This is telling you, the tone of media global media, which means all media of the world which is on Google for more than 100 languages. What is the tone? How do they cover different countries with positive tone or negative tone, so natural language processing allows you to do this kind of analysis. The word begins in spring of 2020 at the beginning of the COVID pandemic, and you're seeing that every major country that we study, they're all getting negative news coverage globally and that is the job of media to present problems. So, these are negative stories. What do you see within eight months of the COVID pandemic unfolding? Is that while democracies of the world continue to get negative news coverage globally, you are seeing



what is happening to the global coverage of China by papers, media houses all over the world. It has not only pulled apart from all these other major countries, but it has actually now become positive. Now that big purple dip that you see, that was the real like, that was the election of Donald Trump. That's so US was getting a lot of negative media coverage etcetera. Now some will say yes, but China has censorship. But this is not just Chinese news. This has news from New Zealand, from Ecuador, from Argentina. It's all global news in more than 100 languages, and this is to recognize that there is a narrative economics unfolding. There is a campaign from Beijing that is unfolding and media is a very important instrument of that campaign. So, you are going to see as India grows and as India develops and takes a centre stage as far as multilaterals etcetera concerned you are going to see concerted attacks not just for data thefts and ransomware etcetera, but you are going to see news items planted and it'll be very difficult to tell what is genuine news and what is not.

But the systematic trend in which these things are moving, we are watching and we are able to do a lot of analysis using this kind of data to also tell what is the origin because we know which media houses which languages which areas these kind of news items are emanating from and you are going to see lots of attacks including on our institutions, Including financial institutions, major hospitals, et cetera. So, this is just to introduce you to the new realm of not just Economic Research, but this is strategic research, and this is increasingly as much of interest to trade negotiations. So, every time human rights are on the table, when you're trying to negotiate a trade deal, you know that it is. It is not isolated or random items that are getting there is systematic planning and a campaign behind a lot of this. Thank you all.

Thank you very much.



TRANSFORMING FUNDAMENTAL RESEARCH

PROF ASHOK JHUNJHUNWALA

The approaches toward fundamental research in India have evolved over the years. Examining the journey of IITs and their evolution, particularly concerning technology and R&D, can shed light on the successes, challenges, and potential hurdles ahead.

India's Challenges

At the time of independence, India had little to no technological base and needed rapid development and new technologies. Identifying the gap, in the 1950s, a discussion in the Parliament led to a resolution to form five IITs as 'cornerstones' in building the industrial, scientific, and technological edifice of the nation. They were established as fully autonomous institutions, supported by some of the leading international universities and completely funded by the Government of India at a level much higher than that for other institutes; the only demand was that quality was to be the hallmark, and they would contribute to making the nation technologically strong.

Evolution of IITs

As intended, by the 1970s, IITs had its undergraduate programs, on par with leading global institutes. For instance, their graduates would soon lead academia as well as many industry in the United States. By the 1980s, IITs were graduating exceptional quality master's graduates, who soon assumed leadership (CXOs) of industries all over India. They also set the base of IT industry growth in the country. By the 1990s, its PhDs became lead faculties in a large number of private engineering colleges in the country, producing 1 million engineers a year. These young graduates in turn helped India grow its industry post-liberalisation.

IITs were achieving significantly on the academic front, but they were far from their original mission of 'building the industrial, scientific and technological edifice of the nation'. The Indian industry was still importing most of the technologies, except in a few sectors such as atomic energy and space. At best, we were adopting imported technologies for Indian markets, and using some local raw materials and sub-systems.

By the turn of the millennium, recognising the need to revisit their original mission, IITs started efforts towards technology development and commercialisation. Two different approaches were considered. One was the industry-academia collaboration to take technology to commercialisation and the other was creating start-ups, as the industry was often not willing to take sufficient risk associated with innovative breakthrough technologies. Entrepreneurs, however, were ready to work 16 hours a day and drive innovation by taking entirely new and risky ideas to products.

Late in the first decade of the millennium, understanding that innovation thrives when faculty, industry persons and youngsters interact in formal and informal environments, as faculty brings in the width of knowledge, and the industry persons bring in the experience to convert prototypes into products, and youngsters do not know that "it cannot be done and are ready to work hard towards a goal, IITM decided to set up the IITM Research Park (IITMRP). At the same time, recognising that industry is often risk-averse, while the start-ups work hard 16 hours a day to make the impossible possible, IITM created the IITM Incubation Cell (IITMIC), and Rural Technology and Business Incubator (RTBI). The lessons from these initiatives are instrumental in transforming India's research ecosystem going forward.



IITMRP was set up as a start-up; it got some seed money from the government and the alumni. But beyond that we borrowed Rs 400 Crore from bank and over time fully paid with interest. Today, we are debt-free and generate Rs 60+ Crore cash annually. IITMIC and RTBI are also financially independent and sustainable. We have incubated 350+ companies with the current valuation of Rs 45,000 Crore. IITMIC owns 0.5% - 1% of stake in these companies and we keep cashing that, and that sustains us. There are about 25 companies where we have invested less than Rs 10,000 and they have given us a return of close to Rs 10 Crore. Our incubation is all deep-tech, with no e-commerce kind of companies. About 56% of our start-up founders come from outside IITM, 25% are our alumni, and 13% are IITM faculty. We have companies such as Uniphore, with about \$2.5 billion valuation. Another company, Ather is the largest electric scooter and two-wheeler company in the country. Agnikul, which is lately in the news is about to launch its rocket soon.

We are governed by an independent board, consisting of some prominent industrialists, along with a few faculty and government representatives and no one has a veto. These initiatives have taught us significant lessons on the importance of financial independence and complete autonomy from the Government and even the institute.

IITMIC has emerged as India's leading deep-tech start-up hub empowering innovation and entrepreneurship to provide large-scale solutions to national challenges. In every engineering discipline, our start-ups have won almost all national Entrepreneurship Awards.

IITMIC – Deep Process

What makes IITMIC a successful incubator? There is a deep process, that is followed. In a university environment, the first task is to create excitement amongst youngsters about start-ups through experiential talks by successful young enterprises, innovation challenges, hackathons, competitions, and exhibitions. This encourages youngsters to approach the incubator to set up a start-up.

However, it must be pointed out that while the process does create excitement about start-ups, it plays a minor role in creating successful start-ups. Very few successful start-ups emerge from competition and prizes.

Students in a university attend classes, a few labs and write their exams. They rarely learn to build anything. Entrepreneurship requires one to learn to build. So, the most important step in a university is to create opportunity and excitement to BUILD; Build anything. Foster a Culture of making/building things. Set up BUILD Clubs, Innovation Labs, and Entrepreneurship Cells and some domain-specific centers, run entirely by students without faculty supervision, but ensuring safety and security. These should be mixed gender clubs and open at all hours and on weekends. It is here that students get the confidence to build. This would be a good beginning, but still not enough to build successful start-ups.

The most important next step is reality checks. Here excitement is brought down, and hard questions are asked almost discouraging the youngster from becoming an incubator. Many a time, students approach the incubator with expectations of huge success. We help them understand that entrepreneurship is a very difficult career option where success can be big, but very few succeed. It demands 16 hours of disciplined work a day with very little immediate return (ZERO money). Through one-to-one interaction with the entrepreneur, we assess the strength of the founder(s) to stand up in the face of failures. Product idea plays a smaller role. As an incubator, our key task is to prepare the youngsters for the long haul. This is crucial as success demands hard work for a long time.



Space, services, and seed funds are important, but unless an incubate prepares oneself for the hard grind, easy funds may hurt more than it helps. One needs to prepare the incubate for a tougher career option. Financial support is to be provided in small bits, and only if the entrepreneur is getting somewhere with her / his effort.

An entrepreneur needs to be a master of multiple trades. The product idea plays a smaller role in comparison. The bigger challenge is to build products from concept, manage people and finance, assess market, manufacture Products that customers like, sell and service the product and make margins with each sale, and raise money. To drive a venture to success, they would need extensive training in these areas, especially in understanding finance; this is lacking across all Indian universities.

Start-ups succeed only if an entrepreneur is prepared for the long haul and can take risks. They should be free of family obligations for a few years. They need to be ready to work hard, do the right things and take each failure as a lesson to move ahead.

The incubator needs to provide training towards driving a venture to success. This should include trainings on concept to product development, understanding the market, especially, is the product needed, who will buy and at what price? What does it take to go from a prototype to a manufactured product that will work 24 x 7? What is the cost of manufacturing? Product quality is even more important and what does it take to service a product and what would be the cost of the service?

The incubator will also facilitate getting mentors for each start-up. Mentors should be from Industry, preferably leaders of successful enterprises; Some alumni with long years of industry experience could be used. One would prefer one-to-one mentorship (one mentor assigned to a company). Further, the mentor must be acceptable to entrepreneurs: Mentor must never impose his / her views on entrepreneurs; they may choose to listen to the advice or do what they feel best.

Start-up Networking: Start-up founders can get very alone at times and start-up networking by the incubator encourages peer groups to learn, share and cry with.

Finally, the slogan that we use at the IITM Incubation Cell is 'easy money hurts'. We ensure that no one gets easy money. This is in contrast to many other incubators across the country. They provide easy money, which is a recipe for failure. At IITMIC, even a small amount like Rs 2,00,000 is granted over phases, after observing the progress made by an incubate and his / her hard work, and commitment.

Industry-Academia Collaboration

In terms of Indian industry and academic cooperation, there have been all kinds of companies, both Indian and international, working with us and taking R&D to commercialisation. Whether it is Ingevity, a US-based asphalt chemicals company, or Forbes, a global provider of energy and innovative pollution solutions, or Saint-Gobain, an international manufacturer of glass and related products, R&D is significantly done from the IIT.

Leaders of these established companies and alumni with long-standing industry experience are among those who act as mentors at IITM Research Park. They work alongside IITM faculty and also extend one-to-one mentorship. Recognizing the need for strong mentorship for incubates, these experts establish a rapport with start-ups, that is



constructive rather than imposing, and ultimately help them choose the best way forward. The facilitation of industry-academia collaboration is again unique to university-based Research Park.

Entrepreneurs' Success Stories vs. Government-Funded Research

Over the last 15 years, entrepreneurs in India have been highly successful and have often introduced ground-breaking technologies, generating significant value for the country. In contrast, the Government-funded R&D Labs (at IITs, IISc and ISERs, CSIR, DST, DBT, MEITY Labs) are largely confined to publications and patents, with relatively very few scaled commercialisations over the past 50-60 years. The case is similar with established industries, that have rarely converted their R&D to scaled commercialisation.

What makes of these entrepreneurs more successful? The entrepreneurs either win or DIE. They are young scientists and engineers, who work 16 hours a day to make the IMPOSSIBLE POSSIBLE. They are risk-takers and are willing to go to great extremes by acting fervently. Almost all their individual stories are fail, fall, get up, try again, fall again, get up again, try again, till they succeed. They are not constrained by government funding, though they may have got some small seed grants from them. They are funded by Venture Capitalists, who are themselves risk-takers. VCs do not fund easily, as they know easy funding hurts. If the venture fails again and again and again, it shuts down. The venture may or may not succeed but it is not the end of life. It will simply get more difficult the next time the entrepreneur attempts to get money from a VC. Entrepreneurs have the full freedom to take all decisions such as decide how to spend money, what to buy, when to buy, and when to change tracks. They adapt quickly by recognising emerging opportunities. VC governance is a light touch that guides but does not control the entrepreneur. Both success and failure become that of the entrepreneurs. This approach has made almost 80% of the companies incubated by IIT Madras Incubation Cell successful.

In contrast, under government-funded research, every aspect of the budget must be defined fully in the proposal, as if it is cast in stone. The proposal itself has to be risk-averse and the review process will demand strict compliance. One must follow whatever was written, even two or three years earlier. A complete budget definition outlining purchases and their sources, even two years in the future, is essential. Even the capital and recurring budgets cannot be interchanged. Budget heads are cast in stone. In the words of PM in 2015, Auditors

पाई-पाई का हिसा बमांगते हैं, जैसे R&D is like constructing roads (The Prime Minister once said in a meeting that 'if you ask for the accounting of every penny from the scientist, how will they ever do research?' He suggested an alternate process, but unfortunately no change took place.)

This does not get the researcher anywhere. Money very often does not come on time and there are all kinds of checks imposed for purchases and imports. Scientists are kept waiting for a long time to get something. There is very tight oversight by the government as well as the host institutes as they do not allow deviation from the original proposal prepared a few years earlier. For every failure, the scientist is ostracised.

As a result, a scientist cannot take risks and attempts to promise and do something minimal, and somehow show that he/she has met the requirements of the proposal, rather than go all the way to develop fundamentally new technology and take risks. Such an approach can at best result into a paper publication, but not significant technology that can be translated. Also, there is no necessity for scientists to commercialise: prototype is what they deliver.

Conclusion



To sum up, India's young tech talent is huge and raring to go. To unleash their potential in research, an atmosphere free from fear is essential. This has been increasingly eroded in the last few years. This needs to change. Given the right atmosphere, youngsters and researchers can scale new heights. Learning from the success of initiatives at the IITM Research Park and the Incubation Cell, institution and government funding have to change. Realizing that suboptimal funding is not going to lead to any significant progress, we need to cultivate ease of doing R&D and innovation in India. If we truly want to become a complete Atmanirbhar -- we have been talking about slogans quite a bit -- we should develop our own technology rather than carry out technology import. Today, we do the opposite.



SUMMARY OF DISCUSSIONS

SESSION-I

Q1. There are ethical dilemmas of meeting objectives of values and success in terms of profit and progression. How do ethics-based enterprises evaluate their societal impact beyond financial metrics and balance?

Ans. This is burning topic. There are few points, which one need to look into it. Here are some ways of evaluating their social impact beyond financial metrics. One is the stakeholders' engagement. We need to really have a continuous dialogue or engaging with stakeholders as such as employers, customers, suppliers, local communities and advocacy groups to understand their perspectives on the enterprise impact. This is one of the major things. Apart from that, we also should look at the impact assessment like conducting formal assessments to measure the positive and negative social and environmental and economic impact on the enterprises' operations. The third one, which I would like to harp upon is Triple Bottom-Line Reporting on social environment and financial performance. It's called as TBL approach and as usual we all talk about it. Key performance indicators we need to really keep looking into it and reflect. Periodically on this and the certification of standards, this is something which very rarely people were doing a decade ago. Only if I need to import or export, then I look at ISO and things like that. But this certification and of standards even for startup from day one, this is required and we need to give a lot of weightages to this because we are going to be in the global market and we need to obtain certifications or adhering to standards that validate the, enterprises commitment to social responsibility. This is very important and when it comes to the other point, there are three more points which I would like to highlight on this is partnership and collaborations, collaborations with other organizations and governments and nonprofit to amplify social impact efforts should be looked into it. While doing partnership, we also should ensure that they are also having all the certification standards in place and long term impact assessment has to be done. So normally we don't need to look at short term. When I gave this lecture, I said when people go for venture capital and things, they look at short term benefits and try to siphon out money. No, we need to look into long term impact assessments have to be done by the enterprise. And finally, last but not the least, it's called transparency and accountability. Maintaining transparency and reporting practices and being accountable to stakeholders from for the enterprises social impact. So, if we look into all these parameters, then definitely there will be a nice balance which will be created.

Q2. As per reports published in Times of India, major companies in the United States with largest M caps, are IT companies such as Alphabet, NVIDIA, Microsoft and Apple? However, India is presently lagging behind, except for Infosys and TCS. The question is, how can we optimally utilize our population dividend and technical expertise to ensure that we become self-sustained in IT and AI enabled growth?

Ans. What should worry all of us is that 15 years back we used to see Chinese delegations come to India to study the miracle that was unfolding in Bangalore. 15 years later, I think China is easily 10 years ahead as far as the AI, our work is concerned now. I think I was listening to Professor Jhunjhunwala very carefully. You know, government is a part of that solution when you think of what kind of investments have to come in from the public sector, because these are mostly in the fundamental research area. In fact, almost all these companies that you listed in the US, which are the biggest and the highest market cap, the origin of many of them is DARPA. Many of them the technologies that have emerged have been because of the initial fundamental research support done within and supported by the government. So, I think there is a role for the government. However, there is also an active role for the industry itself to make the kind of R&D. A commitment which I think remains a long-term concern for us. I think we have begun to



see some green shoots, but we are nowhere close to where we would like to be. For instance, IT investing in the next generation of it, which is a ICSF cetera, right? So, I think there is this effort right now to basically get both sides of this market the state as well as industry to work in terms of invest newer technology. But I'll tell you there are certain obvious advantages that we have. Part of our strategy when we think of long-term growth with IT in mind. You know we are uniquely one of the very few countries where you have more than 30 languages which have more than 5,000,000 speakers each, right. So, we have enormous size in terms of data. We have enormous variations within the data. So if you look at many AI applications, when you think of the large language models, I think India becomes a very natural ground for the emergence of a lot of new algorithms and a lot of new ideas, right? Population is our biggest strength here because in several conversations that we have had with the big firms in the US during the Prime Minister's visit has been basically trying to get them to come here and work with a lot of our local institutions of learning and try and develop these large language models in different languages. Now imagine the application, right? Imagine deploying AI solutions when we don't have nurses or doctors at the last mile, right? So today in fact, just to give you one specific example we have on the outskirts of Lucknow Primary Health Centre, where patients are going and they're connected to doctors in as far as, let's say Andhra Pradesh. This kind of a telemedicine is being undertaken in Tripura. There are patients in Tripura that are linked with the doctors and trainers sitting in All India Institute of Medical Sciences in Delhi. So, there are lots of newer things that are happening. We have you know, a promise because of demography and the nature of, you know, the languages and variations etc. But I do think the government is making that effort in terms of the nation. You know, the Research Foundation in terms of greater financial commitment. But I think we need to also see industry make that kind of commitment and also use the government funds. I mean, sometimes you'll be surprised how much funding is just sitting unused because we're not seeing enough good proposals coming. So, I think there is a very large role for industry and academia that Professor Jhunjhunwala was talking about. That is where the new innovations, and I think the miracle will happen when the three work together.

Q3. As it was brought out that the government funded R&D ecosystem has not succeeded in India due to various funding and incentive prohibitory processes. So, what are your recommendations for the government to achieve a breakthrough in R&D field as is practiced in countries like the United States?

Ans. First of all, I don't want to say that the government has not funded out and it has not succeeded. I will only say that it is not succeeded as much. We still have to import most of the things. That's where there has been significant amount of scope, but so it is not as much. On the other hand, I was contrasting that entrepreneurs are succeeding big. Entrepreneurs are not government funded. In a Research Park for example we have industry funding and wherever there is industry funding and freedom is given like the way entrepreneurs are given, we start to see success in. The example that I gave, for IT was there, it is not there for the rest of the industry. Industry funding is small, particularly large companies about fairly large companies do not fight. They prefer going outside the country and bring the technology. I don't need these companies. But the largest, companies tooled for they prefer going outside. They prefer funding R&D lab outside, even though they deliver much less. Only in recent time we have seen after we set up research part that they are turning inwards and they are seeing that from here the success is taking place. So, I agree the industry funding has to increase and industry funding has, but unfortunately the industry funding does not control as much government funding. The biggest issue that I have is the control. I'm sure Doctor Shamika will know about that, or probably she hasn't taken funds. It is if the way funding is done now, it takes a long time to even get funded, but even after you get funded, complete control and money doesn't come. The key thing government has to what Prime Minister had once mentioned in a meeting just before Scientific Advisory Committee was formed. He had called some of the top scientists and I was there and we complained about this. This was way back in 2015, I remember, and he used this term that scientists are not people. You give them the freedom and here directed to that time Niti Ayog chairperson to work out alternate mechanism. Unfortunately, none of that has happened. We have gone every time we talk to him, he says Yes, this is not right, but somehow it doesn't get implemented. I think if government



really gives and I say not just in IT, CSIR labs in everywhere. Government has to fund and of course industry has to fund and leave it open. Let them fail. It is perfectly alright for scientists to fail. Only after they fail a few times through they succeed. Don't ostracize. Of course, to make sure that they do honest work, the view of evaluating them has to change. What has to be seen is that they are making an honest attempt and if they're not making honest attempt, be stricter so that next time they don't fault. But many more scientists in India and today scientists are very good. Madras, for example, we have absolutely top class, young scientist. They come to Madras as part and work with industry and they do extremely well and I think that is what is needed. The government funding pattern has to completely change. Sorry, I'm being critical. I don't like to be critical, but this is a problem has been there for long. It is not something new. It has been there at least. I've seen it for, what, 40 years, or at least 30 years. Quite a bit and only thing it has got worse. I've discussed this with people for example advice. In fact, they advised me, when you build research park, don't take government funding. If you take government funding, if you lost some seed, there's something informally advised. And I learned as I was in State Bank of India board. I was the first chairman of mobile payment firm of India. What have you achieved in UPI? What has government funded labs not believed? If you see a very big achievement, it has not happened because of the funding. I think here also I'll sort of say, yes you have to put it in risk. It is not the R&D in India cost much less than technology R&D. India costs, much less than R&D than in other parts of the world, particularly West, US, Europe or Japan or places like this. You would see very, good results. You have to take this money. There three out of five fails. It is perfectly alright. They do succeed and you will see high quality and don't accept poor quality. That's another thing, never accepting poor quality. If you think the quality is not good, push it back.

