Militarisation of Artificial Intelligence and Future of Arms Control in South Asia

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Abstract

Like other emerging technologies, Artificial Intelligence (AI) is a dual-use technology with wider applications in military domain ranging from its integration with existing weapon systems to the development of new generation of complex military robots across all the five domains e.g. land, air, sea, cyber and outer-space. AI will revolutionised the warfare by making it faster, smarter and autonomous. A global debate has been initiated regarding the regulation of research, development, production, deployment and potential Military use of AI. The region of South Asia is no exception where India is heavily investing in the military applications of AI under its military modernisation initiative. China has already made a leapfrog development in the realm of AI technologies. Pakistan is in favour of a pre-emptive ban on all types of AI weapon systems. These developments would seriously undermine the strategic stability in the region and start a new AI arms race in South Asia. With this premise, this research paper aims to discuss the progress made by China, Pakistan and India in the realm of military AI and explore the prospects of an AI arms control framework in South Asia. This study argues that the prospects of an AI arms control framework in South Asia are unpromising.

Keywords: Artificial Intelligence, Strategic Stability, South Asia, Arms Control, Militarisation, India, China.

Introduction

The global strategic landscape is gradually shifting from unipolar system to a great power competition or the New Cold War with the unprecedented political, economic and military rise of China and the resurgence of Russia. The biological threats have made dangerous comeback in the form of a

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coronavirus pandemic. Furthermore, the "fourth industrial revolution" is at its peak with more than ever emphasis on the emerging technologies like robotics, artificial intelligence (AI), hypersonic, cyber and nanomaterials. States across the globe are making progress in the development of AI and its application in almost every domain of human life including national security. This has not only resulted in the wide scale production of a new generation of autonomous weapon systems but also in the AI integration with existing conventional and nuclear weapons. Regulating the research, development, testing, production, deployment and potential use of military AI is a huge challenge for existing international arms control regime,[1] especially when existing international arms control and disarmament regime is gradually eroding as major powers are giving up on key international and bilateral arms control agreements.

The region of South Asia is no exception where China and India are rapidly modernising their armed forces and investing their resources in the militarisation of AI. This region is home to three nuclear states – China, Pakistan and India. The region has witnessed several high-risk crisis in the past and there are possibilities of a crisis breakout with a risk of nuclear level escalation. These three nuclear powers are complexly interlocked with each other where actions of one power would have a knock-on effect on the other two powers. The recent developments in the field of emerging technologies especially AI will also affect the strategic dynamics in the region. This necessitates exploring the progress made by China, India and Pakistan for the militarisation of AI and prospects of an AI arms control framework to ensure peace and stability in South Asia. With this premise, the following questions are addressed in this study:

a) What is the militarisation of artificial intelligence?
b) What are the military applications of AI in South Asia?
c) What are the prospects of an AI arms control framework in South Asia?

The study argues that the future of an AI arms control arrangement in South Asia is unpromising due to asymmetric

[1] *The Impact of Artificial Intelligence On Strategic Stability And Nuclear Risk: South Asian Perspectives*, ed., Petr Topychkanov, (Solna: Stockholm International Peace Research Institute (SIPRI), April 2020),iv,https://www.sipri.org/sites/default/files/2020-04/impact_of_ai_on_strategic_stability_and_nuclear_risk_vol_iii_topychkanov_1.pdf

militarisation of AI in South Asia and conflicting official positions of India, Pakistan and China on the AI arms control-related issues. The study is divided in three sections. The first section outlines the contours of the military applications of AI. The second section provides a comprehensive overview of the militarisation of AI in South Asia by tracing the technological developments achieved by the armed forces of India, China and Pakistan. The third section explores the possibility of an arms control arrangement, keeping in view the actual technological development and legal positions taken by these three countries on the issue of developing a regulatory regime for military applications of AI. The issue in hand is relatively a new and least researched area in the field of arms control studies in South Asia. The analysis is based on available credible news sources, official documents and statements along with the books and research articles.

Understanding Militarisation of Artificial Intelligence

Defining AI is a complex and interminable process due to lack of consensus on various aspects of this technology. For this study, AI is defined as the research, designing and development of a set of concepts, theories, technologies, tools, methods and applications with an objective to understand the fundamental essence of human intelligence and create machines to perform complex tasks and respond in a way that normally require human intelligence. The development of AI depends on four main elements: i.) deep learning technology; ii.) big data; iii.) computing power and iv.) algorithms.[2] AI is a branch of computer science but with time and technological progress, it has become an interdisciplinary field with its offshoots in language and image recognition, robotics, neurosciences and other emerging technologies like nanotechnology and quantum technology.

