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Edited by Naval Jagota



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Editor's Note

Vivekananda International Foundation organized four expert group interactions, and an ongoing dialogue with the American think tank; Centre for New American Studies (CNAS) through webinars in the month of January 2022. All these interactions and dialogues covered a wide spectrum of topics as well as geography across the world. The selection of topics are contemporary and of interest to academia, policy makers, decision makers and the general public. The diversity of the expertise of each of the members of the expert and discussion groups bring rich flavor and knowledge on the topics through their varied professional backgrounds (military, diplomacy and academia). This edition contains views on issues affecting the Indo-Pacific and West Asia.

In the West Asia experts group meeting the discussion was focussed on projections for 2022 in West Asia. The atmosphere of reconciliation in the region even though plagued by geopolitical, geo-economic and geo-religious contestations, the conflict fault lines, projections in maritime sphere by regional and extra regional powers as well as India's choices to cement and enhance its relationship

in the region were discussed.

Over the past decade, India and the EU have taken several measures towards creating a robust framework facilitating greater scientific and technological cooperation. With multiple agreements in place which are routinely reviewed and renewed, this cooperation between the two parties has significantly strengthened over time and has been extended to several new, emerging areas of cooperation. Set in this context, the VIF India-EU Experts Group met virtually to discuss 'India-EU Cooperation in Science, New Technology and Innovation'.

A virtual brainstorming session discussed the "Protests in Kazakhstan and Regional Implications", covering the background reasons for the unexpected protests, the role of Russia in the crisis and its subsequent standing in the region as a security provider was held by VIF. The other areas discussed was the effect of the regional spill over because of Kazakhstan's predicament in the Central Asian region and the implications for India.

The Pakistan expert group held its discussions on the theme of Winds of Change- in Imran Khan's position, Opposition- No Confidence Motion, Civil-Military Relations, National Security Policy, KPK local bodies' election results, TTP resurgence, Afghanistan: Durand line issue and the humanitarian situation.

The VIF in collaboration with the Center for a New American Security (CNAS) of the U.S., undertook its third iteration of the interaction on the potential for collaboration between the US and India on New and Emerging Technologies: Artificial Intelligence, Quantum Technologies, Cyber/ digital, 5G/6G, Biotech and Space.,

the discussion focused on Biotech and private sector cooperation in Space Technology.

The coordinators and researchers associated with the expert groups, think tanks and interactions have put unfaltering efforts to coordinate the meetings, to provide range and diversity of views as well as capture the discussion for the reports.

Naval Jagota

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Crystal Grazing 2022

Prepared by Hirak Jyoti Das

The West Asia Experts Group meeting was virtually held on 5 January 2022 by the Vivekananda International Foundation. During the meeting, Expert Group members shared their projections for 2022 in West Asia and offered suggestions on India's choices. The members attending and contributing were Dr. Arvind Gupta, Lt. Gen. R K Sawhney(Retd) Director Amb. Anil Trigunayat (Coordinator), Amb. D P Srivastava, Vice Admiral Satish Soni (Retd), Dr. Meena Singh Roy; and Lt. Gen. Syed Ata Hasnain (Retd).

Atmosphere of Reconciliation

The atmosphere of reconciliation is a welcome change which is necessary for the volatile region plagued by geopolitical, geo-economic and geo-religious contestations. The reasons for dialogue and reconciliation may be many fold, from the COVID-19 pandemic and its adverse impact on the economy and health systems which have pushed regional actors to forego the path of confrontation. Approach of the US under the leadership of President Donald Trump was seen to have dislodged the established norms whilst under President Joe Biden the US has reverted to more predictable line of US foreign policy making and preferential treatment towards Saudi Arabia, UAE and Israel has receded. The US conduct in Afghanistan and the security risks arising from Taliban rule that could

promote extremist groups is a concern for all West Asian states. With Iran President Joe Biden has displayed interest in returning to the Joint Comprehensive Plan of Action (JCPOA) and Iran's re-integration and the future possibility of nuclear capability have been accepted by Gulf States and Israel. In addition the US allies in the region are uncertain about the security guarantees due to the perceived disengagement under Joe Biden's presidency. These factors have forced regional actors to adapt to the changing realities. However, the constructive approach is likely to remain precarious and any escalation of hostilities could derail the reconciliatory atmosphere.

Conflict Fault lines

While Iran favours the US-re-entry in JCPOA, it is highly sceptical about the intentions of Joe Biden administration, the failure to implement the nuclear deal could lead to escalation in tensions. Besides the nuclear programme, Iran's regional role would remain under spotlight in 2022. In case of failure to implement JCPOA and Iran's progress in developing nuclear weapons, Israel could play a more independent and assertive role in sabotaging Iran's nuclear programme that could translate into a wider conflict. Besides, the fallout of the nuclear deal; security risks and humanitarian costs arising from the situation in Afghanistan; resurgence of Al-Qaeda and the Islamic State (IS); narco-terrorism; protests in Sudan; Algeria-Morocco tensions; Saudi Arabia-Lebanon tensions and civil war in Yemen could contribute to conflict fault lines in 2022.