Q4. there are several ethical theories, primarily 3 anthropological ethics, which emphasizes the nature of actions rather than their consequences. Utilitarian ethics, which assesses the morality of actions based on potential consequences and virtue ethics, which focuses on the moral character of individuals and emphasizes the development of traits and values as a means to determine the right and wrong course of action. The question is which course do you believe enterprises should adopt?

Ans. All the three play a role. But enterprises should focus more on virtue ethics, because utilitarian one the first one, which you mentioned, if any action which we take which fosters happiness or pleasure and which opposes action that causes unhappiness, so in that process, it is not advisable to be in that thing for every time. Sometimes, the actions which you take do create some unhappiness to people who are not ethical. So, it doesn't mean that I should implement that and when it comes to the, ontological ethics, this is something which you need to understand. This is something where it's a combination. I mean, it's a balance between the duty and the human actions in this. I always tell in a subtle fashion when you give too much of importance to duty, it is dangerous in the sense people give so much a focus on duty. Like they say, it is my duty to take care of my wife. It's my duty to take care of a job. It's my duty to take care of my society. It's my duty to take care my people. It's my duty. As long as you go on emphasizing it's my duty. It's my duty. It's my duty. Sometimes you create some sort of stress behind and you unknowingly get it to do yourself. But when you transcend, as long as you say it is my duty, you end up in frustration. If you really focus, I mean, if you give too much of emphasis on this, but look, beyond duty then beauty will flow in abundance from within. When beauty starts flowing in abundance from within, from an individual, then automatically you'll give importance to virtue. You'll give importance to values you will give importance to ethics and then for you the nation becomes the utmost importance. So ultimately, I feel that you should be more focused on virtue ethics rather than the other two.

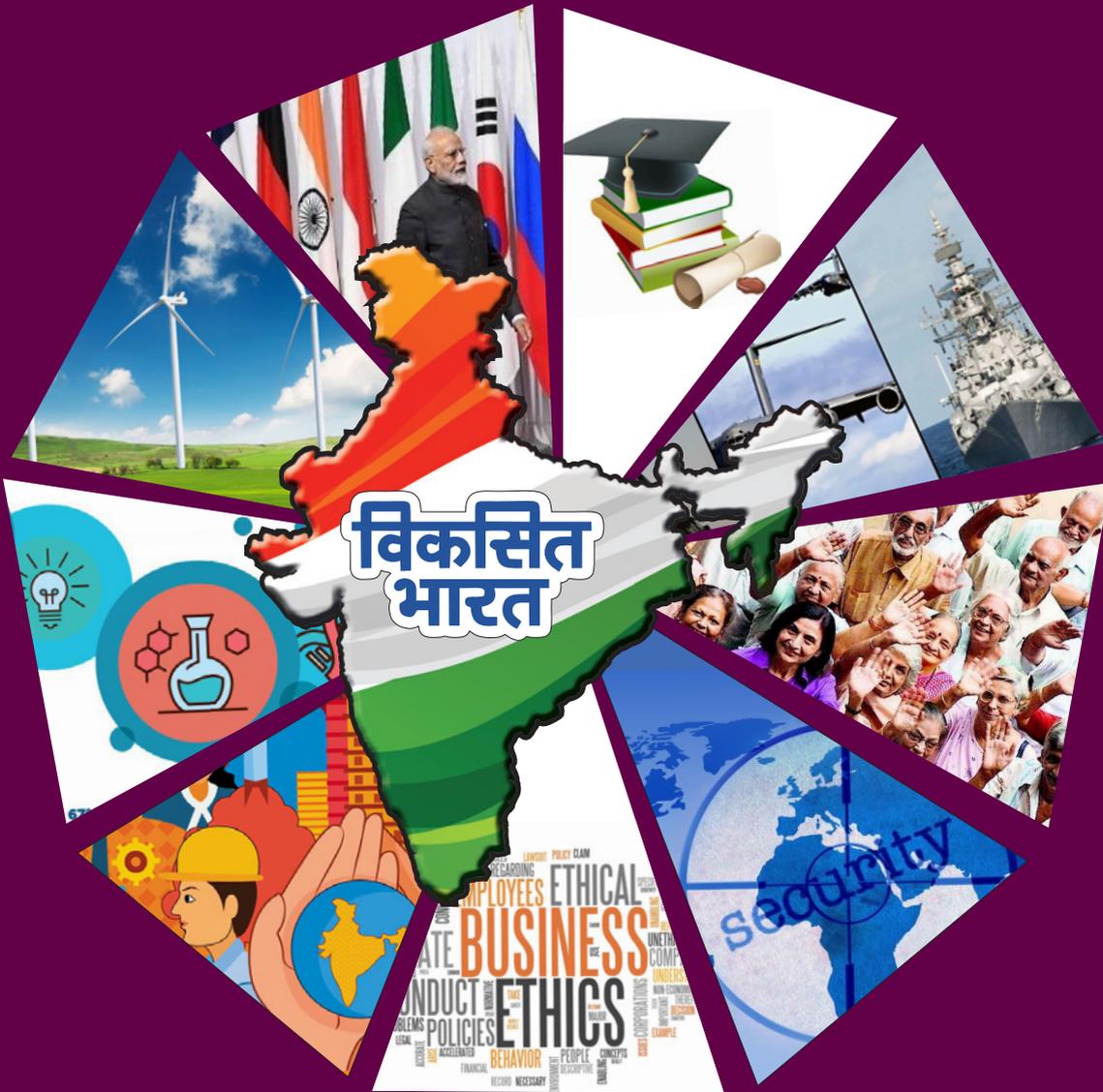
Q5. what is the way to not have narrative economics against us? If, as was said, it is to be expected for democratic countries like India in the times to come.

Ans. I don't think we can wish it away. It's really just the nature of things that are, and you're often hearing debates on disinformation and fake news and so on and so forth. I think from a security perspective, from growth, you see



the financial markets even if you consider the regulators, there are intelligence units or at least you know we are trying to build certain intelligence units across these different segments in order to capture some of these trends. It is very critical to deal with this new problem, because there is no wishing away. We have to be very pragmatic, that information is power. Data is, you heard this often when people say data is the new oil and it's a very right comment. But I think it's important to understand that crude oil by itself is not of much value. It is the value addition in terms of the refinement, which is where we need research. We need people with data analytics and capability to translate all this data noise into information and that is how you capture these trends and that's how you develop counter strategies, whether it is within the financial markets or it is in the public health system. This happened last year when the AIMS database was attacked and well, we know about several banks which have come under these kinds of attacks. So, I think it is there, you cannot wish it away. I think the importance is to build the kind of internal government capacity and regulatory capacity to detect it and to have counter strategy.

SESSION - II



VIKSIT BHARAT @ 2047: ENVISIONING ECONOMY, SOCIETY AND SECURITY

**CDM ANNUAL SEMINAR
27-28 FEB 2024**



SESSION - II PANELISTS



Professor Varun Sahni, an esteemed scholar in international politics at Jawaharlal Nehru University, New Delhi, has a distinguished academic background, earning recognition such as the VKRV Rao Prize in Social Sciences for his doctoral dissertation on the political role of the Argentine Navy at the University of Oxford. His impactful leadership roles include serving as the 10th Vice-Chancellor of the University of Jammu (2008-2012) and the 8th Vice-Chancellor of Goa University (2016-2021). Professor Sahni is a sought-after speaker, contributing his expertise at institutions like the National Defense College and internationally, holding visiting positions at esteemed organizations such as Sandia National Laboratories and the Asia Pacific College of Diplomacy. In addition to his administrative responsibilities, he has played a pivotal role in editorial duties, editing journals like South Asian Survey. Professor Sahni's extensive research covers diverse areas, including nuclear deterrence, regional security, Asia-Pacific balances, international relations theory, and the impact of technology on education. His commitment to educational technology is evident through co-authorship of significant documents like Technology Vision 2035, with ongoing work on Technology Vision 2047. Professor Varun Sahni's multifaceted contributions reflect a deep commitment to academia, research, and the intersection of international politics and education technology.



Dr. Ganesh Rao is a versatile individual with a diverse background spanning academia, yoga expertise, authorship, fitness, and sportsmanship. Beginning his career as a finance executive at Tata Motors Limited, he later made a bold decision to resign and pursue his passions. As a highly acclaimed figure in the realm of yoga, Dr. Rao has conducted over 20,000 sessions worldwide, authored/co-edited books, published articles, and recorded series on various yoga practices. In academia, he serves as a professor and PhD guide in yoga and philosophy, contributing significantly to institutions like Keval Yadhama and Shri Shri University Bhuvaneshwar. Dr. Rao's expertise extends to roles as a technical expert for the yoga certification board, ex-secretary of the certification committee, and a technical expert with the Quality Council of India (QCI). In sports, he achieved distinction as a member of the Maharashtra state football team for six years and participated in the national camp for the Indian team selection for the Asian Games in 1982. Dr. Rao's enduring passion for adventure and physical well-being is evident in his continued avid high-altitude trekking in the Himalayas and Sahyadri mountains for the past 25 years.



NEP AND HIGHER EDUCATION SYSTEM: IMPERATIVES FOR EVOLUTION

PROF VARUN SAHNI

Introduction

I'll first talk about the challenges faced by India's higher education system. What is the need that was perceived that lay behind the national education policy 2020? What was the vision that was propounded in it? And then some of its salient features, and the three features that are most important and are likely to have the biggest impact both on the higher education system as well as on the country. The three features are the proposed regulatory framework, the end of affiliation and the university as a multidisciplinary space.

Challenges Faced by India's Higher Education System

The education road map is related to Technology Vision 2035. We had identified dozens of serious challenges that lie at the root of everything that is problematic about the higher education system today. These challenges are - first of all, guaranteeing access to quality and affordable education to all independent of social, economic, geographical, physical and indeed even mental constraints. Secondly, providing affordable rescaling opportunities for all to meet the ever changing requirements of the job market. Third, in a long run and aging society, providing access to second careers and lifelong learning for all who want them. Fourth, linking industry and user organizations to the university system. Fifth, mainstreaming vocational education, vocationalising mainstream education. Sixth, evaluating a wider range of talent, skills and knowledge continuously so that learners have several opportunities to improve their competence levels. Seventh, to integrate history theory and data, both laboratory data and field data, and every branch of knowledge. Eighth, re-organizing knowledge in order to break down disciplinary barriers. Ninth, developing open content data and resources to promote creativity and self-expression. Tenth, creating modular education packages for greater mobility and flexibility. Eleventh, integrating interactive, adaptive and multimedia courseware and simulation into teaching and learning. And twelfth, building pedagogies to transmit knowledge that exists in living traditions and social practices, especially marginal knowledge traditions.

The Need for NEP 2020

What are some of the illnesses of the Indian higher education system that NP2020 diagnoses in the first place? It is pointing out that we have in India severely fragmented higher education system with more than 50,000 higher education institutions, a large proportion of which offer only a single program and a fewer than 100 students and a large percentage of which are commercial enterprises in which little or no education is taking place. This is an extremely powerful statement since it is coming from a government report. The second illness is the poor learning outcomes and development of cognitive skills of students. Third is the rigid separation of disciplines with too much early specialization and streaming of students into narrow areas of study. Fourth is a lack of access to higher education, especially in socioeconomically disadvantaged areas. Fifth is lack of teacher and institutional autonomy to innovate and excel. Sixth is inadequate mechanisms for career for merit based career management and progression of faculty and institutional leaders. Seventh is lack of research in most universities and colleges and transfer in competitive peer reviewed research funding across disciplines. Eighth is Sub optimal governance and leadership of



the higher education institutions. Ninth is a regulatory system that is not empowered to close down fake colleges, but which constrains excellent and innovative institutions. And tenth is the problems associated with large affiliating universities, resulting in poor undergraduate education in colleges. This has actually taken textually from the NEP document itself, (paragraph 9.4).

Vision of NEP 2020

What is the vision of NEP 2020? What is it that the national education policy 2020 is proposing to do? Well, following are some of the key areas that are emphasized in NEP2020. Moving towards a higher education system consisting of large multidisciplinary universities and colleges with at least one in or near every district. Moving towards a more multidisciplinary undergraduate education. Moving towards faculty and institutional autonomy. Re-vamping curriculum, pedagogy, assessment and student support for enhanced student experiences. Reaffirming the integrity of faculty and institutional leadership positions through merit appointments and career progression based on teaching, research, and service, this is very important. Establishment of a National Research Foundation to fund outstanding, peer reviewed research and to actively see research in universities and colleges. Governance of higher education institutions by highly qualified independent boards having academic and administrative autonomy. 'Light but tight' regulation by a single regulator for all of higher education, including professional education. Increased access, equity, and inclusion through a range of measures, including open schooling, online education and Open Distance Learning (ODL), keeping in view needs of learners with disabilities, and substantial increase in scholarships at private/philanthropic universities for disadvantaged and underprivileged students.

NEP 2020: The Promised Land. This is extremely important thing for us to understand that the national education policy 2020 contains within itself the potential and promise to fundamentally transform the Indian University as a location of knowledge creation and transmission and convert it into an authentic agent of individual empowerment, social transformation and national advancement. In other words, to begin to stop thinking of higher education institutions as locations where things happen, and to think about them as agents, as agencies which make things happen. This is a very important philosophical switch that is going to be essential if the higher education institution is going to serve its purpose in terms of overall national empowerment.

Salient features of NEP 2020

The salient features of NEP 2020 are three principal features. First of all, is the regulatory challenge. And the argument here is that regulation provision of education funding, accreditation and academic standard setting need to be performed by distinct, independent and empowered bodies. So, there will be, first of all, the national higher Education Regulatory Authority, which would regulate, and this is a very important phrase used in the document 'light but tight regulation' and in the facilitative manner, meaning that a few important matters, financial probability, good governance. Full disclosure of finances etcetera will be very effectively regulated, but otherwise institutions would be given a great deal of autonomy. Accreditation, which is another key challenge would be carried out by an independent ecosystem of accrediting institutions now. So, you would not have a singular accreditor like right now we have NAAC, based in Bangalore, which accredits both universities and colleges and it is a massive task. Instead, the idea now is that there would be the accreditation authority, which would be a 'meta-accrediting' body named National Accreditation Authority (NAA). The license to function as accreditor shall be awarded to an appropriate number of public institutions by NAA with the focus primarily on the basic norms, disclosure, good governance, and outcomes. This will be the fundamental change in the accreditation system.



Standard-setting Challenge

The challenge when it comes to standard setting, there would be a new General Education Council to set up 'to frame expected learning outcomes' for higher education programmes, also referred to as "graduate attributes". And there would be a national higher education qualification framework which would be formulated by the General Education Council, which would establish facilitative norms for issues such as credit transfer equivalence, etc. There would also be Professional Standard Setting Bodies (PSSBs) who will be invited to be members of the GEC. As members, they would specify the curriculum framework against which higher education institutions prepare their own curriculum, and they would set standards and expectations in particular fields of learning and practice. But they would not have a regulatory role.

This is extremely important to note that there would be, then, the funding challenge, which is the other big issue. Higher education is extremely expensive. Research quality and cutting-edge research is extremely expensive. So for this, what the National Education Policy 2020 proposes is the establishment of a Higher Education Grants Commission (HEGC), which would be created to take care of the funding and financing of higher education based on transparent criteria. They would also be entrusted with the disbursement of scholarships, developmental funds and so on. And there would be a fair and transparent system for determining increased levels of public funding, support for public higher education institutions.

Coming to Research funding, which is a separate category of funding, so in order to jumpstart research in our country and to have high quality and substantial and substantive research emerging, the proposal is to have a National Research Foundation (NRF) which would bring a quantum jump in funding and support for research, and the NRF would competitively fund research in all disciplines across the academic landscape: science, technology, social sciences, arts and humanities, this is an extremely important recommendation.

Functions of NRF

The functions of the NRF would be to competitively fund peer reviewed grant proposals of all types and across all disciplines. To see, grow and research at academic institutions, particularly at universities and colleges where research is currently at a nascent stage. NRF would do it through mentoring of institutions. There are a number of proposals about how that would be done, such as hiring excellent young research students; faculty strengthening; and recognizing existing high-quality programs at such institutions. NRF would also be proposed to act as a liaison between researchers and relevant branches of government as well as industry so that research scholars are constantly made aware of the most urgent national issues of the day, and the policymakers are constantly made aware of the latest research breakthroughs; this would allow breakthroughs to be brought into policy and implementation in an optimal fashion.

The proposed regulatory architecture is to have a public university which would carry out regulatory function and it would be performed by the national Higher Education Regulatory Authority. There would be the standard setting function that would be performed by the General Education Council, and would contain professional standard setting bodies within it.

Accreditation would be performed by the National Accreditation Authority. Funding and financing would be performed by the Higher Education Grants Commission and finally, the National Research Foundation would be providing research funding. This is for the public university, however, for the private university, the only distinction would be that when it comes to funding and financing, private universities would be expected to use their own funds.



All the other aspects, regulation standards, setting accreditation and research funding would remain just as they would be for public universities.

End of Affiliation

The end of affiliation is a hugely important proposal, which may in fact mark the difference between the Indian higher education system as it has existed till now, and the sort of system that will hopefully emerge as a result of NEP 2020. So, you'll have a new regulatory system, which would basically foster overall culture of empowerment and autonomy to innovate. The gradual phasing out of affiliated college system over a period of 15 years, and therefore every college would be given a choice and the choice will be a binary choice. They could either become autonomous, degree granting institutions, or they could become constituent colleges of a university.

In the later case, they would be fully or part of the university. All colleges again, will eventually become autonomous degree granting colleges, which are large, multidisciplinary institutions of higher learning, primarily focused on undergraduate teaching. Today, the university sets the curriculum and pedagogy, the teaching learning process happens in the college and everything else in terms of evaluation is done by the university. We also have in our country today, anonymous affiliated colleges. In fact, some of the colleges of high repute in India fall in this category, the college decides on the curriculum and pedagogy on the teaching-learning process, on the evaluation of all aspects such as pre conduct, conduct and post conduct. But the bizarre thing is the certification is still being given by the university, which has absolutely no role in the entire teaching, learning, or indeed evaluative process is still the degree granting institution. Then comes the Constituent colleges, for example some of the great colleges of Delhi University where everything is done by the university. Thus, at the moment we essentially have these three categories of institutions and are part of collegiate system in our higher education ecosystem. However, what is now being proposed by NEP 2020 and what is so radical, is to have autonomous degree granting colleges in which everything would be done by the college. Thus, in effect, the college would become a university. Now that has happened too. There's some very, very prestigious erstwhile colleges that are university today eg Presidency College in Kolkata and then there are many others. But now in effect all colleges will have this binary choice. They could either become constituent colleges or they could become autonomous degree granting colleges. The Affiliated College and Autonomous Affiliated College, if NEP 2020 is fully implemented, will just finally disappear over a period of 15 years.

Multi-Disciplinarity

The third key element that is worthy of emphasis is multi-disciplinarity. This is another huge contribution that NEP 2020 is making. Multi-disciplinarity is very important because it would end the fragmentation of higher education. It would build vibrant communities of scholars and will break down harmful silos, enable students to become well versed across various disciplines. This includes artistic, creative and analytic subjects as well as sports. It will develop active research communities across disciplines, including cross disciplinary research and increase resource efficiency, both material and human, across higher education. And you know, therefore, the higher education system will have multi-disciplinary institutions offering undergraduate and graduate programs, high quality teaching, research and community engagement.

All HEIs will move towards this goal and so we can see even in some of the great institutions in our country today we have the higher education space that are essentially single disciplined eg IIT, IIM and national law schools. Some of these great institutions are also over time now going to be inevitably, if NEP 2020 is fully implemented, diversify and bring other disciplines within. The aim is that by the year 2040, seven years before our country achieves



its centenary as an independent country, all higher education institutions would have become multi-disciplinary institutions. There would be students' enrolments in thousands, which would mean that infrastructure resources are being optimally used. This is the process that the document recognizes, however, it will take time. They will first have to become interdisciplinary, multidisciplinary, and then gradually, students' strengths will have to be increased in the desired areas into the desired levels.

There are lots of higher education institutions in our country that have very large campuses because they were given these campuses in remote locations at a time when that land was readily available. They now need to really capitalize on those large landholdings to vastly increase the size of the educational and Research Services that they offer and provide adequate facilities to students and faculty. The emphasis is on multi-disciplinary languages, literature, music, philosophy, Indology, art, dance, theatre, education, mathematics, statistics, pure and applied sciences, sociology, economics and sports. So, it's a very wise idea that all of these would essentially be a part of any institution of higher learning in our country.

Then there are also governance issues. Essentially, the idea is that every higher education institution would have a Board of Governors. They would be independent, highly qualified, competent, dedicated individuals. They would have typically a term of seven years, extendable by another seven. Thus, a long-term engagement with an institution will be possible. New members would be identified by the board itself. All institutions would have this structure and they would be the ones to govern institution free of any external political interference. They will be the bodies that are ultimately responsible and accountable for the outcomes of the higher education institution. They'll be responsible to all the regulatory authorities as well. They will display commitment to institutional excellence. They would have funding autonomy, legislative enablement, but ultimately, it's up to the higher education institutions themselves to have excellence to engage with local communities and carry out their business with the highest standards of financial probity and accountability. Essentially, the idea is that every Board of Governors would also have institutional development plan and so on. I'm sure that many of you already have a pretty good idea about it.