The categorisation of AI depends on the capability of a machine to perform certain tasks that is successively defined by the different levels and combinations of the four main elements. The AI could be broadly divided in three categories: i.) Artificial Narrow Intelligence (ANI); ii.) Artificial General Intelligence (AGI) and iii.) Artificial Super

[2] China Arms Control and Disarmament Association (CACDA), "Artificial Intelligence and Its Military Implications," in *The Militarisation of Artificial Intelligence* (New York: United Nations, 2019): 19-20.

Intelligence (ASI). The machines in the category of ANI are capable of performing limited and specific tasks like translation, speech and image recognition that require simple algorithms, minimum computing power, data and learning. AGIs are the machines with the 'autonomous consciousness' which is near to human intelligence. They can do abstract thinking, learn quickly from experiences, understand complex ideas, solve problems by making plans and taking decisions. These tasks require big data and complex algorithms to perform fast and multifaceted computing. ASIs are the future machines with the intelligence higher than human.[3]

The recent progress in the realm of AI technologies has resulted in wide-scale applications of these technologies in various domains like industry, manufacturing, agriculture, medicines, health care, transportation and military. The military applications can take several forms and qualities, which are again determined by the levels and combinations of four basic elements involved. Dimitri Scheftelowitsch[4] has divided the military applications of AI in two categories: i.) autonomous robotic devices and ii.) stationary applications. Robotic applications refer to the fully or partially autonomous military robots with advanced decision-making capabilities, navigation and sensory ability to interact with their physical environment. The most relevant examples are underwater autonomous vehicles, drones or unmanned aerial vehicles (UAVs) and autonomous tanks. The stationary applications involve all the non-robotic and digital applications of AI with similar advanced decision-making capability e.g. specific application in early warning and radar systems, ballistic missile defence (BMD), data processing and analysis systems for space-based assets, AI-enabled cyber systems, advanced intelligence, surveillance, reconnaissance (ISR) capabilities and selective functions of nuclear command and control systems.[5]

[3] Ibid.
[4] Dimitri Scheftelowitsch, "The State of Artificial Intelligence: An Engineer's Perspective on Autonomous Systems," in *The Impact of Artificial Intelligence on Strategic Stability and Nuclear Risk: Euro-Atlantic Perspectives*, ed., Vincent Boulanin, 27-28, Solna: Stockholm International Peace Research Institute (SIPRI), May 2019, https://www.sipri.org/sites/default/files/2019-05/sipri1905-ai-strategic-stability-nuclear-risk.pdf.
[5] Ibid.

Militarisation of Artificial Intelligence in South Asia

a) AI Developments by India

In February 2019, the Indian government constituted a High Level Defence AI Council (DAIC).[6] The major responsibility of DAIC is to address the key issues related to strategic military-industry partnerships, acquisition of relevant technologies, data sharing, producing research papers and patent acquisition. It is also responsible for the capacity building of Indian armed forces and providing assistance to military training institutes for AI designing courses. The rationale for the establishment of DIAC is to develop an organisation which could facilitate the integration of AI in the defence strategy of Indian armed forces and speed up the shift from an experimentation stage to the operationalisation of AI projects.[7] Under this new AI enabled defence strategy, the Indian military is deliberating the use of AI for mechanised warfare especially for the Pakistan centric South Western Command in the desert of Rajasthan within the next five years.[8]

A special task force is being created in India to explore the multiple avenues to become an AI power. This task force includes representatives from the Defence Research and Development Organisation (DRDO), Atomic Energy Commission, Indian Space Research Organisation (ISRO) along with the national cyber security coordinator. In addition to major defence organisations, this task force also includes personnel from key academic and research institutions. Interestingly, this task force is headed by the Chairman of an Indian business giant Tata Sons. This task force has identified the key defensive as well as offence applications of AI in biological, cyber and nuclear warfare domains. It is also looking into the

[6] Government of India, the Ministry of Defence, Implementation of the Recommendations of the Multi-stakeholder Task Force Constituted by the Ministry of Defence for 'Strategic Implementation of Artificial Intelligence for National Security and Defence,' Department of Defence Production. File No. 8(19)/2018-D (Coord/DDP), New Delhi, February 2019, https://ddpmod.gov.in/sites/default/files/AI.pdf

[7] Ibid.

[8] Dinakar Peri, "Army to Deliberate On Using AI For Mechanised Forces," *Hindu*, https://www.thehindu.com/news/national/army-to-deliberate-on-using-ai-for-mechanised-forces/article29472934.ece

transformative potential of AI in land, air and sea domains.[9]Another major institution is the Centre for Artificial Intelligence and Robotics (CAIR) established by the DRDO. It is responsible for six key AI military projects:

i. Multi-Agent Robotics Framework (MARF) project.
ii. Designing an all-inclusive data mining toolbox.
iii. Decision Support System (DSS) with the search algorithms.
iv. Developing drone swarm algorithms and game-theoretic approach.
v. Designing AI algorithms for Simultaneous Localization And Mapping (SLAM).
vi. ISR robots and service-oriented architectural framework.