Projections in Maritime Sphere

In the maritime sphere, regional and extra-regional actors are competing to expand their influence in the West Asian region. The US maintains military bases in several states in the region, despite the strategic shift towards Asia-Pacific region; it is unlikely that the US would forego its bases from the region. China is seeking to set up its own commercial and

naval bases in the region. The Belt and Road Initiative (BRI) has envisioned a greater role for ports in the region for its trade connectivity plans. Russia has long-term naval presence in Tartous port and it is negotiating with Sudan to establish base in Port Sudan. It is also seeking to expand its naval presence in the Persian Gulf region. France is also an important player in the region maintaining a steady naval presence. France has formulated its own regional policy that does not necessarily align with the US.

Turkey over the years has framed its own maritime agenda and developed an ambitious ship building programme including plans to build aircraft carriers. It is competing for maritime dominance in the Eastern Mediterranean region and has collaborated with the Tripoli based government to demarcate their respective maritime boundaries. Qatar also hosts Turkish military base providing access to Persian Gulf, Strait of Hormuz and Arabian Sea. Turkey has also built naval influence in Sudan and Somalia.

Notably, a major risk of militarisation in the Eastern Mediterranean Sea, Indian Ocean, Persian Gulf and Arabian Sea is that any unintended encounters causing accidental clash could spark a major conflict. India through its strong maritime connections in the region could play a key role in de-escalating tensions.

India's Choices

The region is crucial for India's energy needs, trade, investments etc. The region hosts substantial section of Indian diaspora and the government is highly concerned about the welfare of this working population.

There is need for India to re-articulate its foreign policy in:

- Strategic Cooperation in counter-terrorism, maritime security, defence industry etc.

- Technological cooperation in space, cyber security, intelligence, artificial intelligence, nuclear energy, renewable energy.
- Social dimension through educational initiatives, people to people contacts, and framing policy objectives through in-depth examination of societies in West Asian states.
- Economic dimension by capitalising on the diversification process adopted by the Gulf States to re-orient towards non-oil, high tech and industrial sector.

India has identified UAE and Saudi Arabia as key economic and energy partners. There is need to expand its horizon to incorporate Qatar, Oman and Kuwait in its economic vision. Health cooperation has increased due to COVID-19 pandemic. Indian government should take measures to redeploy Indian workers that suffered from job losses and travel restrictions in the region and benefit from the emerging economic prospects. India should also increase participation in re-construction efforts in Syria, Libya, Iraq and Yemen.

India's dynamics with the region has been traditionally on bilateral level. There are benefits in conducting bilateral engagement since it provides an opportunity for India to de-hyphenate conflict dynamics such as in the case of Israel-Palestine conflict, Iran-Saudi Arabia rivalry; Saudi Arabia-UAE axis embargo on Qatar etc. India should harness comprehensive foreign policy approach that is both bilateral and regional in nature. India should also increase cooperation on trilateral and quadrilateral formats.

India's approach to West Asia is deeply interlinked with the larger political objectives in Africa and Central Asia. These inter-connections are crucial for India. India should focus on sub-regional cooperation that could include select Central Asian, African and West Asian states sharing common objectives to achieve tangible goals in multiple arenas.

India should boost collaboration on think-tank level as well as organising regular summits of foreign ministers on different sub-regional level such as West Asia-Africa or West Asia-Central Asia summits.

Sub-regional grouping with France, Greece, Israel and Egypt could be highly effective for India to expand its maritime footprint in the Eastern Mediterranean region. India's sub-grouping with Qatar and Bahrain; participation in US led Combined Maritime Forces (CMF) and collaboration with the UAE in Socotra Islands could help India to entrench its presence in the naval sphere. India should identify the areas it could collaborate with Russia's growing strategic and economic endeavours in the region.

China's growing influence in the region is going to remain a major challenge for India's initiatives in the region. India had traditionally viewed the region through Pakistan's prism that hindered all-round engagement. India has gradually managed to overcome this approach by focussing on energy cooperation, trade and investments etc. India should resist focussing on the region through China's prism and rather than competition, it should play on its strengths and showcase its initiatives in the region.