I don't know whether I have done an adequate job. The chairman of the UGC would have been able to do with much greater certainty and authority and definitiveness. That's what, to my mind, are the most important aspects of NEP 2020.

Thank you.



VALUE-BASED SOCIETY: LESSONS FROM PAST

PROF N GANESH RAO

It was enlightening to listen to Professor Sahni on the New Education Policy and get updated on some points of the New Education Policy (NEP). Being in the field of academics, it helps a lot. Before I present a few thoughts on the topic given to me, I wish to express my gratitude to CDM for inviting me to be part of this National Seminar on one of the most vibrant subjects - 'Viksit Bharat 2047'. I feel happy, honored, and privileged to be here. My topic or subject matter is "Envisioning a Value-Based Society in 2047 - Learnings from the past". Before I delve into the main topic, I'd like to share a few observations in the form of an introduction.

The period of twenty-five years from the year 2022 to 2047 is termed by the Government of India as 'Amrit kaal'. The term refers to a significant duration, during which exceptional opportunities present themselves not only to terrestrial beings but also to celestial beings. It is regarded as the most favorable and propitious period for making new beginnings; and this Amrit kaal of 25 years leads us to the hundredth year of our independence. In a way, these 25 years representing 'Amrit Kaal' are very crucial for our country, presenting opportunities for the citizens to reclaim past glory and learn from past mistakes, to move ahead on the path of development and realize the goals that we set forth for ourselves. This seminar is considering three fronts: 'Economy, Society, and Security'. However, there are five goals which characterize our vision of 2047, sometimes termed as 'Panch Prana', a phrase familiar in the field of Yoga. It invigorates the whole human being by its functioning, the Panchpranas, but here the Panchpranas refer to and are all relevant to my topic. They refer to the goal of economically developed India, elimination of all traces of colonial and slavery mindsets which, without knowing, are deeply embedded in our psyche, honoring and taking pride in our roots, our legacy, our heritage, development of unity and solidarity, and imbibing the spirit of national pride which encompasses the essence of duty among citizens. These five goals have, from the point of view of morality, two guiding principles, two guiding concepts. These concepts are the Vasudeva Kutumbakam and Vishwa Guru.

The term, Vasudeva Kutumbakam, appears in the Maha Upanishad and then finds reference in Hitopadesha and other texts. In fact, the Bhagavad Purana considers it as one of the loftiest ideas of Vedantic thought. The idea of Vasudev Kutumbakam refers to one Earth-one Family, one universe-one family and one world-one family. It's an all-encompassing concept which inherently tries to transcend the barriers of geographical borders, languages, ideologies, nationalities, religions, and embraces one shared destiny for the whole universe. These are beautiful ideas in themselves and probably it's only the Indian Scriptures or Indian culture which can come up with such a noble idea. It propagates and encourages feelings, emotions, and ideas of love, acceptance, tolerance, and moving towards the common path of development, making this beautiful world of ours a beautiful place to live in. The term also includes in its connotation not only human beings as members of one family but also all forms of life - animal life or plant life; it also gives recognition to the importance of nature per se.

When we come to the term Vishwaguru, the guru of the Vishwa, the global teacher, teacher of the world, or guru of the world, this concept was promoted and popularized to a great extent by Swami Vivekananda and in our vision of 2047, there are ambitions and aspirations for India to enact the role of Vishwaguru wherein we become once again the center of knowledge, learning, and education. Our spiritual heritage, our wisdom makes it easier for us to set up a role model for the entire world to emulate.

Coming to my topic 'Value-based society', progress on the economic front and the front of security should necessarily be founded upon the value-based society or the values of society, else there is always the chance of money power being misused with the inevitable sacrifice of morals and cultural values, eventually leading to self-



destruction. So, a value-based society is extremely essential but most difficult, most complicated. When we aspire to a value-based society, there are two terms to consider: one is 'value' and the other is 'society'.

First, let's dwell upon the easier term, 'society'. Society is a collective whole characterized by shared beliefs, shared values, and shared ways of life. In this whole, the ultimate and smallest unit is the individual, and then, like concentric circles, the next unit is the family, then the community, then the region, regional bodies, local bodies, finally ending up with the nation. This society plays several key roles and functions, and one of the most important, relevant to the topic at hand, is the regulation of behavior through norms, rules, regulations, and law and order.

Now, I am coming to the concept of 'value', but before that, when we talk about Indian society, due to its complex nature, it is referred to as a pluralistic society. This pluralism arises from the presence of a number of races, traditions, religions, caste divisions, languages, and even states can be added to that. This complex nature of our society adds to the problem in envisioning a value-based society. Let me come to the concept of 'value'. Being a student of philosophy, I have to convey that we have a subject, an entire subject in moral philosophy called Axiology, devoted to the study of values because when we refer to a value-based society, a society which is based upon certain values, the question arises: whose values, from where do values come or to go one step further back, what is value per se? Answering these questions becomes very critical.

The simplest attempted definition of a value is "what I like, what I desire is value for me". This is the simplest definition and that is 100 percent true. But this is good as far as subjective values are considered. But when the question of society comes up, then immediately the next question arises: what I desire is valuable for me is 100% right but is what I desire desirable? Now, the problem starts happening. What I am trying to do is from a subjective value, I am trying to move towards objective value, what makes or what is there in the values which can be objectively accepted by all the members of society. This is where the whole problem in the question of values arises.

When we delve into values in human relations, the question becomes problematic because when there is a conflict of values, who decides which values are right? What is the authority which decides? The second point is only when we become conscious of values and become conscious of values in our actions, only then do we evolve as human beings. Otherwise, values are performed by rote or mechanically, and when you start becoming conscious of the values, then all the questions arise, some of the questions to which we don't have answers.

In individual cases, probably the meaning of life we propose to our lives becomes a pole star, a guiding light for all our values in a hierarchical order so that our values and actions will take us towards the meaning of our lives. And definitely, the question arises: can the meaning of life be the same for everyone? There is a problem. Least to say, in summary, when we talk about values, the main problem that arises is what basis or what authority is there for these values. Incidentally, this is the problem even when we talk about freedom. We say freedom is the highest value, and when I say I am free, then there are alternative courses of action in front of me, there are choices. Definitely, I am free but the problem is when there are choices, there is no assured / certain criteria based upon which choices are normally made. My parents say so, so I have done it; my religion says so, so I have done it; my teacher says so, so I have done it; in this situation, all people do, so I do it. But all these authorities are questionable in themselves. So, what decides my values? Either I remain with my freedom and be uncertain in the choices that I make or forego my freedom and take the certainty of some so-called questionable authority for values. This is the biggest issue as far as values are concerned.

We are fortunate to belong to this beautiful country! When we point out a 'value-based society', what are the things which come into question? One is values themselves - what are the values of the society that we are talking



about in a value-based society? Second, what is the authority for those values? Third, how do we enforce those values after imparting / disseminating them in the first place? How do we bring about modifications in these values, based upon modifications which are happening in the social environment and nature all throughout continuously? These are the challenges that we are facing when we talk about a value-based society. My topic is a value-based society, learnings from the past.

In this context, I just want to make one observation and that observation is the difference between culture and civilization. The word for culture is Samskriti and the word for civilization is Sabhyata. The term Samskriti etymologically means Sama + krita, that which is done well. It refers to something refined, something purified, and the term Samskriti or culture refers to internal refinement, internal purification. It refers to the purity, the refinement of my feelings, my thoughts, my emotions, my ideas, my priorities in life. And when we talk about Sabhyata, civilization, it refers to external progress. In short, Samskriti or culture represents what a man is and civilization, in short, represents what a man has.

Ancient Indian culture is Aadhyatmik or spiritual, and this is not something which is bad because in our scriptures, we have an observation which says that the Para and the Pinda, Brahmanda and the Andanda, the macrocosm and the microcosm are the same. Spirituality enquires into the internal universe, the microcosm and science enquires into the external nature. Modern science is also realizing the complexity and richness of the internal universe. The internal universe is as complex as complicated as the external universe where, in ancient times, our culture being spiritual and the progress was going inwards and the science going outwards. We were making inward progress but unfortunately at the cost of external progress. This was the mistake. So, when we see at the end of the day a scientist in the laboratory when he starts going outwards in search of reality and the spiritual person going inwards in search of reality, both of them come at the same Truth. But the direction of progress is different. That progress internally reached its peak in ancient India but at the cost of external progress to some extent and when new generations started happening, new generations, younger generations, our internal progress, internal values, the cultural values were not able to hold them on the face of neglected external progress and then started slowly the influence of materialism. This influence is not bad. I always say that a spiritual person need not be a poor person. This is a myth that we are carrying on our psyche that the spiritual person should be a poor person, no not necessary. But that is what happened. The youngsters took to progress that is made on the external front and this progress was embraced at the cost of sacrificing our values. This is a normal conflict between culture and civilization, definitely.

Coming back to a value-based society, the authority for values of a society that we are envisioning should necessarily be founded upon our scriptures. Our scriptures provide homogeneity in our outlook towards values which also provide homogeneity in our outlook towards the nation. Thus when we talk about the security of the nation, it is securing our scriptures. Spirituality being the foundational value, when I said, it only means that we are not exhausted by the body and the mind - there is still the consciousness. This comes out so beautifully in what we refer to as the four Purusharthas (goals of human life) in Indian scriptures - 'Kama, Artha, Dharma, and Moksha.

Kama is the fulfillment of sensual and sexual pleasures. Artha is the means or the money for fulfilling Kama. Left to themselves, these two purusharthas will create chaos in society. So we require dharmic values, the mode of righteousness, the regulating principle for Kama and Artha. These three principles will make you a well-adjusted person in society. But in Indian philosophy that is not the goal of a human being. The self-actualization of Maslow is at a lower level than Self-Realization in the Indian philosophy. The self-actualization of Maslow pertains to the self with small 's', the empirical self. Self-Realization refers to Self with capital 'S'. This is our spiritual Self, the Reality, our true nature. Self-Realization of Indian Philosophy transcends the self-actualization of Maslow. So, Kama, Artha and Dharma - all three are only instrumental to go towards Moksha. Moksha is the spiritual value, the highest goal and



that cannot happen by abandoning the first three. That was our mistake. We always say, 'you cannot philosophize on a hungry stomach'; you have to first meet your basic requirements and then go ahead. Spiritually always happens by transcending your empirical requirements; that is what Bhagvad Gita talks about viz. renunciation in the world, not of the world. So, the first point is that in a value-based society, the authority for the values comes from the Scriptures and these values in our scriptures are referred to as Manava Dharma. They have stood the test of time. Today we have no trace of Inca civilization, no trace of Greek civilization, no trace of Roman civilization; probably the values inside there were temporal whereas Indian values are not temporal and they are eternal and that is how we have the word Sanatana. Unfortunately, the term Sanatana is not understood properly – it is not a proper noun. It is an adjective referring to eternal values, values which are eternal which are universally applicable to all human beings at all times. So, from 'what I desire', the values in Indian scriptures are 'what are desirable' because they are objective values.

The next point is the concept of Dharma. The concept of Dharma is there all over the Scriptures Dharma – 'Dharayati iti Dharma', 'that which holds together, that which upholds, that which protects, that which safeguards' and I will say very clearly, as done in our scriptures, when you protect your dharma, your values, you are protected by the values in turn and the highest of these values is Rashtra Dharma - the nation comes first. All other values are instrumental values. Rashtra Dharma is intrinsic value so when we fall back upon our scriptures clearly, we get what are the values on which we are trying to say value-based society. One of the values that we have in our scriptures is what is called as Anekanta vaad. Aneka is many, Anth means end, and vaad means ism - the doctrine of many sidedness of reality. And this principle says very clearly that every seeker of reality, every human being, views reality from one side - from his side of her side. So, no human being can say my view is the only view because every person views the reality from his or her side. This principle of Anekanta vaad and then the associate principle Syadvaad consequent to Anekanta vaad is that we should be very careful in making proclamations based upon pure passions. The Anekanta vaad principle prevents fanaticism naturally - in a single home in our country with several family members, one member will worship one God in one temple, another will worship another God, and so on and so forth. Every person is free and no person can impose another person to worship his / her God because this is what is there in our culture based upon our scriptures. Nobody will come and tell you do this; every person looks at reality from his own point of view. We are blessed in this country to have such deep-rooted culture and you know values there, Dharmic values there. It is only a question of how do we recover these values, revive these values from the cellars of antiquity, how do we rehabilitate them, rejuvenate them, how do we disseminate them and the last point, how do we enforce it. This is the main issue.

In ancient scriptures even if you take Chanakya's Arthashastra, the king is given the Liberty of using force as a person protecting the Dharma. The State is considered as a joint family where the power goes from the top person who is governing the family members there. This is one of the learnings from the past - where power gets decentralized, values get diluted, society gets scattered. We cannot move ahead as one, as one compact whole. Of course, lots of values which are transitional values need to be modified to suit the present requirements and that is what happens and that is why Indian culture as you know survived the onslaught of time like we read in the poetry of the Tamil poet "when there is a storm, a tall huge palm tree is shattered uprooted whereas a grass survives because the grass is very flexible very tolerant". Our culture has survived because it has accommodated all the influences that are coming here but the question remains that in accommodating those influences are we totally forgetting our roots. This is where we talk about a value-based society. We have to recover, revitalize those values, beautiful values. The concept of Vishwa guru is so very apt that when we as citizens in the country start implementing those values in our day to day lives then we can talk about being Vishwa guru not just intellectually or giving lectures. It has to be a part of our lives. So, the dissemination of those values has to happen and one small thought when I talked about spirituality, the highest practice in spirituality is meditation. It is an excellent way forward for making formal meditation a part of all education institutions, in all workplaces - 10 to 15 minutes, so that we start developing our levels. This is based



upon our scriptures completely.

I will end my session just summarizing –

1. when we talked about a value-based society that the main issue is the authority for the values one and that authority in the case of our beautiful country is there in our scriptures and coincidentally the values in our scriptures are eternal and universal values applicable to all human beings irrespective of caste, creed, race, religion, nationality, gender etc.
2. the fact remains how do we disseminate these values by first recovering it. Our NEP does a great job there. In fact, in the National Education Policy, the Indian knowledge systems are given so much prominence because in all fields at one point of time we were leaders of the world. The NEP is actually trying to do justice to bring back those sciences, those studies in all fields.
3. due modification wherever necessary to be done
4. but for me the question remains how do we enforce these values. This is the biggest problem. Being a pluralistic society with so many variations, traditions, ulterior motives, aims, and ends, how do we implement it, is the biggest issue that we face.

The Amrit Kaal - envisioning India 2047, Bharat 2047, is a crucial phase providing opportunities for all of us to participate in this progress that our country is making.

Thank you very much.
Jai Hind.



EMPOWERED SOCIETY: DRIVING POLITICS AND ECONOMY

PROF VARUN SAHNI

It was very enlightening to sort of hear a Doctor Ganesh Rao. And I hope that what I'm saying now will sort of in some ways reinforce what he had to say from a very different sort of angle, very different dimension. I wonder if the control room could make an attempt to hand over the controls to me for this presentation. Right, so this is my presentation, now is on empowered society the driving politics and economy and this is work that I had done. I made a brief mention of this in my last presentation as part of a technology Vision 2035. It is produced by type FAK technology, information forecasting and Assessment Council, which is an autonomous agency of the Department of Science and Technology, Government of India. And then there were these 12 sorts of reports sectoral reports that came out as well. And I had sort of been one of the three co-authors of technology, which in 2035 and then, you know, took the lead up to terms of the education road map.

I'm mentioning this because a lot of what I'm going to say, you know, is actually anchored in the work that we have done. And the reason I'm doing that is because I'm currently engaged with that fact and other colleagues to now come up with technology Vision 2047, which is exactly in the time frame that, yeah, that we are now concerned with the focus. That, however, is different. The focus of the 2035 exercise was essentially about empowering Indians, whereas in 2047 we are thinking more holistically in terms of sort of the entire country about empowering India. Uh, so really, you know, this was the kind of idea behind that to work. It was technology in the service of India ensuring the security, enhancing the prosperity and strengthening the identity of every Indian. That was our focus and you know this was done in particular in the context of education, you know, we felt that 2035 was particularly important because it was two centuries after this person, Macaulay Thomas Babington. Macaulay came up with his what we in India can certainly call infamous minute undulation which essentially said among many other things, that we must at present do our best to form a class who may be interpreters between US and the millions whom we govern. A class of persons, Indian and blood and color, but English in tastes and opinions and morals, and in intellect. And there is a serious concern here that in some ways the educational system that was set in place, subsequent to Macaulay's minute, has done just that, and it links therefore to the concerns about how sort of collectively in systemic terms? But the roots have been cut away. The intellectual model ethical roots have been cut away because, please note that my call is talking about tastes and opinions and intellect and morals. And the entire thrust on which we work was quite an alternate, different thrust. It was, achieving the full potential of every Indian.

You know, how to come up with a system of education that actually makes it possible for every single Indian to achieve his or her full potential? Now there's one key element on which set of you know, I would like to anchor this exercise, which is to recognize this that we are the largest country in the world and that is something that we can be absolutely certain about will remain the case in the future. India is and will remain a country of immense size and the only other thing that we can be absolutely certain about is that India is Bharat is and will remain a country of immense diversity. So that whole point that both the sheer size of our country and the enormous diversity of our country, those are the two bedrock certainties, on which we can then sort of build, any kind of understanding we have, any vision we have of the future, any vision we have that does not account for the immense size of the country and of its immense diversity is ultimately a vision that is, in some fundamental sense limited. And what we did was, and I think this is very important when we think about an empowered society, is that we are proposed in this, in this government document because it is ultimately a government document that we could sort of in a way, ask what does our society consist of, what are, as it were, the types of Indians. And then we came up with the typology that was not sort of the typology of dividing our country into, the various religious communities or caste groups. It was not about sort of a completely,



socio-economic class-based kind of a stratification of our country.

He just said that broadly speaking, there were going to be in India, six types of Indians. And then in terms of education, we added other categories as well and these are non-exclusive segments, which means that the totals come to well above 100% because you can easily fall in more than one category. And we also sort of after a lot of discussion and a lot of consultation with the experts, we also even put approximate percentages to them, what these six groups would come to? So let me sort of present what those six types of Indians are when we are thinking about the time frame of 2047. And this is just the way in which we visualized it. The six types of Indians are, first of all, those who are rooted and remote. They are often rooted by choice, although some will not have a choice, and also this is a segment of our compatriots of our countrymen who have adherence to old values, but we need to understand that values themselves evolve as circumstances change. By the time frames we're talking about 2035 or 2047, this segment will be seen by others not as backward, but rather as emblematic of the good old days. And within that kind of sense about them being emblematic of the good old days is a danger. The danger is that they could become cultural exhibits. We have seen something like this happen in other countries as well, where the countryside is preserved, but becomes essentially pop a populated by a minority of the overall population. This is the place where people from the cities go for relaxation and recreation and to reconnect with nature, as it were. But you know, very often those communities themselves ultimately are neglected and underserved. Also, when we think about remoteness, we must keep in mind that in any sort of time frame of 2035 or 2047, the notion of remoteness would itself have changed and for there would be road connectivity to every village. By then, there would be Internet connectivity in every household.

When we say that, a part of the country or a segment of the population is remote, we need to understand that even the notion of remoteness itself has been fundamentally altered. So, the second sort of segment of Indians are what we call globalized and diaspora. Indians would be by the time frames we are talking of the largest diaspora community in the world and the Government of India would have to devote considerable resources to focus on them. And their needs and to deploy them worldwide. This is a segment of the population for whom comparisons across countries would be routine. The notion of best practices would be commonplace. The concept of citizenship itself, in a very real sense, would have been transformed by the time frame that we are talking of. This is also a segment which would have an extra, would be extremely assertive about its rights. It would have a segment which would have a strong sense of entitlement and would not hesitate to hold government accountable for all types of ills, whether real or imagined. So, this is going to be a very vocal, a very mobile, a very powerful segment of our country's population. The third segment are those who we characterize as left out or left behind, and this is based on a very hard reality of our country. So, despite many greater, much greater openness and many improvements, India will continue to be an unequal society in which many would simply not get a chance in the 1st place. Or not be able to keep pace and so any system that we devise, if we are truly concerned about an empowered society, would have to be acutely sensitive to all issues relating to inclusion, because we need to recognize that we come from a place and we have a society in which many of our compatriots have been left out or left behind.