DRDO and CAIR have also completed projects like "Net-Centric Operations (AINCO)" and "Himshakti" for the creation of a knowledge base and integrated electronic warfare system. Furthermore, CAIR has also developed an advance robot to identify wear and tear of combat aircrafts like HAL Tejas which can contribute to effective testing and maintenance mechanism for the Indian Air Force.[10] In addition to local production, Indian government is also collaborating with other states for lethal autonomous weapon system (LAWS) and AI technology transfer. In February 2020, Israel Aerospace Industries (IAI) signed a memorandum of understanding (MOU) with Dynamatic Technologies Limited (DTL) and Hindustan Aeronautics Limited (HAL). The main objective of this strategic partnership is the transfer of technologies for the promotion of local production and provide approximate 100 Heron TPUAVs to India. IAI is Israel's largest defence company and the main supplier of UAVs to the Indian armed forces. The IAI will also facilitate India in the integration of

[9] Rajat Pandit, "India Now Wants Artificial Intelligence-Based Weapon Systems," *Times of India*, https://timesofindia.indiatimes.com/india/india-moves-to-develop-ai-based-military-systems/articleshow/64250232.cms

[10] Kritika Roy, "Rationales For Introducing Artificial Intelligence Into India's Military Modernisation Programme," and Dmitry Stefanovich, "Artificial Intelligence Advances in Russian Strategic Weapons," in *The Impact Of Artificial Intelligence On Strategic Stability And Nuclear Risk: South Asian Perspectives,* ed., Petr Topychkanov, 17-23, 34-35, Solna: Stockholm International Peace Research Institute (SIPRI), April 2020, https://www.sipri.org/sites/default/files/202004/impact_of_ai_on_strategic_stability_and_nuclear_risk_vol_iii_topychkanov_1.pdf

air-to-ground missiles with the new version of Heron TPUAVs.[11] This US$ 400 million project was approved by the Indian government in July, 2018.[12]

b) AI: Developments by China

China views development in the field of AI as the cornerstone of its excellence in emerging technologies. The priority Chinese have given to AI is visible in the key national policy known as '*Made in China 2025'* issued in 2015. Another important document is the *New Generation Artificial Intelligence Development Plan (2017).*[13] A similar strategy is being promoted in *China's National Defence in the New Era*[14] ─ an official white paper published in 2019. However, an official AI strategy has not been released by the China's Central Military Commission as of yet.[15]China is also investing in AI applications for advance decision making. It believes that the mechanised warfare which lies at the core of future warfare is only achievable through the "leapfrog development" in the field of military AI. In order to achieve this objective, two research institute namely the Artificial Intelligence Research Centre (AIRC) and Unmanned Systems Research Centre (USRC) were established by the National Innovation Institute of Defence Technology (NIIDT) in 2018.[16]

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[11] Manu Pubby, "Government Approves US$400-million Plan to Procure Armed Heron TP Drones from Israel," *Economic Times*, July 18, 2018, https://economictimes.indiatimes.com/news/defence/government-approves-400-million-plan-to-procure-armed-heron-tp-drones-from-israel/articleshow/48906195.cms.

[12] Ibid.

[13] The People's Republic of China, The State Council Information Office, *New Generation Artificial Intelligence Development Plan*, July 2017, https://flia.org/wp-content/uploads/2017/07/A-New-Generation-of-Artificial-Intelligence-Development-Plan-1.pdf

[14] The People's Republic of China, The State Council Information Office, *China's National Defence in the New Era*, July 2019, http://www.xinhuanet.com/english/2019-07/24/c_138253389.htm

[15] Elsa B Kania, "AI Weapons" In China's Military Innovation," The Brookings Institution, April 2020, https://www.brookings.edu/wp-content/uploads/2020/04/FP_20200427_ai_weapons_kania_v2.pdf.

[16] Gregory C Allen, "Understanding China's AI Strategy: Clues to Chinese Strategic Thinking on Artificial Intelligence and National Security," Centre for a New American Security(CNAS), February 2019, https://s3.amazonaws.com/files.cnas.org/documents/CNAS-Understanding-Chinas-AI-Strategy-Gregory-C.-Allen-FINAL-2.15.19.pdf?mtime=20190215104041