India-EU Cooperation in Science, New Technology and Innovation

Prepared by Avantika Menon

Over the past decade, India and the EU have taken several measures towards creating a robust framework facilitating greater scientific and technological cooperation. With multiple agreements in place which are routinely reviewed and renewed, this cooperation between the two parties has significantly strengthened over time and has been extended to several new, emerging areas of cooperation. Set in this context, the VIF India-EU Experts Group met virtually on 11 January 2022 to discuss 'India-EU Cooperation in Science, New Technology and Innovation'. The meeting was moderated by Amb. Anil Wadhw who also delivered the opening remarks. The meeting saw in attendance several distinguished guests like Dr. Ralf Sauer, Ms. Tania Friederichs, Amb. Sandeep Chakravorty, Dr. Arvind Gupta (Director VIF), Lt. Gen. Ravi K. Sawhney (Retd), Prof. Gulshan Sachdeva and Gp. Capt. Naval Jagota. The key takeaways that emerged from the ensuing discussion are presented below.

Introduction

In the quest towards deepening their collaborative efforts in the realm of science, technology and innovation, India and the EU have identified several key areas for cooperation. These areas include extended cooperation in ICT, subsuming Artificial Intelligence and Robotics, circular economy, resource efficiency, electric mobility and sustainable agri-food processing

among other areas. With the focus on tackling key current challenges, collaborative efforts have been concentrated on research and innovation geared towards accelerating the clean energy transition and cooperation on health, extending beyond the COVID-19 pandemic. India's twin objectives of addressing the basic needs of its people and excelling in high-tech markets, offer both EU and India mutually beneficial opportunities for multifaceted cooperation.

Data Convergence and Data Protection

Under the ambit of ICT cooperation, India and the EU have been working on developing sustainable digital services, norms and regulatory frameworks, ensuring the interoperability of networks, and promoting international standards. The vulnerability of critical information and data has emerged as a pertinent cyber security threat. Both entities have been working on enhancing convergence between their regulatory frameworks to ensure a high level of protection of personal data and privacy, including through possible data adequacy decisions, to facilitate safe and secure cross border data flows. They have also recognized that the convergence of data protection standards is important for setting global standards.

Key Takeaways

There is a marked new momentum in EU-India relations with growing cooperation across multiple dimensions. Growing cooperation entails higher flows of data exchange, thus necessitating a focus on facilitating data convergence, data flows and data protection. Concomitantly, there is an emerging trend of convergence around multiple core elements of data protection laws. These elements include horizontal data protection laws covering various sectors, a set of principles and rights in addition to a set of enforceable rights and some modern data protection rights.

These emerging convergences can be observed at both national and regional levels across the world. At the global level, Convention 108 has emerged as an important platform for multiple state parties to come together to discuss best practices, global standards and the convergence of data across borders. Facilitating data convergence benefits both public and private entities alike while also aiding regulatory and law enforcement cooperation.

Convergence facilitates enhanced cooperation and also allows states to cooperate and shape global standards on privacy and other related issues. Encouraging convergence has become pertinent in the present environment where democratic states are increasingly facing several authoritative regimes and are grappling with rising concerns of growing state surveillance. Both India and the EU have a shared interest in working together as thriving democracies to shape the standards that apply to data exchanges. With regard to international data transfers and cross border data flows, it is important to note that convergence on data protection allows data to flow freely out of the country while maintaining safeguard continuity.

Although there is a high degree of convergence between the Indian Data Protection Bill and the EU's General Data Protection Regulation (GDPR), several differences also exist. One such difference is within the ambit of data processing by the government and the scope of application of the data protection law. In this matter, the EU prefers data protection laws that are comprehensive- covering both public and private sectors. It doesn't subscribe to the need for general exemptions from the scope of application. Thus, even if exemptions do exist, they must be limited to targeted exceptions. Another difference arises in the framing of data processing by public authorities. The EU view stresses the importance of clear limitations and legally bound safeguards for such processing. These differences will need to be bridged with further consultations between the

two parties.

A key point of contention between the two parties emerges on the matter of data localization. The EU has some concerns regarding India's rules on data localization. The EU rules do not require the localisation of data and subscribe to the belief that there are negative consequences attached to data localization. To this end, it prefers cooperation with states and the use of instruments that address concerns regarding data localization. To this extent, it purports multilateral solutions such as the Budapest Convention, as a viable alternative, deeming requirements of data localization unnecessary.

India and the EU must work towards bridging differences to benefit from each other's legislations. Working together on convergence will ensure that similar levels of protection and safeguards apply across the borders.

Science and Technology Cooperation

India and the EU have developed robust cooperation on research and innovation. Traditionally, this cooperation subsumed working towards combating water stress, with both parties sharing mutual concerns regarding water stress and water scarcity. There have been continued engagements on the purification of water and waste-water management. Health research has also been an important avenue of cooperation, which can be attributed to India's strong capabilities in the health sector.

Presently, work is being carried out towards the development of a new generation influenza vaccine. There are also several running projects on renewable energy and smart grids. Polar research has also emerged as a promising avenue of cooperation, with India's growing interest in the polar sciences and the implications of this research for climate science. In the period of the past five years, India has co-invested 40 million Euros across a plethora of projects dealing with pertinent issues.