Then we have the alternate lifestyles and worldviews which is a segment that sort of we need to be particularly sensitive of. This is the segment which taps into our deep historical and ancient culture. There are those who would choose to opt out of the system. Who would advocate and pursue alternate lifestyles. Who will have radically different ideas about society and about the good life, they're the enunciates the sadhus. You know that whole approach to life into society is not going to go away in our country, no matter how consumerist and materialist our country may become. There's going to be a significant section that is going to advocate alternate lifestyles and worldviews offense. Able system would not interfere with their choices, but would nonetheless seek to remain engaged with them, because social benefits let us remember, can accrue from individual Mavericks. So, what you may consider



to be Mavericks. Ultimately, you know are also contributing to the whole, are contributing to the social good and this is something which I think in our country and it's deep culture. We already have a very clear understanding of the 5th segment of the population. Are those that we turned in the report and as creative, innovative and imaginative and these are individuals who refuse to be constrained by the straightjackets imposed by the system. The much-needed innovation would come from this segment of the population. Although this segment of the population would be small in size relative to the other segments, it would be critical to the health of the country because it would be the fount of economic and social dynamism. So, any notion of an empowered society, we argue, must think about those who are left out and left behind, must think about those who have alternate lifestyles and worldviews and must have place for those. You are creative, innovative and imaginative. And finally, the segment we call beehives and production lines, because that ultimately is what it's about the productive process that is the source of all resources that underlies all social existence could be due to this segment, which would comprise of the vast majority of the population gathering to their needs, keeping them skills satisfied and involved would be the biggest challenge for the system. So, all in all, then these six segments together would, to our mind, be an alternate way in which we can think about in which we can conceptualize the Society of our country, not thinking about it in terms of our traditional sort of sociological divisions, not looking at it in a purely kind of socioeconomic class stratification, but looking at it in terms of these segments.

What we also did in the report was we talked about prerogatives. We said that if you are a citizen of India, there are some things that really are. You're right and we identified in all 12 prerogatives, six of which we characterize as individual prerogatives, and six of which we characterize as collective prerogatives, the individual paragraphs are clean air and potable water. Which for those who live in the national capital, I'm fortunately a refugee from Delhi these days. You know you can see why, we put this up in front as a key. In fact, the first of the individual prerogatives, a food and nutritional security, universal healthcare and public hygiene, 24/7 energy, a decent habitat and quality education, livelihood and creative opportunities. And then the 6 collective prerogatives that go hand in hand with that are safe and speedy mobility, public safety and national security. Cultural diversity and vibrancy, transparent and effective governance, disaster and climate resilience. And finally, eco-friendly conservation of natural resources. And what we did, and I won't be going into this in any detail, but we then sort of identified key technologies that would help ask collectively as a country that would help our institutions to try to achieve these the prerogatives in the time frame that we have mentioned. In fact, all of these technologies that we thought were worthwhile, we actually put into four different categories. There were technologies, concepts and approaches that were readily deployable. In other words, they existed today. We just had to deploy them, start utilizing them, then there were those that needed to be moved from lab to field, which is of course easier said than done because there is the value of death. You can prove a concept in laboratory conditions, but to take it to the field and to actually make it function there is a very different exercise.

Then we identified a bunch of technologies that require targeted research. And then there were still technologies that were sort of blue-sky technologies, if you will, technologies in the imagination. And we did this exercise not only with clean air and portable water, food and nutritional security as well, universal healthcare and public hygiene. 24/7 Energy a decent habitat, quality education, livelihood and creative opportunities, safe and speedy mobility. Public safety and national security. Cultural vibrancy, cultural diversity and vibrancy. Transparent and effective governance, disaster and climate resilience and the eco-friendly conservation of natural resources. In other words, for each of the prerogatives that we had identified. So, we ended our report by sort of actually coming up with a series of what we thought were the grand challenges that where we had to bring technology in to in very fundamental ways, transform society to empower society to increase the possibilities, enhance the potential of each and every one of our compatriots. And I will just read out what these are to you. What is noteworthy is that this report was released by Honorable Prime Minister in the Indian Science Congress of 2016 and in the time since then we have seen several of these grand challenges actually having been taken up, with real seriousness and significant achievements, also can now be identified with regards to these grand challenges. They are first of all guaranteeing nutritional security



and eliminating female and child anemia, which we thought was in fact the number one technology challenge for the country's second was ensuring quantity and quality of water in all rivers and aquatic bodies. Third was securing critical resources commensurate with the size of our country. Fourth was providing learner centric language neutral and holistic education to all. The fifth was understanding national climate patterns and adapting to them. The sixth was making India non fossil fluid fuel based. Seventh was taking the railway to lay in Taiwan. The eighth was ensuring location and ability, independent electoral and financial empowerment. The ninth was developing commercially viable, decentralized and distributed energy for all, and finally ensuring universal eco-friendly waste management. I think that by sort of speeding up my presentation, I have managed to get us back to the schedule that our organizers had presented to us. I hope I have not gone too fast with this presentation, but I think we need to leave adequate time for sort of the discussion that these presentations and these themes require. So, I think with that I will end and I will request the organizers to take control of the system again.



SUMMARY OF DISCUSSIONS SESSION-II

Q1. The question is the effectiveness of the national education policy will largely hinge on the quality and quantity of teachers in view of the deteriorating status and recognition of teachers in our society as a preferred career option. How do we ensure holistic and inclusive growth of our society based on NEP? Your views please Sir.

Ans. Prof Sahni said that this question was pointing towards the heart of NEP 2020 and it's something that those of us concerned with society and with education are deeply concerned about. Our recommendations are actionable recommendations in the educational technology road map because we wanted it to be a think piece that people could further discuss. But the one of the few really concrete recommendations we made was to take teacher training and the education of teachers completely out of the private sector. We really want it to be ring fenced from the private sector, just as we would not privatize military training and military education. We really do need in our country to think very seriously, about something like national education service with a very different kind of recruiting standards and so on. It's a very important question whether NEP2020 will be able to make a dent in this regard. We are not certain; I had personally made a long presentation to the Kasturi Rangan committee. Ultimately, when they sat down, this did not quite appear in the final document. But, the mind of those of us who worked on the educational technologies' road map, this is how we train teachers, how we recruit them, what are the compensation packages we give to them, how do we keep them motivated, how do we keep them up to date with the latest in terms of knowledge and so on. I'll stop here.

Q2. National Education Policy emphasise on primary education in native languages. Would you please share rationale for this and any studies or experiments that supports this concept?

Ans. Prof Sahni replied that one just need to Google this and one can see the fact that the first language that an infant learns is the language of the initial caregivers of that infant. The caregiver is most often the mother, the parents and that language gets hardwired into one's brain. That becomes the basis of all subsequent linguistic development, all subsequent cultural development and all subsequent cognitive development. So, when you start in the early stages, a formal education, you move a child away from the mother tongue. In those very early years you're, in a very fundamental sense, harming the child and it's extremely important and that's the rationale for why education in our country is a state subject. It has given a deep linguistic and cultural diversity.

When it comes to higher education, maybe undergraduate education should be on the concurrent list where both the Union and the States are component to legislate. But I do believe that the research levels of education should probably be in the Union list and should be funded directly by the Union. Irrespective of where it may be geographically located, so I'll leave it at that since I'm sure there are many other questions.



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SESSION - III PANELISTS



Ambassador Verma, a seasoned diplomat, brings extensive expertise in multilateral non-proliferation and disarmament, notably in the Conference on Disarmament in Geneva. His pivotal role as Joint Secretary In Charge of Disarmament and International Security at the Ministry of External Affairs from 2010 to 2013 highlights his crucial contributions to India's strategic engagements. With international experience as part of the Indian Delegation to the UN General Assembly and involvement in sessions of the UN First Committee and United Nations Disarmament Commission, he played a key role in the civil nuclear initiative with the United States from 2004 to 2007. Ambassador Verma's global diplomatic reach includes bilateral negotiations with major countries like the United States, Russia, United Kingdom, France, China, and Pakistan. Holder of an MPhil in International Relations from Jawaharlal Nehru University, Ambassador Verma has shared insights at international forums, think tanks, and institutions across the globe. He has lectured at esteemed institutions such as the Russian Diplomatic Academy, the Russian General Staff Academy in Moscow, and the National Defense College, contributing significantly to India's diplomatic endeavors in nuclear, missile, and space programs.



Ambassador Pankaj Saran, a seasoned diplomat, brings extensive expertise in multilateral non-proliferation and disarmament, notably in the Conference on Disarmament in Geneva. His pivotal role as Joint Secretary In Charge of Disarmament and International Security at the Ministry of External Affairs from 2010 to 2013 highlights his crucial contributions to India's strategic engagements. With international experience as part of the Indian Delegation to the UN General Assembly and involvement in sessions of the UN First Committee and United Nations Disarmament Commission, he played a key role in the civil nuclear initiative with the United States from 2004 to 2007. Ambassador Verma's global diplomatic reach includes bilateral negotiations with major countries like the United States, Russia, United Kingdom, France, China, and Pakistan. Holder of an MPhil in International Relations from Jawaharlal Nehru University, Ambassador Verma has shared insights at international forums, think tanks, and institutions across the globe. He has lectured at esteemed institutions such as the Russian Diplomatic Academy, the Russian General Staff Academy in Moscow, and the National Defense College, contributing significantly to India's diplomatic endeavors in nuclear, missile, and space programs.



Vice Admiral Pradeep Chauhan (Retd), the Director of the National Maritime Foundation, retired in 2013 after an illustrious four-decade naval career, commanding significant surface combatants like the INS Virat. His leadership roles, including Assistant Chief of the Naval Staff and Chief of the Staff of the Western Naval Command, highlight his expertise. Post-retirement, he has excelled as a leadership mentor, orator, and prolific writer on maritime affairs. His book, "India's Maritime Strategy," commissioned by the National Maritime Foundation, underscores his ongoing commitment to maritime studies. Serving as visiting faculty at defense establishments and contributing to the government through the National Security Council Secretariat, Vice Admiral Chauhan is also recognized internationally as a strategic analyst, holding advisory positions with key think-tanks. His multifaceted contributions in naval leadership, academia, and strategic analysis have earned him respect and influence in national and international security circles.



WORLD ORDER AND SECURITY ARCHITECTURE: 2047

AMB DB VENKATESH VARMA (RETD)

First of all, thank you very much to the Commandant of College of Defence Management in Hyderabad. I am also very happy to join the very distinguished panelists and congratulate CDM for this fantastic two-day event. I'm very happy to be part of this session in the morning. Without further adobe, let me dive straight into the topic that we have. We have about half an hour from the onset. Survey of the larger international scene and one of the great diplomatic successes, the G20, what it means for India and we can then take it forward.

We use the word, 'Order' a little loosely because there is a presumption that the world is orderly. It is actually a presumption. It is not true all the time but all that gives you a sense that there is a certain set of patterns that you can see in any particular period of time. So, between now and 2047 all people dealing with national security both internal security, external security, people in the armed forces and uniformed services, in the economy, in the technology area-all will have to look at certain patterns and trends which are relevant for analysis. I will set out a few issues in my presentation and see where we go from here.

Presently, we all heard that familiar term big power competition. The Americans, along with the French and the British, defeating Nazi Germany in Germany, it was a shared victory. Neither the Russians nor the Americans got their full-fledged victory in Europe. In Asia, US got total victory in Japan. But what was actually followed up as the civil war in China, United States actually lost China by the year 1949. So in China, it's not only the Second World War, but also a civil war was there. United States won the Second World War, but it lost this civil war, and the United States has been pushed aside from the eastern main continental ocean since 1949. It was pushed into Korea, it fought back in Korea, and the stalemate in Korea still continues. It has continued its military dominance and relationship with Japan. In Taiwan, the standoff still continues, what arose from the end of this time. In Vietnam, the American fought and lost. In Afghanistan the Americans fought and lost. So today, the United States of America is a very powerful maritime power in the Indo Pacific but a weak continental power in the Indo pacific. It is very powerful on the periphery in Japan, Korea, in Australia, in the Philippines. And it's time to create another, create more strength again in Europe. There was a standoff, a shared standoff in the Cold War, between the Warsaw Pact and the United States. And that resulted in the destabilisation of the Soviet Union that fell apart. The Soviet Union collapsed. Well, it was not a victory for NATO. It was definitely a political victory for United States. That said, it created a disjoint between that geopolitical order in Europe created by the Second World War. But it was being overturned by sort of military force by the expansion of the European Union into NATO which also expanded five times, until they wanted to expand into Europe, into Ukraine. And the Russians are now stopping them through a military force. So, the geopolitical order in Europe is also being restructured through an expansion of American and NATO power which is now being stalled by the Russians in Ukraine.

Geopolitics in one area doesn't remain in one area, you start pushing and competition spreads in other parts. Weaponization will be different, which is now being stopped by the Russians in Ukraine. So that is the geopolitics. All of you must have heard this phrase, with the new phrase it has come up. Basically, it means sanctions. Basically, it means the American domination of economy, finance, technology, air, transportation, and all is used for political purposes. That is to pressurize countries to sort of war. First you create a dependency and then you push that dependency in a way that serves your military and political purposes.

The timings also to do it in a different sort of way. They give to various countries including in our neighbourhoods.



They create roads, infrastructure; they create digital framework to set up security related information. So, dependency creation is something that the big powers do and now we are seeing it is called the weaponisation.

We are also in the midst of the Fourth Industrial Revolution. There are a lot of tech wars. Tech wars were always there. Technologies and application of power of this form against the weak. Now you have the maximum Gatling gun and it led to the French and the British colonization of Africa. You have the tanks, you have the military power, you have the nuclear power. And now we are looking into the digital age of computing, of artificial intelligence, quantum, crypto, synthesis between biology and chemistry. This will again create a new dimension of conflict and competition between the big powers and technology dimension will also be weaponized in the sense of obviously you have both technologies also to prepare new weapons, but also the technology dependence as weapons and we'll come to that in a moment.

All of you are aware everybody wants to move away from the fossil fuel based global economy, to less fossil fuel, to gas and finally to greener technologies and greener energy to green finance to hydrogen economy. Not everyone has the same interest. Not everyone has the same state, not everyone had their own technologies because you know, old resources and not everyone has the green technology and the green money. So, this again is an era of competition. Demographics, I think they've gone through almost everywhere in the world except in a few places, including India. Where the demographic dividend as an excess, as an excess commodity is over. It is over in many parts of the world. Europe, of course it's over. Also, the peak has passed in China. Russia is facing problems.

What is the demographic challenge? There are problems in the United States of America. And then part of the Europe, we'll come to that in a moment, but demographics has also become an issue. Now, how is that important in the security sphere. It is important because now there will be countries in the world which will look for technology to compensate for demographic deficit and there are countries which can use demography.

What is the meaning of poly crisis? It's one that we have not had crisis in the past. But now we are getting into a state where one crisis in one area, things in two places in the other area and cumulative. The keyword is cumulative. The overall passage to the crisis that's worse than this. You have situations where war start but don't end. Wars are being fought in various dimensions, not just on the field. In the maritime field, you are sitting asymmetrically in big fleets like the west. So, asymmetry for various types that are different.

Changing battlefields and proxy wars like Russia-Ukraine conflict is a very good example. Many of you have already read a lot of about it. Battlefields are changing. The current battlefield has 21st century weaponry, 20th century weaponry and 19th century, tactics of the 19th century, tactics of the 20th century and tactics of the 2030, how wars will be fought in 2030 is being experimented, tested, used in the battlefields of Ukraine. So, it is good for us not to ignore it also to study the lessons. But it is good to study the lesson because this is how lessons of the Ukraine conflict will be solved in the battlefield.

Continental and maritime security, I think is important. We tend to lose sight of it. There is too much emphasis in our strategic thought on maritime security, largely because we often all read stuff that comes out from the United States and UK and there are big maritime powers. So obviously they're interested in the world and maritime it is good for them, but I don't see why we should blindly follow what comes out from there.

Let me move on quickly. How do we analyse global conflict? Obviously, everybody says about unipolarity and multipolarity I think this is a very rough, general explanation. I think it's far more complicated than that. Unipolarity obviously in the early 90s, in the 2000s, United States was powerful in the military and economic dimension,



technology dimension, social dimensions, political dimensions. It was almost entirely powerful on any dimension. Now dimensionality of American power is moving, but it has changed somewhat, but they're not changed completely. It's not to say that the United States is now one more power in the multipolar world. It is not so. United States still in technology in maritime and air is by far the most powerful country in the world. Economy it's taken a hit. We'll come to that in a moment. Demography it has certain problems. It's robust. It's an overextended power.

The second power which is China, which is the second largest, strongest power in the world, is essentially a regional power acquiring global ambitions. Obviously, the peak of China's economic strength is over. That golden era of 30 years of 8%, 9% growth that is over. It's come down to settling down at 5 to 6% growth. It's got several systemic problems internally. There are only two superpowers in the world today in technology. One is the United States of America, and Chinese are currently running in that same line. The rest of the crowd is very far away, so there is edge or maybe a G2 that is forming in a way, and we should always remember this rule. The possessor makes the rules. Who are the key possessors of technology – US and China. Take it from me 10 years from now, the international rules on technology will be framed by the United States in consultation with China. That's how the world works, OK?

Weakening of deterrence and geopolitical conflict. I explained to you how the geopolitical structures of the Second World War I've written down. They have been resettled through the use of military force. They can also be resettled through negotiation, through for coordination, through accommodation maybe not happening they are you know all the big powers. Erosion of globalization, weapons or weaponization, interdependence, rise of non-state armed groups and actors. Now this is a very, very big development in the world we see we are all used to thinking that these states by themselves are really powerful and still are very powerful entities because internally they are supreme. Externally they are the main interface in which they deal with other States and the entire system is based on the fact that states deal with states. But unfortunately, we are seeing the erosion of state power over a period of time. Firstly, it was due to globalisation. The western liberal big companies wanted to weaken the state because they wanted to penetrate the market. Second, they wanted to weaken the states to create alliance allies and proxies so the militaries are also infiltrated there you know, their militaries fight not only for themselves, they also fight for, you know the larger alliance systems in Europe and things of that nature. But we've also seen very large non state armed groups. I mean you see it in the Middle East, Hezbollah, Hamas, Houties, they need Islamic terror groups in North Africa, in the Mediterranean, in Southeast Asia, with many of them in South Asia, non-state actors acquiring state part of the Taliban and Afghanistan. There's one-on-one side. On the other side you have about seven or eight tech companies mostly from the United States, but also from China which have now more powerful than 60 -70% of the countries in the world. Then you also have four or five big sovereign funds which are richer than 50% of the countries in the world. So, there were a lot of non-state actors that are coming in.

New technology, disruptive and transformative, but the Ukraine war is showing wars of attrition are coming in, wars of exhaustion are coming in, you will no longer have short swift wars, but will have multi domain wars, not fight in the same domain but multiple domains, land, air, underwater, sea, cyber, space, artificial intelligence, crypto. And what does it do? I think the great revolution taking place today in battlefield technologies, there is a huge amount of sensor data that will be generated, sensors have proliferated. There are all sorts of sensors, not only in the battlefield, but sensors in space, sensors in cyber. I mean there are some multiplication proliferations of sensors. Sensors have been there for quite a while. But what is happening in the battlefield today is the ability of countries or armies to integrate, collate, compute analyse and seek target information and target attack. The gap between sensor and strike is shrinking. Initially it used to be a couple of days, then it went into a couple of hours. Now it is coming into a couple of minutes. Soon to get into a couple of seconds. Well, automation is possible in a very large number of things, because the computational power in processing information has risen exponentially. Now this is still a process that is coming there. Climate change and energy wars we have seen. We have seen demographics and migration.



We'll come to that in a moment. Poly crisis we have already discussed.

Let me go and give you a broad picture of what the problems in the world today between today and 2047. You see these concentric circles, these circles that I've put around? Let me start with the first one, Japan, ROK, US that's one conflict zone. Second is the China, Taiwan, South China Sea area. Third is the India, China LAC. Fourth is India, Pakistan China. Fifth is China, Tibet, Inner Asia. Sixth is West Asia, Iran, Caspian Sea. Then you have North Africa, Mediterranean and Israel. Then there is Russia, Ukraine and NATO conflict. Then you have the Russia, NATO, China and the Scandinavian countries, we also have conflict arising in the Arctic. Then you have the US, Caribbean, Cuba, Venezuela problem. And then you have the US southern border. What is the characteristics thing if you put all these things together. They are all in the periphery of big continental powers. With the only continental power which has the least peripheral problem is the United States of America. The rest of all the big continental powers, Russian, China, India, Southern Europe or Central Europe, all have problems of perishing. This is the defining feature of the conflict in the next 25 years. Continental powers challenged on their periphery, dealing with maritime powers which do not have problems with their periphery. Well, this is how the world is going to turn on how the maritime powers put pressure on the continental power, as what alliance is they're bringing together.

Now that is added all up to show us what are the seven attributes of geopolitical power between now and 2050. We'll go to the United States of America which is a very strong continental power, it's a very strong maritime power. Demographically they are having a problem. Demographic problem that was always solved by the fact that they could accept immigration. That immigration is now becoming very contentious in the United States has become politicized. So, they will have problems of workforce and they will have problems of finding people to fight in their armies. So, one of the ways that has been introduced by the Democrats is you can enter the United States through the Mexican border if you sign up with the United States Armed Forces. Why are they doing this? They know that they don't have enough manpower to fight. Technology you can't beat them. They are the biggest energy exporter in the world, they have huge resources, you know, both on traditional, and non-traditional front. Economy is still so very powerful, but it's on the way down because the United States has acquired an unsustainable debt. They are \$ 34 Tn in debt. Every year they have to pay interest. Now this is a country that is unsustainable in its present economic model. Where is the fascination that many of us have for the United States of America? You cannot run a country and a big empire on debt.