In addition to the Research and Innovation (R&I) engagement at the multilateral European level, collaborative efforts are carried out at the bilateral level with the individual member states as well. Under the established framework program, efforts have been taken to create a convergence between the activities carried out at both bilateral and multilateral levels. Building familiarity and habits of cooperation at the bilateral level can translate to stronger cooperation at the multilateral level under a framework program.

India holds a privileged position in science and technology cooperation and this cooperation is rooted in shared values of democracy, rule of law, research integrity and freedom of speech. These shared values have transformed India and the EU's R&I collaboration into a true partnership.

Across the span of the past couple of years, mutual interest between the two parties has extended to enhancing cooperation in innovation as well. In this context, it has been recognized that innovators and start-ups must be incubated and cooperation must be geared towards working together to find solutions for contemporary challenges. So far, such mechanisms for incubating innovation have successfully been put in place, bringing innovators from Europe and India together. An important aspect of R&I is the mobility of researchers across borders, instruments for which have been put in place in the form of multiple research grants. While this mobility so far has only been one-sided, with Indian researchers going to Europe, it will be beneficial for both parties to engage in two-way mobility, with India opening doors for European scientists.

Under the new framework program of Horizon Europe, presented to the Indian counterparts by the EU, several areas of cooperation that seek to tackle persisting societal challenges have been identified. While its predecessor, Horizon 2020 successfully set up a co-funding mechanism

to facilitate collaborative projects, so far, a similar co-funding agreement for Horizon Europe is yet to be finalized. This delay has prevented new cooperative activities from taking place.

Roadmap 2025, adopted during the India-EU summit in July 2020, enlists 100 points for cooperation ranging from smart cities, urbanisation, water partnership, energy cooperation, digitalization and standardization. There has been a focus on engaging across three important segments- greening the economy, digitalization and resilient healthcare. India can benefit from existing European capacity and knowledge on green technologies and cooperation within this sector will bolster India's efforts towards carbon neutrality and its climate change objectives.

Collaboration amongst institutional partners is a must and will require the development of balanced, fair and transparent co-funding modalities. With co-funding modalities in place, cooperation in the greening of the economy, digitalization and healthcare will quickly follow. At present, there is a bottleneck on the negotiations of these co-funding modalities thus requiring much needed further dialogue and discussion between the two parties. Another area of contention arises concerning the requirement of independent review of the collaborative projects. While the EU requires the appointment of independent reviewers for the projects, the Indian side has certain misgivings regarding these evaluators and wishes for them to be sensitive to India's needs and priorities in addition to ensuring feedback and transparency.

These issues have led to several perception and communication gaps that will have to be bridged via further dialogue and deliberation for continued cooperative efforts.

Conclusion

India and the EU's continued engagement and cooperation on science,

technology and innovation are more pertinent than ever. There exists a robust cooperative framework between the two which is not only restricted to Horizon Europe but extends to other frameworks as well. While these framework agreements and collaborative efforts are in place, the EU and India are yet to fulfil the vast potential of their cooperation. Existing bureaucratic roadblocks on either side have slowed down cooperative efforts and thus at present additional dialogue is needed to bridge perception gaps and concerns.

Protests in Kazakhstan and Regional Implications

Prepared by Dr Pravesh Kumar Gupta

A Brainstorming Session was virtually held on 12 January 2022 by the Vivekananda International Foundation. The discussion was focused on "Protests in Kazakhstan and Regional Implications." The participants in the discussion included Dr. Arvind Gupta, Director VIF, Amb Kanwal Sibal, Amb Ashok Sajjanhar, Amb Asoke Mukerji, Amb Sakand R Tayal, Amb D P Srivastava, Amb P S Raghavan, Lt Gen. Ravi Sawhney (Retd), Prof Sanjay Kumar Pandey, and Dr. Pravesh Kumar Gupta.

Unexpected Protests

The protests began in Zhanaozen, a city in the Mangystau Region of Kazakhstan located southeast of the city of Aktau along the Caspian coast. Still, they swiftly expanded throughout the country, including Almaty, the country's former capital. The immediate cause of the spread of these protests was the rise of fuel prices (LPG); however, it swiftly turned into anti-Nazarbayev. President Kassym-Jomart Tokayev accused international terrorists and extremists of the attempted coup and sent soldiers from the Collective Security Treaty Organisation (CSTO) to restore order.

Former President Nursultan Nazarbayev of Kazakhstan was removed as head of the powerful National Security Council and has been replaced by

President Tokayev, whom he chose to succeed in 2019. Karim Massimov, Kazakhstan's intelligence service chief, was detained on treason allegations. Crackdowns and purges are expected to continue in the near future to clean up the system of persons connected to the former president, who has been significantly weakened.