Russia is a continental and maritime power but has huge democratic problems. Technology it is declining. Energy presently is there but I think in the future it will have problems. Economy is going down. Energy they have a hinter land of Russian energy resources. The country that is really challenged is Europe. Continental Securities is a mess, Maritime Power you know, I'm amazed how, European powers come to the Indo Pacific and say by the triangle, or how easily we all believe them because essentially, they have to look after themselves in Europe. It is only in the end that they can come and look after other countries in the world. But, you know, either we are polite or we are completely naïve in trying to, you know, welcome the Europeans in the Indo Pacific. They have this demographic problem in Europe which will explode because the consensus put together is European security is now broken down. I'll quickly go through energy economy, climate change.

India there's a continental problem. We have severe continental problems with both, with China, with Pakistan. We have this totally losing control over Central Asia, access to Central Asia. And we have two connectivity problems. There is no country in the world, a big country in the world, which has such severe continent connectivity problems as well. I don't know why we wish to push it under the carpet. We pretending it does not exist. What if there is a major power that challenges and it wants to grow, it can grow in terms of continental connectivity, it is India. Maritime power, we are growing but actually which is a good sign. Demography you know we are doing very well in demography but



sometimes our policies and demography pretend as if we have a demographic problem. Technology, we are doing well but I think we have a lot more to do. Energy we are OK but we need to do more. Economy is a bright spot. We have the political stability; we have the macroeconomic stability; we have the vision; we have the investment. We are getting in the technology. If India does not take off in the next 10 years, then we'll have a problem. Climate change we also have, well, let me run through very quickly because I'm running out of time. In thinking about how India will cooperate and compete in the international system by 2047, please keep these seven-dimensional global competitive market analytical. In Manufacturing India is a weak manufacturing power. We are putting more emphasis on getting more manufacturing, but we have a long way to go this. United States and China are the two big manufacturing dasas of the world. Infrastructure, we have improved a lot. A lot will be done in the future. I mean, this is one of the good success stories.

Finance or UPI and all in this one area I think India is already showing world class technology application capability which is very good lesson. But it is something that we need to replicate in other parts of the economy, other parts that parts but this method of success, and this is something a combination of policy, a combination of demand, a combination of innovation, a combination of confidence in yourself. Applications and a steady application in the world in the street over a large period of time. I think the UPI is a perfect example of good how good policies, well-conceived, well implemented can push India very quickly from a lower rank to a world class rank. UPI is similarly with, you know, with the digital revolution that is taking place. India is very good in some parts of the digital revolution, not so good in others, but you know, we can make up.

Technology, India is a B Plus country in technology. I mean, let us face it honestly. There is not a single technology I think that we are competing at world class level as national technology. We are very good at supply chain technology. We would allow countries to come and establish supply chain establishments in India grow on our extraordinarily well talented young workforce while it becomes a supply safety technology, India is very good. But what is it that India can bring to the table? Zero. I'm sorry to say that we are way behind in here. We are way behind in quantum. We are way behind in crypto. I'm glad that the government is doing a lot now. In the last 2-3 years, Prime Minister himself has said we were very late for real, but I think the government is sort of making up for lost time but we have one of the largest aviation markets in the world. We don't produce a single wide bodied, medium, medium case, so that you know, civilian airline. And there are many other examples that we can get. So, technology is something that we need energy and climate change. We are pretty OK security, including military power, we have the potential, but there are also a lot of challenges. So, the glass is half full I would say and I would but please keep these seven-dimensional global competition between India. China and the United States.

Presently, I will tell you if you don't do better than what you are doing now in the next two decades, US and China will be in the top class, India will be a distant third. So, these 7 dimensions of global competition is something that we've. Let me end by saying What does it mean for India? What does it mean for our very quickly rising India? This is our decade. We have never been well placed as India Today for the last 75 years. This is a once in a lifetime chance and opportunity. Is it like an aircraft that is on the runway, engines have all worked up? This is the time to go down the runway and take off. If you take off, India will be a very dominant powerful third country in a triad of global distribution of power, United States, China and India. If we don't, then we will be a distant third power, locked into a position of permanent inferiority viz-a-viz China. Like Mexico is locked into a permanent inferiority viz-a-viz the United States, we will be locked into that, provided we take full advantage of those two decades that are coming up in terms of economic growth, technological growth, military modernization.

Gross and net power is an analytical concept you should always keep in mind what is that you're putting in and what is you are getting out is the difference between gross and net. The stronger your internal stability the less you



have to spend on internal security. The more conducive it is for economic growth, technological innovation, military modernization. Obviously, the gap between gross and net will be reduced. Continuing to maritime issues, we have to solve this problem and get a balance between our maritime commitments and our continental commitments.

Defence modernization government has begun an extraordinary process of progress. Modernization, very broad, comprehensive modernization. We've made sure that we make a success in both command structure and recruitment and production of the country in reducing external dependencies and creating new doctrines for the future wars. External engagement is necessary for India, both for economic cooperation, for military cooperation getting the certain sense of balance of power in the world. To reduce the gap between China and India in the next decade, external engagement is absolutely necessary. But no external engagement is worth the price to pay an external engagement should be affected into creating so that we don't create any dependency cooperation with all our best friends with our not so good friends but subordination to none, no one. Coordination but more integration and this also especially to our Navy colleagues who talk so easily about interoperability with the Western navies and all. I think we should think, you know, we should think through that thing as very often in the past and the Ukraine example shows how if you trade dependencies which you which you are not under control, you can't control. Then you need some alliance. Let me end by giving this story of Star links applying, you know this applied linkage data to the equipment. Ukrainians are in great trouble keeping the credibility of Star links from Elon Musk. That when he is also approached says why I have a lot of business interests in China. I'm not going to give you this thing, you know, without any conditions. So, with this dependency that we tend to think of for usually with the outside world, I think we should all be a little careful, which of course brings us to the last point.

If you are able to build our own strength, if we are able to think for ourselves, if we have our own concept, our own technologies, we are willing to fight only the wars that we wish to fight, not other people's wars. We keep economic growth growing for the next two decades. India's rise as a great power is guaranteed. You take out the insurance over the strategic autonomy a lot of things will start falling apart so with that I will end, thank you very much for the invitation and I would like to congratulate CDM for organising this seminar.



G 20 AND BEYOND: POLITICAL VISION FOR GLOBAL LEADERSHIP

AMB PANKAJ SARAN (RETD)

Introduction

Good morning to everyone and Thank You to the Commandant of the College of Defence Management for inviting me for this very interesting discussion, I have heard carefully what Ambassador Varma has said and as usual, he has made a very brilliant and insightful presentation. He has been very frank and forthright I will try to maintain that degree of honesty in what I say, and I also am very happy to be in the company of Admiral Pradeep Chauhan, who also I deeply respect. Now on the topic itself, what I am thinking of doing is to divide it into two parts.

I will first talk a little bit about the takeaways and the lessons learned from the G20 process and in the second part of my discussion, I will talk a little bit about Leadership and what it means for a nation. Unfortunately, I do not have a presentation, so please do bear with me. The very fact that we are today talking about global leadership, in my opinion, is a reflection of a certain innate sense of confidence that we seem to have. Many years ago, we would not be actually even talking about the idea of India aspiring for global leadership. This by itself to me speaks for itself.

Lessons learned from the G20

Now on the G20, what I wanted to mention here was that in the normal course, G20 summit would have gone past because the G20 summit began in 2008, it is been now 15 years and every year almost there has been a G20 summit. So, the question we should ask ourselves is why was it so special and why do we talk so much about the G20? I mean, what is it about this particular G20 summit?

Is it because we are Indians and therefore it is only, we as Indians who talk about it? or is it that there was something we did during the G20 which has also been talked about by others outside India, because that really in some sense is a better? But as a measure of validation and success on some of the lessons of the G20, I think the first lesson was that it took place in a very, very complex international situation of conflict and contestation and what we managed to do was to reduce the level of international shrillness on Ukraine and steer the conflict in the direction of diplomatic rather than military solutions. That was one of the main takeaways, and we should bear in mind that although the G20 is meant for economic and trade issues and finance issues and agriculture and everything else, it is remembered and will be remembered more for its contribution to the political and strategic arena.

The second takeaway is that while we ensured that we avoided condemnation of Russia in the G20, we also managed at the same time to maintain our consensus with the Western world. And we actually even cemented our relations further with the West. So, the result was that while on the one hand, we kept Russia out of the condemnation box, we also strengthened our relations with the United States.

The third was that in many ways, the role of China was managed very well by us. Firstly, the Chinese President chose not to come, and I don't think anyone in Delhi really missed him. But he left the field open for us, but most importantly, by helping Russia to avoid this global condemnation, what we conveyed to Russia and to everyone else was that we freed Russia from its dependence on China on Ukraine and we exhibited to Russia our formidable influence with the global South as well as the West. And we ensured that China did not play the role of a spoiler and we actually showed what an asset India can be in guiding and shaping the agenda of the global South. So in doing so, we earned the confidence of all the three polls of the global order, which is the north, the West and the South. And we



also showed that money power is not the only currency to wield influence. So, in a sense India positioned itself well in being a credible yet acceptable voice of the South and this was one outcome of the G20.

The next takeaway from my point of view was what I call inside out. What we showed was that we were able to export to the world many of the success stories of our own internal national transformation which found acceptance globally and obviously the most shining example of this was the validation of our national digital public infrastructure. But there were many other success stories which we were able to put onto the table in the G20, such as financial inclusion, vaccines, lifestyle solutions to climate threat, green energy transition, circular economy, etc. So our call for the next point was that we developed the ability and we showed the ability to leverage institutions and strengths to expand our influence.

The next takeaway for me of the G20 again was the presence of the Gulf states, such as the UAE and Oman as Guest countries and Saudi Arabia of course, as a member of the G20 and the launching of the India, Middle East Europe Economic Corridor and it actually is a paradigm shift in how India defends its and defines its extended Western neighbourhood and all in all, I think we were very much in the driving seat with the healing touch and filling a geopolitical vacuum. So, in a sense, from US to Europe, to Russia to China during the G20 process, India was noticed and was quoted and the consensus in the New Delhi Declaration should be considered as a euphemism for a healing touch that India provided to a very fragmented and broken world. So, these were basically the takeaways from the G20 summit.

Leadership and what it means for a Nation

Now the question is why is this relevant for the discussion on the future and the whole question of global leadership, so I would like to just begin by a few propositions and there would be no one better than this audience to understand the meaning of leadership at an individual level and at an organizational level. But you know, the fact is we have to ask ourselves, how does and there are some attributes of leadership. One of these is how do we acquire or how do we achieve leadership? Is it and what are the qualities of leadership? So how do we acquire leadership? The question is, do you earn leadership or do you demand leadership? Do you command leadership?

The answer to these three questions is important because it determines whether you have understood what you need to do. So, all of you know that there can be nothing better than trying to establish leadership through example through the method of example. Secondly, what I want to also immediately do before we go into more detail is to separate the concept of power from the concept of leadership. So, while power would be an essential condition for leadership, clearly as you would know by your own personal experience, it is not a sufficient condition for leadership or putting it another way. While it is easy to acquire power in its widest and broadest sense, it may not be so easy to acquire leadership. So, we have to keep this difference in mind. Thirdly, while we proceed down this path of seeking to be something, we also have to be careful about the need to differentiate between the notions of respect, adulation, flattery and false praise.

As you would know, in your own careers. Flattery or false praise is different from genuine respect and we have to be extremely careful if he wants to be a good leader to be able to differentiate between, to put it loosely, who is taking you down the garden path and who is a genuine admirer of what you bring to the table?

And lastly, I would say leadership exhibits itself in times of crisis. When the going is good, all systems are working and that is fine. That is good. It is a kind of a default position but where one individual or nation separates itself from the other is actually when there is a crisis and how you respond to the crisis. So, these are just some broad



observations on some aspects of leadership now obviously, insofar as India is concerned, I would say that we have a combination of the both achievements and difficulties and we have to be honest to ourselves when we try to assess our ambitions and our strategies to become a leader because we have to keep in mind one fundamental truth which is that you are under scrutiny. The world actually is transparent and they are the first ones to be able to detect both where you are succeeding and also where you are failing. So, we are living in a situation where you actually really cannot fool anyone about your true capabilities.

What I would continue in this vein is to also talk about the attributes of power and leadership? First, I would say is whether we can set an example for the rest of the world and here this is something that we have beginning to show. We are beginning to exhibit in different domains and the examples can be said both in terms of material examples or invisible software examples. But if I were to take the first attribute, which is, let us say we talk about values and our soft power, then clearly, we have to know and we are exhibiting increasing discussion on India as a civilizational state. And the idea that India represents a particular perspective and a particular way of approaching its internal problems and external problems and this is critical and this is something which we can increasingly read and feel and see in statements by our current leadership, where the talk is increasingly about Indian civilizational identity and personality.

Obviously, this by itself is not enough because it has to be matched by palpable and visible success. If you want to set an example for others, you have to be able to show and demonstrate real success in any field. It does not matter, but if you talk only values and not successes, that also is a suboptimal position to be in. So, values have to be supplemented by success and obviously the 1st order of success and 1st order of business would be economic success. We should also have the ability to participate in solutions to global problems.

Now global problems are manifold. Ambassador Venkatesh Varma has highlighted many of the intricacies there, but broadly speaking, do we have the bandwidth and do we have the ability to become a part of global solutions? Can we ourselves become a global good or can we create global goods? Is really something that will distinguish us from others. Are we able to bridge differences and tensions in the world? Are we able to deal with a huge crisis on our hands, which is global warming and climate change? Are we able to address the real problems that India faces in terms of poverty, food security, health, security? Are we able to deal and address the problem of militarization of international relations and the weaponization of international relations? These are our actions and our thoughts on all these illustrative areas will also determine whether we are on the path to showing and demonstrating leadership. Also, when we it comes to the international sphere, whether India is in a position and has acquired the capability to innovate and build global coalitions or multilateral coalitions which promote the values and the interests of India, these are also aspects which are very important and relevant and play a part in promoting our leadership credentials. So, whenever we do all these activities and we do pursue these different aspects of leadership, we will find that there are different challenges in different domains, for example in the domain of hot power or in the domain of soft power.

The question we have to ask ourselves is for example, whether if you compare the difference between the United States and China, whereas both demonstrate power, hard power, we have to ask ourselves, who demonstrates leadership between the two. So, we can talk about let us say the leadership of ideas, the leadership of political views or you can talk about leadership of a certain technology or a certain aspect of military power, but when we look at the 2047 milestone and we talk about global leadership for India, I would only caution that it is a big term. It is not easy to aspire and achieve global leadership, so I would only urge that when we, as we plan and strategize and make a road map, it has to be tinged with a great deal of realism. We cannot overstretch and a lot of the leadership or a lot of the success of whether we achieve the leadership or earn the leadership is always today and tomorrow going to depend upon how we perform and how we acquit ourselves inside our own country. So internal strength is a fundamental



requisite for global strength and global leadership. We cannot dissociate one from the other. Some countries try to do. In fact, you could argue that the collapse of the Soviet Union was a demonstration of how the soul of imperial power was trying to overreach externally, but was hollowing out from inside. So, we have to keep those lessons from history, but what the G20 as an illustrative example has shown us is that at least our minds have opened.

We have now, we are now displaying greater ambition, but there is a lot of work to be done and we should not, also get carried away by a rhetoric, but we must have high ambition levels and we must then work backwards to see how we can continue to build upon the kind of successes that we have had for example, even on, let's say something like the digital public infrastructure or vaccinations or very recent examples of how we have been able to export our successes and one success leads to another and this is the way in which we can actually build upon and the steps towards global leadership. So, I end on this note and happy to answer any questions. And once again thank you very much for inviting.



MILITARY POWER FOR SECURING INDIA'S GLOBAL INTERESTS

VADM PRADEEP CHAUHAN AVSM & BAR, VSM (RETD.)

Rear Admiral Sanjay Dutt, VSM Commandant, College of Defence Management, the faculty of the College, esteemed Panelists which include the very illustrious ambassadors of India, whose footsteps it is almost impossible to fit one's own feet into, the esteemed moderator, officers and ladies, a very Good Morning. so after those two broad ministerial presentations let me try and focus our attention on some slightly narrow but not significantly narrow parts of what we want to say today.

Let me first start by saying, that can we move past this title and say the things we want to talk about, i.e. the whole business of military power, of security and India's global interests. For that we need to address ourselves to a number of questions. What exactly are India's global interests? What is the difference between an interest, a risk and a threat, and what constitutes military power in the run up of year 2047? All these are fundamentals, to being able to understand the role and the scope of military power. So, if I was to go further and just start with fairly basic setup, which is that every country has a set of, first of all of Geo-economic goals. For example, India has a Geo-economic goal to have a \$30 trillion economy by 2047. First of all, I want to emphasise another thing before I proceed any further, you know nations should actually not give dates by which something grand will happen, as it is a very dangerous thing to do. We did this once earlier when, President APJ Abdul Kalam was our President, and he said India in the year 2020 will be a superpower, and we are going to buy books and you know we bought those books and admired them and 2020 came and went, and India did not become a global superpower. So now whether we are wise in shifting this particular year to 2047 simply because it reflects century of our independence or not, personally I think it is a pretty dangerous thing to do, because you see where we are, we are in 2024 and 2047 is only 23 years away. So, if you look back and see how many nations achieved transformational achievements to the point of being globally recognised in the period of last two decades, you would say that history teaches us some strong lessons in this regard. But anyways, that's the topic for the day and I will go ahead best with it.

Every country as I said, has a set of Geo-economic goals, and one of the Geo-economic goals for India to cite an example, is that by 2030 or 2047 for certain, we will have a \$30 trillion nominal GDP. Every country has another set of non-geo-economic goals, and those are also actually important to articulate, for example in India's case, we have the requirement to build and enhance India's prestige and its reputation for wise and sagacious power, regional power, regional leadership, and as Ambassador Saran pointed out and Ambassador Verma had expanded, a global leadership. I think that, if we can manage to achieve reputation for power within the region and our region is the Indo-Pacific and the Asia-Pacific to add, then those might be examples of India's Geo-economic course and non-Geo-economic course. Then once again we need to understand, as has been explained by the other two presenters, that prestige rather than power is the everyday currency of international relations, much as the authority is the central ordering feature of a domestic society. While power refers to the economic, the material and the related capacities and capabilities of a state, prestige is different. Prestige refers primarily to the perception of the other states with respect to a state's capacities and its ability and willingness to exercise its power. Prestige involves the credibility of a State's power to achieve its objectives. if your strength (in other words 'power') is recognised, you can generally achieve your objectives without having to use your power. This is why, non-Geo-economic goals are quite as important as they are. Once again prestige is enormously important because as I just said if your strength is recognised then you generally don't have to use your strength in order to achieve your aims amongst nation states. The outcome of negotiations is determined principally by the relative prestige of the parties involved and the state at the top of the hierarchy of prestige, is able to translate its power into the political outcomes that it desires, with minimal resistance



and maximum flexibility. Therefore, the Indian military, seeks to establish India's reputation for power not merely military power, but power of state, all across the regions of India's maritime and continental interests. Now that the nations have developed these goals and India has been an example I have given you, it's not only India that does this, every country does it, then you develop geostrategies for the attainment of these geo-economic footholds and these geostrategies in India's case might well be exemplified by this listing. So, we have to re-engineer government processes and as Ambassador Saran has spoken at some length on this subject, so I do not have to dwell upon it unduly. We have to be able to generate these mechanisms that are listed upon the screen and I'm not going to read them because they're not large and I'm sure you can handle that. You also need to have geo-strategies similarly for your non-geo-economic goals. What might those be? For India, I think they could be the ones which are now on your screen. So we are seeking to create a revision, a modification to the UN structure. We want to have a seat in the UN Security Council, we want to be the first responder in HADR operations across the whole Indo-Pacific as well as across the Asia-Pacific. We want to be the most proactive player in regional security, we want to establish the Indian Armed Forces, now I want to distinguish between the Indian Armed Forces and the Indian Defence Forces, so the Indian Defence Forces are of course as you know the Army, Navy and the Air Force, but the Indian Armed Forces includes every force in India authorised by the central government to bear arms. All of these indications of what we want to be able to do in terms of attaining our geo-economic goals are there on your screens.

So then, we move on from there and come to the point that I highlighted in the previous slide, and that is, that how should we develop our hierarchy of strategic partnerships as an alternative to the treaty alliances of the United States. This slide shows you that we have a series or a hierarchy of strategic partnerships, we have special strategic partnerships and we may have comprehensive strategic partnership, strategic and global partnerships, strategic privileges and special partnership and comprehensive global strategic partnership. When you move from one to the other, this word Strategic for military people generally creates problems, so I won't be able to emphasise more that the word strategic clearly implies the number of policy fields across which you have to see convergence with the country concerned, and the depth to which there is strategic convergence or those policies fields which demonstrate strategic convergence. We are presenting this and in continuously doing so, to say that you don't have to be an ally, neither do we have to be an ally nor do we have to have USA as an ally. We need to have USA being able to engage with us in a matter of convergence of course in a number of policy fields ranging from education, health, military, culture, etc. There are many other policy fields, depending on how many policies you have convergence in, what depth you have in as you move from one level of that strategic hierarchy to another.

So now that's what we call Geo-strategy and once a nation develops its geo- strategy, it now seeks to put it in place and immediately goes into a panic state, one, it says oh God ! now that I worked these strategies, what should I do to make sure my strategy works and, what do I do if my strategy does not work. So, nations tend to put in place a set of assurances and insurance mechanisms, and these could very well be you know interpersonal relations between two leaders, for example Prime Minister Modi and PM Abe had a fantastic personal relation and the chemistry was just right and that propelled the India-Japan relationship far more with far greater acceleration that might have otherwise been the case. But the problem is that these sorts of mechanisms are brittle. People tend to die or they get removed from power, and that's almost the same thing as death, and therefore there is a much greater concentration that is needed and is obtained on the more traditional instruments of foreign policy, namely diplomacy and the military.

Let me quickly say that the reason why economy doesn't come here is because the economy is the goal and you can't have the means and the goal being one and the same thing. So, there are only two basic elements or instruments of foreign policy, one is diplomacy and the other is the military, and you are familiar with how we exercise this and we should exercise this as India through the DIME acronym which stands for diplomacy, information, military and economic outreach. Now it is foolish to think that this is an American construct. it is also a foolish thing to think



that this is a European construct. It is a wise and sensible thing for the CDM and all other Indian military thinkers to actually concentrate a great deal upon the fact that, if between 322 BC and 248 BC, if we had all of India placed under a single geo-political control mechanism, then that could not have been done without DIME and studying the Mauryan empire would pay us rich dividends.

Now India's core national interests as far as we are concerned, is what will drive us, and that is to ensure the economic, the material and the societal well-being of the people of India, and the word societal here is important. But the word economic and material need to be distinguished. Not everything that is economic is material and not everything material is economic. So, from here, let us have a look at what might be India's external interests in this particular game. Territorial and cartographic integrity, of course, the promotion of national and regional peace, prosperity and stability, the transition from a brown economy to a blue one, transition to energy self-sufficiency through renewable sources and the promotion of a hydrogen-based economy to ensure trade centric and port length economic and societal development. This is because, if you want to move from a 3 trillion-dollar economy to 10 times that value, then you can't do it by moving across the trans Himalayan boundaries and only do it by extending your external trade. You can't have an Indian domestically driven economy moving to a position where from it reaches from \$3 trillion to \$30 trillion. So, the creation of a digital economy, the ensuring of the promotion of regional infrastructure and which are resilient against the adverse impacts of climate change, all these are India's external interests, but they're not all they're some. That means the Indian Armed Forces are capable, and are in fact, in many cases, preferred instruments for manifesting all this, and all the ones which are in green on the slide show you where the Indian Armed forces can actually apply themselves. Especially I want you to concentrate upon bullet No 4 and that in terms of energy efficiency, the transition is what the Indian Armed Forces will try and make sure happens. So, it's not just the security of energy which can be attained through maybe you know, just equity in various energy producing sources, but the actual security of that energy as it physically flows across now in India. We must obviously contend with two Indias', which are now of equal size and area. There's a land India of 3.2 million square kilometres and there is a sea India or maritime India of 3.2 million square kilometres. Our challenge as my predecessors have already said, will always remain how to achieve the right balance between our maritime and our land based geo-political imperatives.

The exercise of power by the Indian Armed forces can't be limited to what was happening in the late 20th century. We now need to concentrate on sharp power. We also have to be able to leverage the huge dividends that are emerging and can emerge from soft power, but we need to address the entire spectrum of moving from soft to hard power which incorporates the central segment called sharp power. I just want to quickly come to the points that I wanted to emphasise and that is, you know, our desired end state which is therefore the economic, the material and the societal wellbeing of the people of India. Once a desired end state is given as a written expression, then it becomes known as a statement of policy, and a statement of policy which does not tell you what is the desired end state, is, many good things, but it is not a statement of policy. For policy to occur, it must tell you what we want at the end of it all.

India's maritime policy is encapsulated in the acronym SAGAR. I want to emphasise that SAGAR is not a vision. The vision of Sagar is India's maritime policy because we truly believe that the Indian economy cannot ride upon some Crest while the economies of our neighbourhood are following in some trough. When you talk about security and growth for all in the region it is driven by enlightened self-interest of India. Then we have to ask ourselves when we are talking about security, what kind of security are we speaking about, and the answer here is holistic security. I want to refer you to the maritime domain and if SAGAR is our statement of maritime policy, then this is a diagrammatic depiction of our DIME, this is SAGAR, this is our diplomatic, our informational, our military, our economic outreach through the region. People ask me, ah Sir what is happening in SAGAR, and I only want to ask him what here have you been smoking. Nothing is happening in SAGAR, SAGAR is a policy, it's a desired end state, but to provide a degree of specificity to SAGAR, we have created or the Prime Minister has generated this concept of



the Indo-Pacific oceans initiative and the Indo Pacific Oceans Initiative is already being subscribed to by a number of nations and so traction is being gained. What I'm saying is that in this whole Asia-Pacific and Indo-Pacific region these are the seven thrust lines, these are the lines of effort, you want us to follow you and you want to follow us, you want to come side by side with us Do you not want us there at all? Anything will do. Just address the issue.

From there we now go to our principal maritime interests, which is holistic maritime security, which is maritime security implying freedom from the threats arising in the sea or from the sea or through the sea and man-made threats, natural threats or a combination of these, all of them are encompassed in this. I am sure you are familiar with this basic ecology which is relevant to the maritime domain, but I dare say it is as relevant to the continental domain as well. The geographical context of India has been stated by the Prime Minister of India and you are familiar with that, from the shore of East Africa to the shore of the Americans, and people say, "isn't that a huge expanse, do you have any resources", so this is the military question and the answer of course could be that, "what should we do guys, should we remember to cut our coat according to our cloth" or should we simply weave cloth according to the court that we want and the guy says that's really smart, that's a real turn of the phrase but unfortunately we still need resources. The answer there for the Indian military moving up now to 2047, is to generalise and understand the difference between capacity and capability. If we are following the American dream then we will concentrate on capacity, capacity means material, it means dockyard, a ship, a workshop, an aircraft, a submarine, all of this is capacity. Capability is the human wherewithal, the human ingenuity, the skill set, the training, the legal framework, the understanding, the ability to play the military game correctly, this is capability. So, we need to be able to, if we don't have enough capacity, which we seldom, which is mostly the case, and this is just a slide indicating what I've just said, I will just keep it on for a few seconds. And then emphasize the fact, that we in India, we may not have enough capacity to throw at a problem, countries which have excess capacity, throw capacity at a problem, we have capability. Capability is our strong suit and therefore as Ambassador Saran said, we need to be able to develop our strength in capability and play to our strength and not play to our weaknesses.

Going from there, we come to the objectives that India has in the maritime space, and the objectives in the maritime space are fairly clearly defined, as shown on this slide. And you can see them from 1 to 8, including that of Antarctica and the Arctic, which are critical to us, for being able to determine the accuracy of the Indian monsoon, and when we get our monsoons correct, we get our agriculture correct and when we get our agriculture correct, we get our economy correct and then only we are a power. So, with these eight objectives, we now move to our strategies that we'll be able to develop in the run up to 2047, and our grand strategy, military strategy and maritime strategy are all increasingly being contextualized to the Indo-Pacific even while our continental strategy concentrates upon the Asia-Pacific. This is a strategic geography, so understanding the strategic geography is a critical element of any military especially Indian Military, if India is to move to this position of greatness by 2047. India's maritime strategy is predicated and here I will take up differences with what Ambassador Varma said, that the next two centuries, I believe, will be centuries of the sea and centuries of the space. Over the course of these two centuries, India will either be a maritime power and a space power, or India will not be any kind of power at all. This is not to diminish the criticality of the land and the continental issues, but to say that if we are going to be a global power, then the global access is not provided to us through the Himalayan borders. What we are ending up with, therefore is, this as the mechanisms by which we will be able to pursue our principal maritime interests, namely maritime hard power and the blue economy, resting upon a legal framework in which our national law is fully reconciled with our duly ratified international commitments.

Here this is our weakest area and I really feel strongly that, we cannot move from here to 2047, unless we address this business of law. In terms of our indicative strategies in times of peace, in times of tension, and in times of conflict, there are different strategies that we must be able to adopt, formulate and execute. In peace, of



course are principal instruments of constructive engagement. We believe in the regional area; we believe in Zoltan Merszei's famous comment "Money is a coward". Money does not go where there's turbulence and risk. Can you see all those blotches on the left-hand side of your screen? there's no money going there or coming from there. Do we need money? Of course we need money. Why do we need money? because our core national interests is the economic, material and societal well-being of our people, hence we need the money in all its forms. In terms of direct investments, foreign direct investments, we need money in terms of trade. That is why India is driven, and the Indian military must be driven to ensure regional maritime stability. Please don't think that you only need to look at India and South of India, you also need to look at India and north of India as well. So India is currently concentrating upon five basic major but very different approaches for its endeavours vis-à-vis constructive engagements. The first is through multilateral constructs, which you're familiar with in the Indian Ocean. You get a pretty heavy event diagram available to you now, which is showing sequential temporal complexity of the Indian construct. Next our military must be able to start to concentrate upon Africa, we must be able to understand the African strategies and not look at Africa as some country which we can happily exploit for our own benefit. Say the Djibouti code of conduct, all these are military concepts and military constructs which you need to be able to internalise and understand, if we are going to do something great in between the next few decades, this is all going to be prerequisites.

In the Pacific Ocean these constructs are also well known and India is at the heart of many of these, these are ASEAN centric constructs. Every regional security construct must have at least three layers: - a conception layer, a political layer and an executive layer, which will actually do the doing, and do not think that the military lies only in serial number 3. it lies in serial numbers 1, 2 and 3. So the conceptual layer might well be SAGAR and the IPOI, the political layer we think is the East Asia summit, but there is no doubt at all that the executive layer must comprise an amalgam of the western Pacific naval symposium, the Indian Ocean neighbours symposium and this must be reflective in the ability of both these sets of countries to engage one another at a military level. The second approach is the IPOI, of which, I have already made a mention. Our 3rd approach is through BIMSTEC and mini laterals. Here's the diagram of the seven mini laterals of consequence for India. Then of course you got the Cololmbo security conflict which again is a critical aspect. Finally, we got the 4th approach the QUAD, of which you are well familiar and people have spoken about it. The last and fifth approach is the proactive promotion of connectivity and both Ambassador Varma and Ambassador Saran have spoken about this. I just wanted to emphasise one part before I close and that is the connectivity is not some password. It's not, something you know, if you don't say maritime connectivity in Delhi, you don't get invited to parties. So maritime connectivity has at least six elements to it and we need to be able to understand each of them. Which ports are you wanting to connect? what medium is it going to be connected across? what is going to? what are the platforms on that medium? are they going to be digital? are they going to be physical? what are the items being carried? what kind of processes and procedures have you got in place? and finally, what is the rules-based order which you are wishing to follow.

So it is with this, that I would like to conclude my session, to say that for the Indian military to go forward, you can't say oh ! OK, you know, I must have better drones or I must have better Munitions. Or should I invest in directed energy weapons? All this is at a tactical level, and we are no longer going to be able to stay within the tactical level. If we want to do this great stuff by 2047 and so we need to be able to understand the big stuff and then draw out what is it that we will actually be able to do to support each of those national interests and the global interests that we have.

Thank you very much.



SUMMARY OF DISCUSSIONS SESSION-III

Q1. If we analyse India's recent diplomatic actions as well as interactions of the Minister of External Affairs with the journalists, it is quite clear that India has adopted a more assertive diplomacy, which has sometimes ruffled feathers of even our Western allies. So do you think this is the right approach or is it premature and it would be more prudent to align with Deng Xiaoping's idea of hide your strength and bide your time till we become a bigger player in global affairs?

Ans. Yes. I mean, I think that's a great question. You know this question of timing is also fundamental to your success in getting and acquiring leadership. So, this is really at the heart of the whole problem in my opinion. I think the current Indian leadership is extremely deeply immersed in realism. Then they are not inclined to adopt rashness or foolhardiness in how they engage with the world. In fact, the two books written by the External Affairs Minister, I think, are worth reading both of them. Why India matters and The India Way and why Bharat matters?

Because they bring out the mindset of the leadership that we today have in our country and how it is so different from the past, I would say, you know, one of the fundamental prerequisites, before you think of leadership is self-awareness and self-belief. And so, you could even argue that leadership is a state of the mind. And unless you do not have that sense of belief and sense of conviction, regardless of all other attributes, your chances of the acquiring leadership of any kind, in any case, are almost non-existent, so the first step towards breaking out of the Mold and showing leadership is what you believe about yourself, how you visualize yourself. So, there is a jury out on whether you know, bold or controversial public articulation is a good policy or not, but I think if we actually look back a lot of the Indian confidence as exhibited, let's say, in the remarks made by the external Affairs Minister in public, a lot of that confidence is emanating from the fact that in the last, let's say, since the installation of this government 10 years ago, that a lot of the things that they have done have actually worked well for India and they have succeeded.

So, while you can bide your time, the flip side of that is that nothing succeeds like success, and if you have shown success in so many ways and I don't want to elaborate them both internally and externally, that actually provides you the confidence to say what you believe, and I think basically that's what he has done. I think he is coming from and not just him, but the leadership is coming from the position that India effectively is a coalition of one. And so, we really do not need to be apologetic if we do not agree or if we have contrary views to established powers.

Because we believe the fact that we are the largest country in the world, the largest, or rather the oldest civilization in the world. And we also have that belief that the future belongs to India, and lastly, that if you're talking about the political leadership, they are convinced that what they have set in their own is the correct path. Which will actually enable the country to acquire even greater successes. So, I would put it like that, but I will just end by saying that the point made is very valid, but I and I'm convinced that the leadership that we have today is its feet are firmly grounded in reality.

Q2. Is it important for India to become a permanent member of the United Nations Security Council? How should India strategize for the same?

Ans. Yeah, I mean it, it is important and also not important. I mean the question is that if there is a body such as the Security Council getting inside the body is better than being outside it. But I would not lose my sleep over the fact that we are not inside it. You know, we have gone through different kinds of strategies on this question of membership. The strategies have ranged from aggressive lobbying with world capitals, talking to everyone, expending huge amount of



political capital, sending emissaries, sending ministers and making grand speeches. And all of that did not succeed.

Secondly, relative error or phase of silence and I think we are presently going through that phase where we are not making it a life and death issue for us. The reason is very interesting.

The reason, in my opinion, is that as you grow more confident about your own strengths and your own capabilities, you realize that and increasingly there will be others who will actually talk about why you should be a member of the Security Council and What we are witnessing today is a very rapidly growing and visible footprint of India on every single major international platform grouping coalition. To the extent that you can argue that India is present everywhere on every issue and in every forum that matters and the second aspect of the answer is that by demonstrating our capability and dexterity and flexibility in participating in all these different bodies, we're also sending a signal to the Security Council P5 that number one, you are incapable of solving the global problems of today. And therefore, you are beginning to increasingly yourself look outdated and anachronistic and therefore, if you need to maintain your relevance and to be of interest to, say 200 countries, then it is you who have to reform and it is up to you to take the initiative to reform. So, in other words, by our actions, we are making the Security Council look less and less relevant to the kind of issues that India faces. So this is a combination of I would say, growing confidence by India in terms of our engagement with non-established groupings outside of the United Nations and we are doing it very deliberately. With one eye on this issue of membership and the second born of relatively new sense of confidence that there is a certain inevitability about this process, if not today, then tomorrow. The question is, how long can you have a Security Council? You know, one of the really nice phrases used by Doctor Jaishankar and his book why Bharat matters is this concept he has used of freezing the moment. What the established powers have done is they've frozen the moment they have frozen 1945, they have frozen 1967 as a date for the non-Proliferation Treaty. They have frozen the P5 in 1945, so when you are in a position to do so, you freeze that moment and everything which happens after is then told is illegitimate and that you are being a revisionist power. So, I think India is operating at multiple levels. The strategy has become much more sophisticated. It is not simply a strategy that is focused entirely on rhetoric and speeches, but in many other ways we are in like a Vortex, we are circling the CENTER and there will come a point in time when by the sheer weight of who we are and the sheer force of example, you will find that it'll become almost impossible for India not to be part of some structure such as the Security Council.

But if we leave it to the diplomats and you do like a bottom-up approach, you go to the General Assembly, you talk to, you know, diplomats and the negotiators, they'll take another few decades and they will ensure that the process never actually succeeds. So it's a judgment call as to how much energy resources time you want to expend on the single point agenda. Or you want to get your work done, you want to advance your interests in many, many other ways and just make the Security Council look increasingly, as I said, ineffective and anachronistic.



VALEDICTORY ADDRESS LT GEN RAJ SHUKLA PVSM, YSM, SM, ADC (RETD)



In a career spanning over four decades in the Indian Army, Lt Gen Raj Shukla has seen extensive service in the field - he commanded, an Infantry Brigade in Counter Insurgency Operations, the Baramulla Division along the Line of Control in the Kashmir Valley and a Pivot Corps along the Western Borders. An alumni of the Defence Services Staff College - Wellington, the College of Defence Management - Secunderabad and the National Defence College - New Delhi, the General Officer has served two tenures at the Military Operations Directorate dealing with Doctrines / Force Structuring and was the Director General, Perspective Planning, addressing issues relating to Military Futures and Force Modernisation. He has also been Commandant of the Indian Army's prestigious training establishment and think tank - the Army War College. A professional aviator and powerful orator, General Shukla has an abiding interest in strategic - military affairs. He has authored close to 70 articles / publications and lectured / participated in more than 180 talks / seminars in India and abroad. As the 22nd General Officer Commanding-In-Chief of the Indian Army's Training Command (ARTRAC), the officer made noteworthy contributions to the development of India's Strategic – Military Futures, Technological Innovation, Professional Military Education, Capacity Building, Operational Poise and Civil – Military Fusion. In recognition of his service of the most exceptional order, the officer was awarded the Param Vishisht Seva Medal on Republic Day 2021. The Honourable President was pleased to appoint Lt. Gen. Raj Shukla to the office of 'Member UPSC,' w.e.f. 18th July, 2022.

Commandant College of Difference Management, Rear Admiral Sanjay Datt, VSM, the team of panelists, fellow veterans, members of the faculty at CDM and participants of HDMC 19. friends, ladies and gentlemen, it's a great pleasure to be speaking to you all. Thank you Commandant CDM for both the opportunity and the invite.

This seminar is all about India towards Viksit Bharat, Vishwamitra and even Vishwa guru, so I'm sure you would have a broad understanding of what these terms mean. It is important to understand the overall context. As far as this Vishwa Mitra is concerned, I think Dr Jaishankar has articulated beautifully in his latest book "Why Bharat Matters". It's basically a bridge for the world, a kind of problem solver for Vishwa guru.

Vishwa guru perhaps will be in terms of three aspirational attributes -economic primacy, Technological lead and repository of global best practices. So, these are matters of great ambition, but also humanity, because they tell us that we are not there and we will have to work hard. This needs to happen by the turn of the half century, 2050 or so



in Amritkal. Amritkal is not just an auspicious coming together of stars, but it is a challenge that we pose to ourselves and it has a very strong economic rationale that we must act with speed and scale, else we will get old before we get rich. This is not implausible given the geopolitical sweet spot that we are in, and that seems to me a very big reality. Also, the fact that political stability today reigns in India. That's a big plus, so it is very much a doable prospect.

It has been also articulated by many others, Kishore Mahbubani for example, who for some time now has been saying that, you know, from the year 1 to 1820 of recorded history, China and India were the leading economies of the world. They were the foremost civilization. The last 200 years, for various reasons, have been an aberration, and all aberrations come to an end. India and China will soon regain the number one and two spots in the world. There is a Goldman Sachs report which suggests that by 2070, both India and China could be \$50 trillion economies.

These broad trends are affirmed by diverse voices. But it is not a done deal as yet, as Mr Bivek Debroy, in a column in the Financial Express in February 2024, named 'Measuring Vikas' because he gave the precise metrics that we need to achieve. Our HDI, for example, must grow to > 0.8 . We are currently in the region of 0.6. Per capita income is about 2300 US Dollars. First line is 13,000 U.S Dollars. So it is a humongous challenge. The inequalities must be scaled down. The labharthi must be reduced surgically. It also is a need to go beyond the Washington consensus. You know what we've been saying for good economics, low inflation, just to Control fiscal deficit and everything will fall in place. That may not happen, and there are many countries with similar aspirations.

There is Saudi Arabia, for instance, which is looking for a massive turnover, and therefore many are of view that we will need to do far more than the Washington Consensus. Two areas that I can think of. One is for innovation. Innovation the way it is happening, is an entire philosophy about the ability to take risks, ability to fund failures, compressed processes and great creativity and imagination. Therefore, the Prime minister's great emphasis on Anusandhan, R&D and innovation.