Kazakhstan is considered the most stable country in Central Asia; therefore, such large-scale violent protests were unexpected. Nursultan Nazarbayev, a Soviet-Era leader and the first president of Kazakhstan, led the country with an iron fist. He brought economic prosperity and political stability to Kazakhstan, but economic inequality has also widened during his reign. He promoted Kazakhstan as an important crossroads between Europe and Asia but the dissatisfaction spread. His family, relatives, and allies are commonly considered to control the country's financial, economic, and political institutions. In 2019 following the small-scale protests against his regime, Nazarbaev resigned and picked Tokayev as his successor. He however continued to be the head of the Security Council and the ruling Nur Otan party, and he also negotiated and received protection from legal action for himself and his family. All these factors have contributed largely to the anti-Nazarbayev protests. Alternatively, it provided an opportunity to the current President Tokayev to consolidate his power.

Strengthening Russia's role as a Security Provider

Russia has a direct border with Kazakhstan and is one of the country's main economic partners. In addition, the Central Asian region is considered a Russian sphere of influence. However, as China's influence in Central Asia grows, the narrative of Russia's decline has become more prevalent. In this regard, the latest protests in Kazakhstan have obviously benefited Russia. Russia promptly dispatched Collective Security Treaty Organization (CSTO) peacekeeping soldiers to Kazakhstan in response to President Tokayev's request. This is the first time the CSTO, which is led by Russia and includes Kazakhstan, Kyrgyzstan, Tajikistan, Belarus,

and Armenia, has used Article 4 of the security treaty to dispatch soldiers to a member state. It has previously declined to comply with Armenian and Belarusian requests. This demonstrates Russia's significant concern about the current situation.

Regional Spill-over

Kazakhstan, which was formerly seen as a regional stabilising force, has recently lost its reputation. Indeed, Kazakhstan's predicament should serve as a wake-up call to many Central Asian countries. Following Kazakhstan's protests, the Central Asian region has become vulnerable to instability. Turkmenistan is a closed country governed by an autocratic leader. Kyrgyzstan has seen significant political turmoil in recent years. Tajikistan is extremely vulnerable to the infiltration of Afghan Islamic radicals and terrorists. After coming into power in December 2016, President Mirziyoyev has opened Uzbekistan to the outside world and implemented several liberal reforms in recent years. Still, the country remains vulnerable to Islamist forces. Protests over property rights and land ownership, lack of government services, economic disparity, and the rising centralisation of authority have escalated as Central Asian countries have become more open.

Furthermore, with the changing regional environment post-Taliban takeover of Kabul in August 2021, the threat of spreading radicalization and extremism was a key concern for Central Asian countries. The entire region has grown more vulnerable to Islamist fundamentalist and terrorist organisations such as the Islamic Movement of Uzbekistan (IMU) and the Eastern Turkistan Islamic Movement (ETIM). Protests and unrest in the region would further strengthen these extremists.

China is economically a dominant player in Central Asia. Protests in Kazakhstan would certainly impact Chinese aspirations. While it has significant commercial interests in Kazakhstan and the region, its

involvement in the security sphere of these countries is limited. Regarding the security dimension of regional dynamics, China would have to follow the lead of Russia.

Turkey has also emerged as a prominent actor in Central Asia in recent years. Ankara will seek a significant role for itself and the Organization of Turkic States (OTS), which comprises Kazakhstan, Uzbekistan, Kyrgyzstan, Azerbaijan, and Turkmenistan (observer). Following the situation in Kazakhstan, OTS called an extraordinary meeting of the foreign ministers of member states and announced its complete support to the Kazakh government in a public announcement.

Implications for India

Recognizing its critical importance, in the recent past, India has sought to lay a greater emphasis on developing a strong relationship with Central Asia through bilateral talks and exchanges, exchange of high-level visits, and so on. Indian National Security Advisor hosted the Regional Security Dialogue on Afghanistan in November 2021, where NSAs and Secretaries of Security Councils of five Central Asian countries, Russia and Iran participated. Furthermore, the Third India-Central Asia dialogue was held in New Delhi in December 2021, bringing together Foreign ministers of Central Asian countries. The presidents of all Central Asian republics were set to visit India as Chief Guests for the Republic Day Parade on 26 January 2022 which was called off due to the pandemic.

Furthermore, India would have no vested interests in this situation under normal conditions. However, given recent geopolitical events that might make India's strategic links with Central Asia vitally important in reacting to the Afghan situation, India would regard any disturbance in Central Asia as detrimental. The only positive aspect for India in the Kazakhstan scenario is that it may impede China's intentions for Central Asia.

Pakistan: Winds of Change?

Prepared by Aakriti Vinayak

A meeting of the Pakistan Study Group was held via video conferencing on 24th January 2022. The main items on the agenda were: Pakistan: Winds of Change- Imran Khan's position, Opposition- No Confidence Motion, Civil-Military Relations, National Security Policy, KPK Local Bodies election results, TTP resurgence, Afghanistan: Durand Line issue, Humanitarian Situation. The Meeting was attended by the following: Shri Arvind Gupta, Amb Satish Chandra, Ms Shalini Chawla, Shri CD Sahay, Amb Gautam Mukhopadhaya, Amb DP Srivastava, Amb Amar Sinha, Amb G Parthasarathy, Lt Gen Ravi Sawhney (retd), Lt Gen Ranbir Singh, Lt General S A Hasnain, Shri Tilak Devasher, and Gp. Capt. Naval Jagota.

Pakistan

Winds of Change- Imran Khan's position?

Imran Khan is in deep trouble. A range of issues has piled up against the Pakistan Pakistan Tehreek-e-Insaf (PTI) government, which includes the foreign funding case, economic crisis and the fractured civil military relations. There has been double-digit inflation and price rise, which has brought misery to the masses. Imran Khan is facing the opposition heat over mis-governance and financial crisis. Pakistan opposition leader

in National Assembly Muhammad Shehabaz Sharif and President of Pakistan Democratic Movement (PDM) Fazurl-Rahman have discussed the no confidence motion to oust Imran Khan Government. The opposition is also opposing the mini-budget bill. Further the PDM's long march is scheduled to take place in March. Imran Khan's survival is in question as his policies are under scrutiny.

National Security Policy

On 14 January 2022, the Government of Pakistan published the public version of the country's first-ever National Security Policy document. The focus of the policy is on Economic security with "geoeconomics" as the buzzword. The policy also talks about a citizen centric approach. However the document has given no solutions and is full of extreme generalizations. The document comes at a critical point when Pakistan needs a revised narrative to counter its negative image abroad. As far as India is concerned it continues its anti-India tirade as there is no strategic shift in Pakistan's policy and it remains stuck on the Kashmir issue vis-à-vis normalization of relations with India. India is also blamed for "military adventurism", "non-contact warfare", "arms buildup", "belligerence towards Pakistan" and policies of "exceptionalism that undermine the global non-proliferation regime". The document is nothing but an exercise in image building, as there remains no paradigm shift in Pakistan national objectives.

KPK Local Bodies election results

PTI suffered a major setback in the KPK local bodies elections. Jamiat Ulema-e-Islam Fazl (JUI-F) won elections in 10 tehsil councils, PTI in 9, ANP in 5, PML-N and Jamaat-e-Islami have bagged one seat each. The election results comes as a major blow to PTI government as the province is a stronghold of the party with 94 seats in the Provincial House in a total of 145 seats.

TTP resurgence

Recently there has been resurgence of Tehrik-i-Taliban (TTP) in Pakistan as the terrorist attacks has gone up steadily. Pakistan's talks with TTP had broken down. Interior Minister Sheikh Rashid Ahmed stated that TTP itself that violated the ceasefire between both sides. However he said that government's doors were open if the TTP was ready to abide by the law and Constitution. "If they will fight, we will fight back. Afghan Taliban is not clamping down on the TTP leaders or preventing them from carrying out attacks in Pakistan. As the violence and attacks by TTP continue, Pakistan will use the narrative of victimhood and suffering.

Afghanistan

Durand Line

There is an underlined strain of tension between the Afghan Taliban and ISI over the issue of fencing and control of the Durand line. Fencing the border with Afghanistan has been significant for Islamabad due to its concerns of Pashtun sentiments. Fencing makes the cross border movement becomes difficult, it also helps Pakistan to guard the cross-border infiltration of terror groups like TTP into its territory.

Humanitarian situation

Afghanistan is facing an unprecedented humanitarian crisis. The United Nations has stated that it needed \$5 billion in aid for Afghanistan in 2022 to avert a humanitarian catastrophe. While US has frozen billions of dollars of the country's assets, the crisis has propelled US to provide aid to Afghanistan. On the ground reality remains grim, as Taliban has failed to address the economic and governance issues in Afghanistan and the country remains at the edge of economic collapse.

India-U.S. Collaboration in Advanced and Emerging Technologies: Space and Biotech

Prepared by Avantika Menon

The VIF in collaboration with the Center for a New American Security (CNAS) of the U.S., has initiated a series of discussions on the potential for collaboration between the US and India on New and Emerging Technologies: Artificial Intelligence, Quantum Technologies, Cyber/ digital, 5G/6G, Biotech and Space. The third iteration of these sessions was held online on 28 January 2022, the discussion focused on Biotech and private sector cooperation in Space Technology. Participants included representatives of academia, industry and the governments in both countries.

Introduction

The Indo-US relationship continues to strengthen and extend across multiple domains and has quickly emerged as a pillar of peace and stability in the Indo-Pacific. Even beyond the region, both states are at the forefront of a fast paced technological revolution, combining innovation capacities with democratic values. It is becoming increasingly important to ensure that this emerging technology is shaped in accordance with the vision of a free, open, digital order.