Look at AI. I'm told that the economic global opportunities in AI by 2030 will be \$25 trillion and by 2075 will be \$100 trillion- that is size of the global economy today, that's mere economic opportunity there. How are we placed to exploit that? Where are we in compute? Where are we in large language models. As I said, it is a doable prospect, not a done deal yet. Things largely point to the fact that it is India's moment, but we will have to work very hard. Many diplomats, I'm sure would have addressed you and would have sounded on the ways and means to help India achieve the best equilibrium with China, our principal competitor and adversary. Unless we get the right equilibrium with China from some very creative and imaginative diplomacy, persuade China to accept the fact that there is a future where you have two tigers on either slope of the Himalayas, if necessarily and need not be one tiger on the hill. So that is the other challenge.

But let me try and focus in the time that has been allotted to me on an area that I'm more familiar with and which is how could we fortify Amritkal and secure India's rights. You see, one thing that could derail Amritkal is national security diversity, so we must do all that we can so that it does not happen. And I have tried to organize my thoughts around four issues in trying to secure Amritkal. First is that we must understand that what is the major geopolitical struggle that is currently underway with significant implications for national security worldwide.

Unless you have an understanding of geopolitics, the national security fit will never come. So, you must become students of geopolitics, humble students of geopolitics, and the time to begin is now, time to expand your horizons is now. You've passed that phase where you have already demonstrated single service proficiencies. Now is the time to develop a sense of how integrated combat is going to unfold. Study in that domain and start developing a wide-angle view of national security. One of the principal failings of the Indian Defence Services, which we must



acknowledge are professional military education.

The four issues that I said, first was the geopolitical struggle. The second point that I would like to place before you, and this is also important in my view. India is in the midst of a massive national security makeover. I repeat, massive national security makeover. The boldest and most ambitious security reform since independence. A great work has been done in terms of national security makeover foundational edifice. I'm sure through the year people would have spoken to you about what an enormous challenge it is and the complexity of the national security challenge. This has come out in recent conflicts, most particularly Ukraine and Gaza.

Technological innovation that is driving defence, national security deterrence and warfighting today is the most fundamental change in the character of war perhaps in recorded history, that is how massive it is. We have to be seized of the challenge that lies before us and be the harbingers of change. The transformers will be our generation. In the light of that, we will discuss what are the multiple transitions that we still need to make. I point to 10 pathways in my humble opinion. These are the 10 things that we must do, but they could very many more when you apply your brains to it. That in sum is my thesis and let it now unfold.

It is only the economy that matters. It would appear to me, however, that today national security is driving geopolitics like never before. Look at the Secretary of State for Defence of United States, Lloyd Austin. I think last month, he said 'We have moved from a post war to a prewar era. 'Prewar means pre-World War II. Trump said 'We are prosperous, we are civilized, we don't fight' and they are fighting. The NATO defence chief says that the war could come as soon as 2025.

Chancellor Schulz in West Germany has asked the German car making industry to start making tanks. The French President Macron yesterday said we cannot rule out European troops in Ukraine. It's very unlikely, most analysts say it will happen on a bilateral basis, but look at the grammar of foreign policy. Anthony Blinken in press conferences rattles out figures of how much artillery ammunition, patriot interceptors that are being shipped.

The foreign policies are telling that US language is changing. So, look at west Asia. Iran, through skillful leveraging of its own land instruments is challenging American Aircraft Carriers. But these are all possibilities and the tragedy is that in an era of war, deteriorating industrial complexes in the West are unable to respond on a war footing. The world's richest cohort, Europe, gets 69% of its funding for defence from USA. It can't defend itself. Today, America is faced with the dilemma. Do you fight on in three theatres or win in one? And which one?

This is all because these things have not been checked, through Western state craft has been lax, the military industrial complexes are in poor shape, which also says that we must not copy them blindly, but develop an own tradition. These laborious procedures that we have adopted, our Western construct, why not junk them if they are failing to deliver. The problem in Ukraine today is not money but munitions The US is now ramping up production of artillery munitions to 100,000 rounds a month. But that will happen only by the end of 2025. Russia is already producing 500,000 rounds per month. North Korea has supplied more ammunition to Russia in both speed and scale than the entire West put together. USA does not have seven days of missiles and precision munitions in a Taiwan contingency.

So, the arsenal of democracy seems to be losing to the arsenal of non-democracies. Does it tell us that we must adopt new Indian traditions and statecraft, procurements, deterrence and warfighting. President Zelensky at the Munich Security Conference said in exasperation that 'enemy artillery does not fall silent because the complexity of your procedures. He was signaling to Europeans that you keep telling me procedure. So, democracies are of course



a superior system. But democracies must learn to deliver. Big democracies have to start delivering, and the West is now realizing that the defence is not consumption, it is investment.

You know these two percentages of GDP, which NATO talks, which they pledge on defence is less than what Germany spent after the Treaty of Versailles was imposed on it. So, these expenditures are ridiculously low. Americans today are asking why spend \$950 billion, that's what the USA spends having 850 military bases and 11 aircraft carriers, if you seem to be losing in every theatre. So we must imbibe these lessons to make sure that we step up our game so that it delivers.

So, if the globe is swiveling towards national security, deterrence and war fighting. How is India placed? Where do we stand? Well, we are fortunate that we have begun and are in the midst of a national security makeover. It is important that we soak this in because unless we are conscious of what has been done, we will not sense criticality of the moment and will not be inspired to do even better. Look at the grand strategic geometry and I've said this very often, it was laid out by the Prime Minister himself in addressing the combined commanders conference in December 2015. Those of you who have not studied the document, it is available on the internet to study. It was remarkable for its breadth of vision and its clarity of purpose. He laid out a road map for the evolution of a strategic outlook, he said 'We've had many leaders who have been brave. Now we need those leaders who can drive change in the International Security system. Of course, we must fight bravely, but we must also plan and think wisely. Indian military must step up to protect citizens and interests across the globe. Structural reforms are now being implemented that we are seeing - Theatre commands, technological revamp, Cultural transitions. National security is so complex that it needs very good talent today. All of us thought and said Bada Mushkil Hai. However, the reforms have unfolded in precise tranches with unfailing regularity and with dogged resolve, and it is my hunch that more will follow.

The new normal in our strategic outlook now conveyed in two swift strikes what would have taken months of tortuous diplomacy to convey that there will be consequences to pay for adventurism of any sort. The Indo Pacific Army Chiefs Conference, the first of its kind, was held last year. A global gathering of army chiefs from US to Thailand to Argentina. First ever, and we've been struggling to do this for long. It was followed up by the China Defence Dialogue. These are opportunities that we have sought to engage and shape conversations on National Security. You see breathtaking reforms, breathtaking corporatization of OFBs. It's a big message for PSUs that you must become business smart. You have to be cost effective.

These were things that you never thought of Atmanirbharta in defence, the drivers go beyond the critical objective of self-reliance. Let me quote the Prime Minister himself 'the objective of Atmanirbharta is to liberate the forces of innovation, energy and enterprise from the scourge of process and procedure. And he's also signaling to us that the next phase of growth in defence will come from private sectors and startups. And it is an invitation to talents from business start-ups, defence technologies companies to come together as part of this civil military fusion to upgrade our defence capacities and create supply chain resiliencies.

China has created this whole 1000 talents plan. They are recruiting Nobel laureates to drive strategic military capacities across the PLA. So, we also will need to step up our game. They are part of deals with predator, with American corporate majors and they are being sought for their talent and these are the start-ups or some similar start-ups that we will need to identify as our national champions of the future. Prospectively, they will have to scale up and become these Boeing, Lockheed of the future. I think time has come to redraw these boundaries, civilian military silos. The world has changed. AI as a technology can be used responsibly in every domain. All this is necessary because our economic flight, from fifth largest to third largest economy, must be calibrated. So your careers are maturing in one of the most exciting times. You must seize the moment, build on the edifice, and engineer these multiple



transitions to complete the makeover.

I will now suggest those ten creative pathways that I said I would. The changes you can deduce just by studying how war fighting is changing in Ukraine, Gaza and how geopolitics is changing. Out of the 20 leading corporate measures in the world seven are Chinese. If you have to compete with China, you will have to create corporate entities with global footprints and capacities. So, when the rest of India is thinking very big, why should defence think small, and it requires a lot of hard work and calibrated follow up.

The first pathway is to become alive to the new essentials of geopolitics. Look at how the arch of conflict is generally gravitating to the Indo Pacific. So, we obviously need to strengthen our deterrence. Now when people say you see deterrence is costly, deterrence cost money, certainly, but wars are costlier. Ask the Ukrainians and we need to prepare for a possible war. I'm not saying war is imminent, but I'm just saying that there is a possibility. Look at west, if you neglect your military industrial complex, you will come to this state.

The second point is, the concept of short Swift wars. My generation is also responsible for it. We need a severe doctrinal change for the foreseeable future. Conflicts will be long, unpredictable in length, Industrial in nature. Start-ups have been unicorns just by delivering military capacities. There is a space for innovation there. We need a comprehensive audit of our readiness and stockpiles of inventory variety. America was great power when it came to limited wars - the strike in Lebanon, strike in Syria. However, in prolonged high intensity conflict, response has been found to be woefully short. We must do an audit on those lines. And here, it is my understanding that while we may be geared for Grey zone and the responses short of war, for prolonged high intensity conflict, look at just one domain. Ukraine is all about precision. Dumb Munition is useless and our ordinance factories have by and large been done. Therefore, we must focus on creating cold military steel, not merely hashtags. And as I said, it has to be done on a war footing. Lazy processes will not do.

American studies tell us that the Chinese production and procurement enterprise is five to six times more efficient and faster than the USA. In AI, the gap between China and America was two years. Through diligent performance, the Chinese have brought it down to six months. In space, they have brought it down from five years to two years. We have to really step up our game in speed and scale. In Ukraine, innovation cycles are delivering in six months what traditional procurement cycles would have taken six years to deliver. GSQR in the traditional sense is dead. Combat upgrades are occurring through commercially off the shelf technologies. They are no longer coming from technologies in government funded R&D labs. The American military, after seeing the great utility of Starlink, has now contracted Starshield. This is how strong the response of the West has been.

Today, most of the systems are software driven. Targeting data is now being streamed to combat platforms on land, sea and in the air. Look at Planet Labs. Today in 20 areas of operational priority in the TBA, it is giving you revisit times of 2 1/2 hours. We were talking in weeks and months. It is spectrally and spatially superior from of information. Now along with surveillance drones and strike drones, persistent surveillance is possible. This is how things are changing. Planet Labs is a commercial product. So, our GSQRs our retired and are DPP will have to adapt to this or we are simply not going to get there. We have to find a way of getting around the procedure of L1 as it is not working. It is also not proved to be the most competitive economically.

The products that come out through L1, you know just in the process they may be L1, but they're not globally competitive in prices. So one possible model you know which people have been talking about, and I'll just spend 30 seconds on that. The way to do it is, you see very early in the evolution of the technology cycle. For example, drones, they are a way of injecting mass in the battery field. Or let's say the army concludes that we will use drones



for counterattack of Armour. Now once the army agrees to the concept, you identify your start up or Indian corporate major. Now say, this is the concept -Military Business Case- Counter Attacking Armour through drone storms. This startup, this corporate major and the Army, once you are in this now, now you develop it together. So GSQRs will evolve and there is a guaranteed placement of orders there. iDEX platform has already given us a fair process for identification of these start-ups. So we must encourage them, mentor them. These are the national champions that I was talking about. There has to be long term demand signaling. Assured orders based on division of spoils. We must identify those corporate that make ammunition and we will see five years later nobody's going to put their money. That is the lesson of the waste.

So we really have to institutionalise risk taking and failures. We have to pivot from merely platform acquisition to talent acquisition. You must have high quality talent. Many of these social startups say I'm paying for 10 IT engineers. This is their price. You have to pay for it. Somebody will give you L1 low price and product will never come. We have had many experiences in the past and this is so important because capability, after all, is the father of strategic intent. So all these things will need to have to be done if we have to prevail in the strategic competition. As I said, we will need far greater creativity and imagination in India's national security firmament.

Look at various issues. So we need to build a system in the IOR to counter potential Chinese naval ingress. It that has to begin now in a far larger scale. Look at the character of air power. We must seriously analyse why is Russian airpower being so underwhelming in terms of air superiority and interdiction. What implications does it have for us? Look at the growing salience of the drone missile defence complex. Hezbollah and Houthis, their missile systems are superior to Israel and to Turkey in terms of precision rate. It is the new currency of power. Look at the rocket force. The USA is so worried it is going into billion-dollar defence upgrades for its patriot and Space based early warning systems. The rocket force can target us. What are we doing about it? Look at the havoc created by the Ukrainian drone brigade. Ukraine has announced a separate service for Ukraine, a force for unmanned systems. So, shouldn't the raising of a drone missile capability be a strategic priority for us? I think it should.

Do we need to hybridize our air and naval fleets. These are the areas that you must explore and your generation will have to put to practice. Look at the arena of digital combat. They are altering the character of war in Ukraine. This is no funny dream for the future. It is happening in Ukraine. They are transforming combat in surveillance, targeting, fire and logistics. Today, Ukrainian battalions have got one software engineer and two coders for Agile digital leveraging of data between operational cycles. In India if we try to move a case for a software engineer, with all the processes we have, it will take six years. Look at Palantir, it has offered a combat data service free of cost. They are taking all the data that comes out of the war in Ukraine and using that for experiential learning to upgrade their services worldwide. Ukraine is procuring platforms free in exchange of data. Where is our data coming from? How are we leveraging our data? We just begin to unlock our data and these are huge opportunities in the digital data space.

Iran and Russia set up a low-cost ammunition factory in Tatarstan, where they are turning out these Shahzadloiter munitions. They use the database from Ukraine, to further refine the designs and today they are producing some 300 state of the art loiter ammunitions per month. Shrapnel warheads, thermobaric warheads, special coatings to decrease the radar signature and they used them brilliantly on 7th October 24 to pulverize the Iron Dome. So look at all this agility and innovation. Iran, a country under sanctions and just contrast the approaches. One is agility, creativity, deliverance and outcomes. The other is GSQRs, trials and processes and now we have institutionalized the process. Is it not common sense which system will win? Do we not see which system is winning? So I wish to make a great case for massive change of the DPP. Artificial Intelligence could well be the secret sauce for closing the military gap with China. We have begun to unlock our data, but where are our large language models? Where is our compute capacity? Look at what Pentagon is doing, they have got people like Craig Martin, to drive AI to Pentagon.



We would need similar talents. We start with the private sector. Unless we get the agility and innovation of the private sector and start-ups, given the complexity of the challenge, we will not be able to do this. The beginnings have been made. Your generation has to take it forward. CIA says that a bigger challenge than China is quantum. You know what quantum will do to military encryption. It is said, that a mathematical problem, which would have taken 10000 years to solve will be solved by quantum supremacy in 200 seconds. So these are revolutionary technologies. In the case of the Indian army, in my view, the first command that should become joint is ARTRAC. Unless we think joint, we will not be able to deliver joint. Look what has happened in the US, they have created a new Command, Futures Command which is located in Austin, Texas located between two universities.

It is an acknowledgement from the US military, that unless we get academic talent, unless we get industry expertise, we cannot deliver innovation for the future. The four-star boss of Army Futures Command has been to get the best academic talent, get the best people from industry. See what your field formations need and form a cross pollinated team, cross functional team, and tell them what their operational problems are. These people come back, find solution. They get independent budgeting to bypass the procedures. He has been told to deliver these innovations from womb to tomb. This is the bigger challenge, not training. ARTRAC today has three Lt Gen and they can take on. Now these are leaps of faith we need.

The first command that should be step set up in my view. If we are taking time to set up the other theatres, the theatre command is a command with strategic capacities. Why has US upgraded its space and Cyber to Combatant Command Status? The space and cyber will affect us in the Sino-India context. Let me also give you one more story. You see, space is a very good example. You have to go into the details of that how we lost an opportunity. India was always the leader in space, but we didn't distinguish between space exploration, commercial space and military space.

What was given a fillip to was explorations. In explorations we are doing wonders –Chandrayan, South Pole, Gaganyaan, but in the commercial space we are weak and in the military space we are non-existent because we said we will not militarize space. Thoroughly unwise. Everybody you know is using space for strategic effect. Now the same narratives are being churned out in the AI domain - opportunities and risks. First create the capacities. You can talk of risk only once you have the large language models and you have compute. Who are the people who are telling us opportunity and risk? -China, who's got 238 large language models. So we must not be naive about these narratives. Of course, once we create them, we can be extremely responsible. There are ways and means to make sure that AI is not misused. Also look at the structure of the future.

You know the famous story of US Space Force boss when he was raising Space Force. He was told this vertical, that vertical, one huge procurement vertical. So he visited SpaceX. He went to Elon Musk's SpaceX company. He asked the software engineers how do you get your items? Where is your procurement vertical and they looked at him aghast. They said when we want something, we write a letter, we give an invoice and the item comes. So he comes back and ensures Space Force is raised, not structured on SpaceX.

These are the cultural transitions that we need to make. AI could be the secret sauce. Also look at this asymmetric capability that we have and this is the last point I want to make. It is not merely a matter of budgets. It's a matter of creativity, imagination and also budgets. America's defence budget is twice that of China (\$900 vs \$300 billion). China's defence budget is twice that of India (\$90 billion). Why is it that China is causing displacement anxiety in Washington and we are not causing similar displacement anxiety in Beijing. This is because we are not doing the other stuff.



So defence is not a domain of conservatism. We have to be thinking ahead, thinking smart, creative and imaginative. See China figures, they can be spun this way or the other, but it's worth taking a look. China used to spend 2.5% of their GDP on defence. Even as its military has smartened, it has transformed in huge ways. Its expenditure has come down to 1.7%. You must see it's not generally a matter of budgets.

So let me conclude by saying that this is a wonderful opportune moment. India's national security makeover has laid a very strong edifice. It is the boldest and ambitious since independence, but now we have to complete the transformation. We must not ape failing Western model blindly though there's a lot of good that has happened in the West. Therefore, I think we must now develop an Indian tradition in statecraft, which uses ancient wisdom repurposed to modern realities and apply common sense. If a certain DPP model is not working, the only argument I've heard in Delhi in my service, is the West does it, Americans do it, the British do it.

Gray was once hired by the British to see how their procurement model could be formed. He was not a civil servant, not a service officer, he came from the world of communications. In the six-page report he concluded in the last para that 'if national security processes conflict with outcomes, outcomes should triumph'. Till today, the narrative in India is that processes triumph. So, if process is going to triumph, process is what you get and they will ultimately lead to frustrations. Zelensky said that 'Enemy artillery does not fall silent because of processes'. Your generation is creative, intelligent. You must see how we can, of course, process is important. I'm not saying that there should be no financial probity, but we can have smart processes and it is happening in all other things outside. So we must do all this and this is an opportunity for you. VasudhaivaKutumbakam means now the world is one family, but we must also never forget, in fact, to secure VasudhaivaKutumbakam, we must pay heed what Swami Vivekananda said 'the world is but a gymnasium where we come to make ourselves strong'. So it's a hard word, it's a difficult world. India's rise is not guaranteed. Doctor Jaishankar said 'these are different times. We will have to ensure India's right in an era of unprecedented strategic rife'. We will have to be creative in all these ways to do it.

Respect your traditions. You must be the transformational generation for Indian defence and national security. This endeavour must be prioritized on three metrics - talent in national security, predictions in national security which is your own unique worldview and all Indian view of state craft, and of course, technologies because technologies are running ahead of us. With those thoughts, I'll bring this address to the close.

Thank you for a very patient hearing.



VOTE OF THANKS
CMDE PRASHANT D SIDHAYE, VSM
HF PAT (CDM)

Gen JP Mathew, PVSM, UYSM, AVSM, VSM, Chief of Integrated Staff to the Chairman Chiefs of Staff Committee, Gen Raj Shukla, Admiral Sanjay Datt, Commandant, CDM, esteemed panelists, invited delegates, guests attending this Webinar across the country, faculty & participants at CDM, Ladies and Gentlemen.

The Annual Seminar is a signature event of this College featuring a carefully chosen theme each year. The importance and relevance of this year's seminar theme "Vikasit Bharat at 2047: Envisioning Economy, Society and Security" needs no further elaboration. Leveraging the technology, it is also a natural progression and choice to conduct such seminar in a webinar mode. These two choices of the theme and methodology, however, pose some challenges. Firstly, for the seminar theme of such gigantic proportion and significant relevance, an apt panel comprising the luminaries for three different verticals of Economy, Society and Security need to be identified, made available and converged live on air. The second challenge is the management of a webinar involving multitude of stakeholders across the country. I am sanguine that the Seminar this year has achieved its benchmark on both these counts.

Over the last two days, we have been fortunate to witness and listen to a galaxy of subject matter experts who have provided a thought-provoking insight in matters - Economy, Society and Security. On behalf of Commandant, College of Defence Management, I extend my heartfelt gratitude to the esteemed panelist for their active participation and invaluable contribution to our webinar on "Envisioning India in 2047". It has been an enriching experience to delve into the future of our nation and contemplate the possibilities that lie ahead. All panelists have generously shared their expertise, insights, and visions in the most candid manner. Their profound knowledge and in-depth analysis have undoubtedly enlightened and inspired us to think pragmatically about the trajectory of Bharat's development in the coming decades. It's my duty to convey our sincere gratitude to all panelist for allowing us with this enriching knowledge-sharing interaction and cerebral discussions.