Technology is a key enabler of political, economic and military power. Both India and the US understand that space and biotech have a critical

role to play in their shared future. Both the states also share important challenges with regard to protecting critical industries in the technological front and securing supply chains while ensuring that the technological development is in keeping with democratic values. Public and private sectors in India and the US can join hands to mutually benefit from such a partnership. This partnership will not only serve the national interests for both countries but will also be a force for the global good.

Key Takeaways from the discussion on Private Sector Cooperation in Space

The global space sector is evolving at an amazing pace with the emergence of a new space age. There has been an explosion of space activities across all sectors, be it civil, military or commercial.

The Indian Commercial Space Sector

Major reforms have been launched in India within the space sector. These reforms have been specifically geared towards developing a mutually beneficial partnership between the public and private sector in space.

In 2020, the Government of India (GoI) created the Indian National Space Promotion and Authorization Center (IN-SPACE) under the Department of Space to encourage and promote private sector participation in space. IN-SPACE is an institutional and regulatory mechanism tasked with the primary objective of facilitating greater private sector participation. It will do so by providing technical support, cash incentives, partnerships and space exploration missions. Under the new policy the private sector can participate in building satellites, launch vehicles, carry out launches and provide space based services.

Although, India has been a leading space faring nation with a space program dating back six decades yet the Indian space economy accounts for only 2 per cent of the global space economy. To this extent, the GoI

is examining prospects and avenues of greater Indian participation in the global space economy.

IN-SPACE is working very closely with all stakeholders in this developing arena. NewSpace India Limited (NSIL) is another new initiative of the GoI with the objective of making the technology developed by ISRO readily available to the private sector via technology transfers. Here, IN-SPACE will work towards facilitating access to ISRO facilities and expertise for the private sector thus enabling them to move up the value chain. IN-SPACE is also trying to create a comprehensive map of private industry capabilities in India, which can later be used to determine the scope of cooperation with external partners like the US.

Following the deregulation of the Indian space sector, Indian industries and start-ups are keenly looking at this sector as a new avenue for growth. Nascent Indian space companies and start-ups are working on a wide slate of projects. While they do take a lot of risks and make big bets, they are in need of further mentoring and facilitation.

Indo-US Cooperation in Space

India and the US have a fast growing private space sector. This industry presents a fertile ground for increasing trade investment cooperation and Research and Development collaboration between the two countries.

At the recently convened Quad Leaders' summit, a Quad working group on space was announced which will focus on cooperation on norms, guidelines, principles, rules for long term sustainability in the outer space environment, climate and STEM.

The US-India Civil Space Joint Working Group (CSJWG) is the main structure under which space cooperation is promoted between the two countries. The work of the group is divided into four sub-groups i.e. space science, earth sciences, heliophysics and the recently established human

space flight. Out of the last meeting in 2019, the group came out with an action item list with 34 specific activities dealing with earth observation, positional navigation, SSA data sharing, and deep-space communication. Activities under the working group can facilitate greater collaboration among commercial players in both states.

Suggestions and recommendations for the way forward

There is a need to formulate new policies; all existing policies are at least 20 years old. The Space Activities Bill is yet to be presented to the Indian Parliament.

While there is a significantly good relationship between the space agencies of India and the US, there needs to be a focus on private sector to private sector cooperation between Indian and American companies. Newer working groups can be created between the relatively mature private sector ecosystem in the US and the relatively young companies in India.

Technology transfers are required to accelerate growth and to boost manufacturing in India. India still has issues in sourcing critical materials and space systems like high strength carbon fibres, various types of sensors and critical components for satellites. Relaxation of export restrictions to India will greatly help build an efficient partnership as a supply chain is required for the growth of the industry. Presently, it is very difficult to import from the US, even for commercially off the shelf and non-ITAR systems for space end use. Getting export permissions is a tedious and lengthy process. Smoothing ITAR hurdles can multiply revenue generation in both economies. What is ITAR exempt and what is clearly accessible, needs to be more explicitly clarified. Many subsystems such as liners for pressure vessels, software for trajectory analysis and certain types of sensors all seem relatively easier to obtain from Europe.

An international agreement can be developed between the US and India that considers products and services including, launch services, produced in India in domain of space tech, as coming from a domestic supplier and vice-versa. This has the potential to be a game changer in opening market access to both countries in their space technology relationship. This can be achieved by signing a reciprocal MoU or an international agreement between both countries to consider manufacturers in India as domestic suppliers and vice-versa in the field of space technology.

Both Indian and American companies should be allowed to jointly bid for developmental contracts with ISRO and NASA in order to build greater trust and cooperation between industries in these regions. Subsequently, there is a need to make this possible without the breach of ITAR.

A special fund can also be created for joint research between US and Indian private entities in the field of space research. Opportunities should be made available for Indian firms to participate in grants and tenders as international partners to US entities.