On behalf of the Rear Admiral Sanjay Datt, VSM, Commandant College of Defence Management, I wish to express our special thanks to the **Lt Gen Jhonson P Mathew PVSM, UYSM, AVSM, VSM, Chief of Integrated Defence Staff to the Chairman Chiefs of Staff Committee (CISC)** for gracing the occasion and inaugurating the Webinar with a perceptive Keynote Address.

I would also like to express our sincere gratitude to **Lt Gen Raj Shukla, PVSM, YSM, SM, ADC (Retired)** for having taken out time and having delivered an insightful Valedictory Address.

Robust, stable and inclusive economic growth and development is the one of the fundamental necessities for Vikasit Bharat. The Panel comprising **Shri R Ravi Kumar, Dr Shamika Ravi and Prof Ashok Jhunjunwala** have elucidated various interesting economic aspects related to our journey towards Viksit Bharat @ 2047. I take this opportunity to thank all the esteemed panelists of session I for their interesting discourse in this session.

We are grateful also to **Prof Ganesh Rao and Prof Varun Sahni** for enriching us by sharing their nuanced understanding of the societal dynamics & education system during the Second Session.

While topic Military are close to the heart of most of the audience here, matters related to national security encapsulate



myriad of other arenas and you all are have been initiated to these during Higher Defence Management Course. We are indeed grateful to the panelists for Session III, **General Raj Shukla and Shri Venkatesh Varma, and Shri Pankaj Saran** for covering the aspects of security in the most holistic manner.

In addition to Panelist, Senior Officers at various Headquarters, the audience at the College and all others connected across Bharat have spared their valuable time, shared their views and positively involved themselves through this webinar and added to the collective knowledge base. I express my sincere gratitude to Senior Officers, Participants and Guests for their participation and invaluable contribution to this Webinar.

This Seminar would not have been possible without the guidance and support extended by HQ,IDS, including infrastructure support at New Delhi and coordination with Service HQs, which went a long way to make this Webinar a grand success.

My sincere thanks to Commandant for guiding the Team CDM who have worked tirelessly amidst their hectic HDMC schedule. I would fail in my duty if I do not highlight contribution by Group Capt Ashish Mittal, Secy Seminar, and all DS and Admin Staff Officers involved in multiple tasks related to the Seminar who ensured achievement of success in every assigned responsibility.

Finally, it is men behind the screen or web, the web hosting team and our IT Geeks who ensured a seamless conduct of the Webinar at the National level who deserve a special kudos.

I am sanguine that in the next course and courses thereafter, it would be CDM's endeavor to further improve upon the content and quality of webinars and we look forward to similar support, involvement and participation from all stakeholders including viewers.

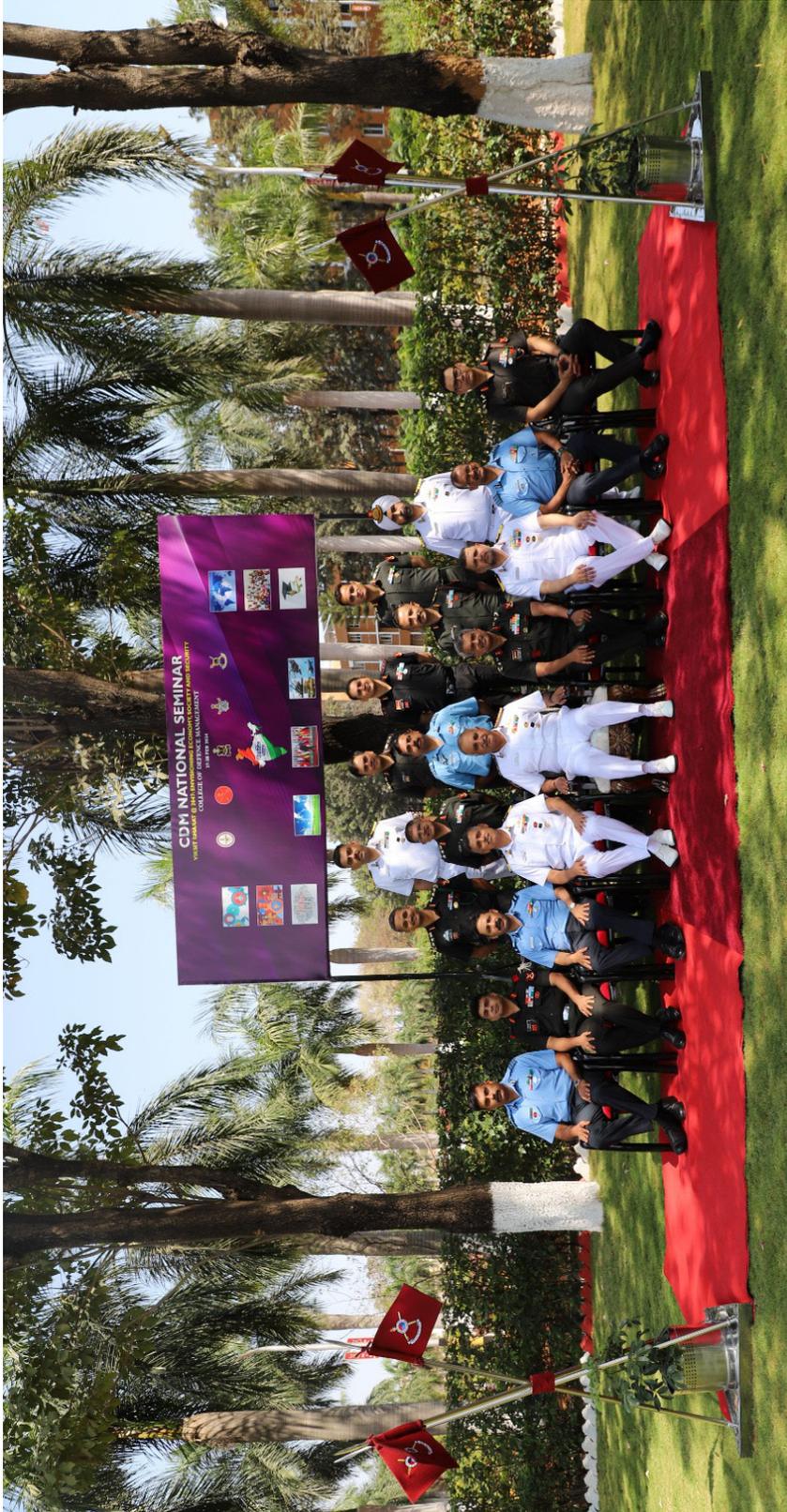
Thank you and ...

Jai Hind



Glimpses

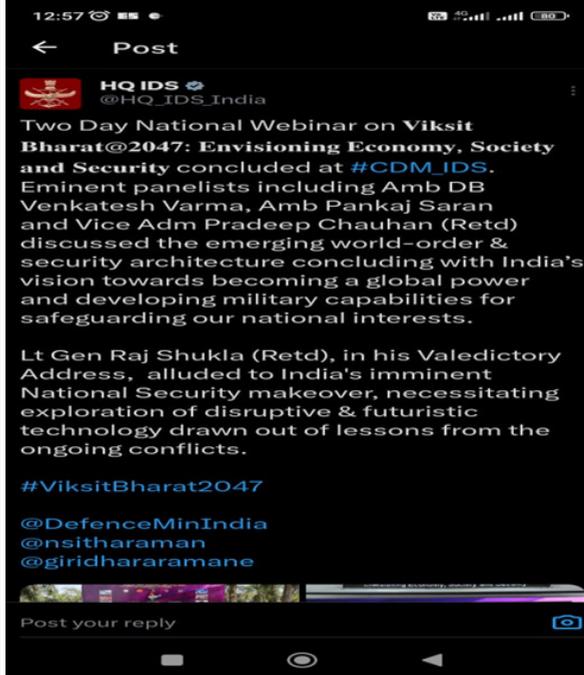




Seating from Left to Right: Gp Capt KG Manoj, Col Mohit Sah, SM, Air Cmde SKP Hegde, Cmde Sunil Kumar, Rear Adm Sanjay Datt, VSM, Brig SK Naik, Cmde P Shidave, VSM, Gp Capt Ashish Mittal, Col Prashant Mishra
Standing First Row from Left to Right : Col Kedar Gupta, Col Sanjay Bhatia, Gp Capt R Padma Kumar, Col RS Chauhan, Capt (IN) SS Dhody,
Standing Second Row from Left to Right : Capt (IN) Sumil Sankar, Col Rajeev Kumar, Col Raj Abhinav, SM**, Col BS Katal



Media Bytes





सीडीएम ने 'विकसित भारत 2047' पर वार्षिक वेबिनार आयोजित किया

हैदराबाद, 28 फरवरी (स्वतंत्र वार्ता)। सशस्त्र बलों के एक प्रमुख त्रि-सेवा प्रशिक्षण संस्थान, कॉलेज ऑफ डिफेंस मैनेजमेंट (सीडीएम) ने सिकंदराबाद में 'विकसित भारत@2047: अर्थव्यवस्था, समाज और सुरक्षा की कल्पना' पर अपना राष्ट्रीय वेबिनार शुरू किया। 27 फरवरी। वेबिनार रक्षा प्रबंधन कॉलेज में आयोजित एक वार्षिक कार्यक्रम है और नेतृत्व, रणनीति, प्रबंधन और राष्ट्रीय सुरक्षा के समसामयिक मुद्दों पर केंद्रित है।

चीफ ऑफ इंटीग्रेटेड स्टाफ के चेयरमैन, चीफ ऑफ स्टाफ कमेटी (सीआईएससी) लैफ्टिनेंट जनरल जेपी मैथव ने मुख्य भाषण दिया। उन्होंने एक समृद्ध राष्ट्र के रूप में विकसित भारत के

दृष्टिकोण पर जोर दिया, जो आधुनिक बुनियादी ढांचे और प्रकृत दोनों के साथ सामंजस्य स्थापित करता है और सभी क्षेत्रों के सभी नागरिकों को उनकी क्षमता तक पहुंचने का अवसर देता है। उन्होंने इस बात पर जोर दिया कि भारत को बड़े पैमाने पर कृषि प्रदान, अनौपचारिक अर्थव्यवस्था से सेवाओं, उन्नत विनिर्माण, प्रौद्योगिकी और ज्ञान पर आधारित अर्थव्यवस्था में परिवर्तन करना चाहिए। पांच सिंगलबोर्ड अर्थात् हरित अर्थव्यवस्था, प्रौद्योगिकी नेतृत्व, 21वीं सदी के लिए कौशल, जनसांख्यिकीय लाभों और भविष्य के क्षेत्रों की क्षमता का दोहन करने की आवश्यकता भी उतनी ही महत्वपूर्ण है।

सीडीएम के कमांडेंट, वीएसएम, रिश्वा एडमिरल संजय दत्त ने अपने उद्घाटन भाषण में, पिछले पांच दशकों से मध्य स्तर के सशस्त्र बल अधिकारियों में रणनीतिक प्रबंधन विचार और दक्षता विकसित करने के अपने मिशन में वार्षिक सेमिनार की प्रासंगिकता पर प्रकाश डाला। 1976 से, रणनीतिक क्षेत्र में समकालीन प्रासंगिकता के विषयों पर 27 राष्ट्रीय सेमिनार कॉलेज पंचांग में एक महत्वपूर्ण कार्यक्रम के रूप में आयोजित किए गए हैं।

वेबिनार का वर्तमान संस्करण अर्थव्यवस्था, समाज और सुरक्षा के बारे में कुछ बुनियादी सवालों पर चर्चा करने पर केंद्रित होगा, जिसे भारत को 2047 में एक विकसित राष्ट्र के रूप में और

उससे आगे अपने अस्तित्व को बनाए रखने की आकांक्षा रखनी चाहिए। सेमिनार में "एक विकसित, मूल्य-आधारित और व्यापक रूप से सुरक्षित राष्ट्र के रूप में भारत@2047" के हमारे दृष्टिकोण पर ध्यान केंद्रित करने का प्रयास किया जाएगा। तीन पूर्ण सत्रों में नियोजित, पहले सत्र में अर्थव्यवस्था पर विचार-विमर्श किया जाएगा, जिसमें भारतीय उद्यमों में नैतिकता को बढ़ावा देने, परिवर्तनीय स्थिरता के साथ आर्थिक विकास को संतुलित करने और मौलिक अनुसंधान के लिए पारिस्थितिकी तंत्र को बदलने की रणनीतियों को शामिल किया जाएगा। दूसरा सत्र सामाजिक मूल्यों, शिक्षा सुधारों और 'अमृत काल' की दिशा में

भारत के भविष्य को आकार देने में नागरिकों की भूमिका के महत्वपूर्ण क्षेत्रों पर चर्चा करेगा। कल होने वाला तीसरा और अंतिम सत्र, उभरती विद्य-व्यवस्था और सुरक्षा वास्तुकला, एक वैश्विक शक्ति के रूप में भारत की राजनीतिक दृष्टि और भारत के सुरक्षा हितों की रक्षा के लिए विकासशील सेना पर केंद्रित होगा।

प्रख्यात वक्ता आर रविकुमार, डॉ शमिका रवि, प्रोफेसर अशोक झुनझुनवाला, प्रोफेसर वरुण सहानी, डॉ एन गणेश राव, अंब डीबी वेंकटेश, अंब पंकज सरन, वाइस एडमिरल प्रदीप चौहान (सेवानिवृत्त) और लैफ्टिनेंट जनरल राज शुक्ला (सेवानिवृत्त) भविष्य के नेताओं को संबोधित करेंगे।



देश रक्षणेक सुबन्धिन्दी नीरिं
 द्राबाद् सैनिकीप्रि प्रान्तंत् वेल्सि
 न् कार्लैक् डीप्लेन्सि मेनेक् मेन्ब्ल
 (सिडीएम) नन्दु विकसित् भारत्-
 2027 कार्पुत्रमन्नी पुनंगा निरु
 पिचुक्वदं जरीगिन्दनि कण्णाल
 अधिकांरुलु वेल्दीन्वारु. क्मेरुक्
 लेप्पिनैन्ब्ल् जन्सर्ले जेपि म्थुय्यु. रेरि
 अद्दीरले न्जय्येन्ब्ल् देश रक्षणे
 अन्सरांलु, भविष्यत् कार्पुत्ररणे
 वन्ब्ल् त्दित्तर अन्गाल्प्रे प्रसन्गिन्वा
 रु. क्कार्पुत्रमन्त् त्रिविध दण्ण
 कु च्चेन्दिन् अधिकांरुलु, पौर अधिकांरुलु पार्णन्वारु.

-प्रधान्यान्, अल्पायर्

Annual webinar on 'Viksit Bharat@2047 begins at CDM

HANS NEWS SERVICE
 SECUNDERABAD

THE College of Defence Management (CDM), a premier tri-service training institution of the armed forces, commenced its national webinar on 'Viksit Bharat@2047: Envisioning Economy, Society and Security' here on Tuesday. The webinar, an annual event at the college, focuses on contemporary issues of leadership, strategy, management and national security.

The chief of integrated staff to the chairman, chiefs of the staff committee (CISC), Lt-Gen. JP Mathew, delivering the keynote address, stressed the vision of Viksit Bharat, as a prosperous nation, in harmony with both modern infrastructure and nature, and giving opportunities for all citizens of all regions to reach their potential. He said the country must transition from a largely agrarian, informal economy to one based on services, advanced manufacturing, technology and knowledge. 'Equally im-

portant is the need to harness the potential of the five springboards--green economy, technology leadership, skills for the 21st century, demographic dividend and sectors of tomorrow.

Rear Admiral Sanjay Dutt, the CDM commandant, in his opening address brought out the relevance of the event in its mission of developing strategic management thought and competencies in mid-level armed forces officers for the last five decades. Since 1976, 27 national seminars on subjects of contemporary relevance in strategic domain have been conducted as a keystone event in the college.

The webinar will focus on discussing some fundamental questions about the economy, society, and security that the country should aspire for as a developed nation in 2047 and its sustenance beyond. It will seek to focus on vision of "India@2047 as a developed, value-based and comprehensively secure nation".

Planned over three plenary

sessions, session one will deliberate on the economy, to include strategies for promoting ethics in enterprises, balancing economic development with environmental sustainability, and transforming the eco-system for fundamental research. Session two will delve into the critical areas of societal values, education reforms and role of citizens in shaping future towards 'Amrit Kaal'. The final session schedule tomorrow will focus on emerging world order and security architecture, India's political vision as a global power and developing military for guarding security interests.

Eminent speakers R Ravikumar, Dr Shamika Ravi, Prof Ashok Jhunjhunwala, Prof Varun Sahni, Dr N Ganesh Rao, DB Venkatesh, Pankaj Saran, Vice Adm Pradeep Chauhan (retd) and Lt-Gen. Raj Shukla (retd) will address the future leaders from the tri-services and several other military and academic institutes pan India in webinar mode, over next two days.

HYDERABAD Webinar on 'Viksit Bharat'

A national webinar on 'Viksit Bharat@2047: Envisioning Economy, Society and Security' was commenced by the College of Defence Management (CDM). The webinar is an annual event conducted at CDM and focuses on contemporary issues of leadership, strategy, management and national security. The current edition of the webinar aims to focus on discussing some fundamental questions about the economy, society, and security that India should aspire for as a developed nation in 2047.



Webinar focuses on leadership

DC CORRESPONDENT
HYDERABAD, FEB. 28

College of Defence Management (CDM), a tri-service training institution of the Armed Forces, commenced its national webinar on 'Viksit Bharat@2047: Envisioning Economy, Society and Security' in Secunderabad on Tuesday. The webinar is an annual event conducted at CDM and focuses on contemporary issues of leadership, strategy, management and national security.

Chief of Integrated Staff to the Chairman, Chiefs of the Staff Committee (CISC) Lt. Gen. J.P. Mathew, while delivering the keynote address, stressed on the vision of Viksit Bharat, in harmony with both modern infrastructure and giving opportunities for all citizens of all regions to reach their potential. He stressed that India must transition from a largely agrarian, informal economy to one based on services, advanced manufacturing, technology, and knowledge. "Equally important is the need to harness the potential of the five springboards namely, green economy, technology leadership, skills for 21st century, demographic dividend, and sectors of tomorrow," he said.

Commandant of the



Webinar in progress at College of Defence Management on Wednesday. — DC

CDM Rear Admiral Sanjay Dutt, VSM, in his opening address, brought out the relevance of the annual seminar in its mission of developing strategic management thought and competencies in mid-level Armed Forces officers for the last five decades. Since 1976, 27 national seminars on subjects of contemporary relevance in the strategic domain have been conducted as a keystone event in the college almanac. The current edition of the webinar, planned over three plenary sessions, will focus on discussing some fundamental questions about the economy, society, and the security that India should aspire for as a developed nation in 2047 and its sustenance beyond. The seminar will seek to focus upon our vision of "India@2047 as a Developed, Value-based and Comprehensively Secure Nation".

CDM holds Annual Webinar on 'Viksit Bharat@2047

Hyderabad, Feb.28 (NSS): College of Defence Management (CDM), a premier tri-service training institution of the Armed Forces, commenced its national webinar on 'Viksit Bharat@2047: Envisioning Economy, Society and Security' in Secunderabad on February 27. The webinar is an annual event conducted at the College of Defence Management and focuses on contemporary issues of Leadership, Strategy, Management and National security.

The Chief of Integrated Staff to the Chairman, Chiefs of the Staff Committee (CISC), Lieutenant General JP Mathew delivered keynote address. He stressed on the vision of Viksit Bharat, as a prosperous nation, in harmony with both modern infrastructure and nature, and



giving opportunities for all citizens of all regions to reach their potential. He stressed that India must transition from a largely agrarian, informal economy to the one based on services, advanced manufacturing, technology, and knowledge. Equally important is the

need to harness the potential of the five springboards namely, green economy, technology leadership, skills for 21st century, demographic dividend, and sectors of tomorrow.

Rear Admiral Sanjay Dutt, VSM, the Commandant of the CDM, in his opening

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areas of societal values, education reform, and the role of citizens in shaping India's future towards 'Amrit Mah'

The third and final session scheduled tomorrow, will focus on the emerging world order and security architecture, India's Political Vision as a global power and developing Military for guarding India's security interests.

Eminent speakers R Barikumar, Dr Shantika Bari, Prof Ashok Jitpharavada, Prof Varun Sahni, Dr N Ganesh Rao, Amb DB Venkatesh, Amb Pradyum Sarma, Vice Adm Pradyep Chandra (Retd) and Lieutenant General Raj Shukla (Retd) will address the future leaders from the services at CDM and several other military and Academic institutes pan India in Webinar mode, over next two days, (NSS)



the TEAM



Rear Admiral Sanjat Datt VSM
Commandant



Cmde Prashant Shidaye VSM
Head of Faculty, PAT



Cmde Sunil Kumar
Head of Faculty, R&C



Gp Capt Ashish Mittal
Secretary



Gp Capt R Padmakumar
Asst. Secretary



Capt(IN) Sunil Shankar
DS, Academic Team



College of Defence Management

VICTORY THROUGH EXCELLENCE

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