A regulatory mechanism must be instituted that facilitates easier access for procuring sub-systems and payloads for ITAR listed products, especially for civilian applications with a focus on enabling ease of collaboration between startups in both countries. The US already has such a MoUs with countries like Egypt, Turkey and 25 others in accordance with which, manufacturers in these countries qualify as an equivalent of domestically manufactured products in US. A similar partnership with India will be a major boost to the Indian private industry, especially for exports.

NASA and ISRO should create a mission of national importance for both countries and ask for bids from the consortium of US and Indian companies to bid on the mission and award the mission to the best bidder. This will enable the governments to forge companies that are strong and complementary in nature to come together and achieve a common

objective. This can be an excellent way for both governments to help promote collaboration between companies of both the nations.

Arrangements can also be made to facilitate joint visits and delegations for startups from both sides to visit and learn from large players, thus enabling the cross pollination of ideas across both the space communities.

Key Takeaways from the discussion on Biotech:

India and the US share a robust partnership in biotechnology which can be traced back to the Indo-US Vaccine Action Program launched in 1987. Much of the biotech agenda in the emerging arena is ripe for enhanced cooperation between the two countries, ranging from cooperation on harnessing new scientific advances, developing new products and enhancing capabilities for people and economies to the development of ethics and norms in this sector.

Owing to the recent boost in the start-up ecosystem, within the short span of the past few years, starting with less than 50 odd start-ups, India is now home to more than 5000 biotechnology start-ups.

Partnerships between industry and academia are well visible in the healthcare sector. Such partnerships must be extended to the agriculture and energy sector as well. To this extent, institutional arrangements are required in order to facilitate the development of such partnerships.

Biotechnology involves the movement of the discovery from the lab to the industry, this translational phase is a long gestational period and start-ups play a very important role herein. For the start-up ecosystem, several bio-clusters have been created. At present, India has vibrant bio-clusters in addition to vibrant incubation centres which collectively work towards contributing to its growing strength in taking forward many of these partnerships.

Apart from focusing on cutting-edge research, there is also a need to build public and private sector ecosystems at both the industrial scale and the start-up level, as well as with academia. Biotech requires participation from each of these to move ahead for technological and economic development. Both India and the US share the elements required for this ecosystem to be grown together.

A holistic view of the entire ecosystem must be taken into account rather than focusing solely on academia or industry. This will ensure that best practices can be brought out in terms of technology and human resources and capacity building.

While existing sectors within the industry must be strengthened, it is equally pertinent to bring in new emerging areas of AI, big data, clinical trials area, and regulatory sciences into focus as well. Indigenously developed Indian products are increasingly getting global acceptance, consequently building partnerships in regulatory sciences has become highly important.

Deeper cooperation between India and the US can help in making healthcare both affordable and accessible to the entire population of both the countries. Therefore, it is the need of the hour to create joint platforms which accelerate the sharing of ideas and resources needed to bring investment, entrepreneurs and scientists on the same stage in order to realize the joint ambitions of global welfare. Pursuing collaborative, complementary and targeted research is also needed for further innovation and skill development within this sector.

Collaborative efforts are also needed to facilitate cross border clinical trials for both pharmaceuticals and vaccines.

Efforts are needed to get clinical data generated across different countries broadly accepted by regulatory authorities through a network of pre-

approved clinical trial sites i.e. CROs. By this process, countries asking for clinical data can easily get requisite approvals and the approval of drugs without sufficient data can be avoided. These processes can bring developmental costs down and can help improve the speed with which innovations can enter the market.

Both India and the US share concerns about the emergence and spread of drug resistant microbes, thus there is a need to pursue collaboration on evidence based actions at local, regional, national and global levels to prevent anti-microbial resistance and to ensure continued availability of effective measures and medicines.

Any collaboration between the US and India should be based on an interactive relationship which maximizes the expertise of both individual Indian and American research teams. There is also a broad emerging space for further consultations on multiple possible areas of scientific collaboration; the creation of joint platforms can help in facilitating these consultations and dialogues. An overarching MoU can enhance this partnership and cooperation between the two by building on decades of successful collaboration in health and biomedical research thus strengthening the partnership even further.

There is also a growing need to get more Indian biotech manufacturing countries US FDA approval.

While India so far has done a good job with data analytics, within the ambit of information technology and biotech there is a need to aggregate data coming from different sources into platforms that can be leveraged. Creating requisite data models can help speed up research, improve proficiency, shorten product development cycle and thus improve the final cost of goods.

Finally, India and the US can collaborate on ambitious projects such as the

human virome project; the existing Genome X technology and genome capabilities that India has can be successfully leveraged to generate a useful volume of data on viruses that can be further used to develop critical vaccines in a much shorter time frame. Similarly, both the countries can also work together on the development of low cost advance bio-fuels.

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