In the last few years, China has introduced advanced unmanned combat aerial vehicles with medium to high altitude endurance e.g. BZK-005 (Sea Eagle), GJ–1, GJ–2, WZ–7, EA–03, and Soaring Dragon.[17] Furthermore, the Chinese Academy of Sciences has also announced the successful development and testing of an autonomous underwater vehicle (AUV) Sea Whale 2000. It has the capability to operate 2,000 metres below sea level for approximately 40 days. This torpedo-shaped drone is capable of carrying out long "endurance missions." It is equipped with the AI-enabled sensors which are capable of temperature detection, tracing chemicals and biological activity. China already has a "large-displacement autonomous underwater vehicle (LDAUV)" capable of deploying small payloads and collecting data of ships and submarine deployment.[18] China is planning to use 6 G technology to further modernise the intelligentised armed forces. China has launched the 5G technology in November 2019and the 'world`s first 6–G satellite into orbit in November 2020.[19] The introduction of 6G technology by the People's Liberation Army (PLA) will revolutionise the military applications of AI like war formations, command and control, image process, advanced ISR and logistic support. This technology will be available to the public in 2030.[20]

c) AI: Developments by Pakistan

The military applications of AI by Pakistan are limited. Pakistan Navy recently inducted state-of-the-art "tactical unmanned aerial vehicles" (UAVs) along with the maritime patrol aircraft with the objective to enhance the ISR capabilities of Pakistan Navy Fleet.[21] In 2019, Pakistan

[17] Rick Joe, "China's Growing High-End Military Drone Force," *The Diplomat,* November 27, 2019, https://thediplomat.com/2019/11/chinas-growing-high-end-military-drone-force/.

[18] Ankit Panda, "A New Chinese Autonomous Underwater Vehicle?" *The Diplomat,* November 11, 2019, https://thediplomat.com/2019/11/a-new-chinese-autonomous-underwater-vehicle/.

[19] "China Sends 'World's First 6G' Test Satellite into Orbit," *BBC,* November 7, 2020, https://www.bbc.com/news/av/world-asia-china-54852131.

[20] Kristin Huang, "China's Military Draws on 6G Dream to Modernise Fighting Forces and Plan Wartime Scenarios," *South China Morning Post,* April 18, 2020, https://www.scmp.com/news/china/military/article/3080235/chinas-military-draws-6g-dream-modernise-fighting-forces-and

[21] "Patrol Aircraft, Latest Drones Added to Pakistan Navy Fleet," *News,* January 05, 2020, https://www.thenews.com.pk/print/593758-patrol-aircraft-latest-drones-added-to-pn-fleet

launched an advanced military armed drone which was basically an upgraded version of previously launched Burraq. This locally manufactured military combat drone with the "Selex Galilio technology" has the capability to destroy the target from an altitude of 15000 feet.[22]

AI, Strategic Stability and the Future of Arms Control in South Asia

The different placement of Pakistan, China and India on the development spectrum of military AI indicates that the consolidation of military AI in the three major powers of South Asian security matrix will take place at different points of time in the future. This time variation and asymmetry of AI capabilities could impede the prospects of an AI arms control framework in future. In case of an asymmetric power relation between the two states, one possibility is that the stronger state could attempt to achieve maximum advantage as early as possible and the other state tries to achieve equality before or during an arms control negotiation process.[23] This is particularly applicable to China-India dyad in the realm of military AI. China being a stronger state has already achieved a significant advancement in the military AI. Currently, China is aspiring to achieve self-sufficiency in military AI. The rising China is undergoing a military revolution based on "intelligentised military technologies."[24] President Xi Jinping is promoting the Chinese dream of developing AI and its integration with other technologies. Furthermore, he is focussing on the military preparedness in both traditional and modern warfare. He called for technological reforms to achieve fast, integrated and intelligent military for future wars.[25] In order to come at par with China, India has not only started the AI indiginisation but also actively pursuing international collaborations before the debate on regulatory regime for military AI gain momentum.

[22] "Pakistan Launches Indigenous Advanced Military Armed Drone with Selex Galileo Technology Missiles System,"*Times of Islamabad*, September 06, 2019, https://timesofislamabad.com/06-Sep-2019/pakistan-launches-indigenous-advanced-military-armed-drone-with-selex-galileo-technology-missiles-system.
[23] Frank R. Pftsch, "Power in International Negotiations: Symmetry and Asymmetry," *Négociations* 2, no. 16 (2011), 39-56.
[24] Xi Jinping, Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era, delivered at the 19th National Congress of the Communist Party of China (October 18, 2017), http://www.china.org.cn/20171105-002.pdf
[25] Ibid.

Second possibility is that a weaker state could also try to achieve balance of power through "borrowing of power."[26] The borrowed power could be diplomatic, political and military. Historically, Pakistan had followed this trajectory by accepting the role and power of external players e.g. alliance with major power like the US and assistance from the international organisations like the UN for conflict resolution and arms control agreements. In case of Pakistan-India dyad, Pakistan initially relied on US to achieve conventional balance with India. Pakistan was also termed as the "America's most allied Asian ally."[27] Instead of providing conventional balance with India, this alliance only made Pakistan "a pawn between great power competition during the Cold War period." This alliance failed to provide desirable security guarantees to Pakistan and compelled it to pursue nuclear option. Even after achieving the nuclear capability, Pakistan accepted the role of the US in designing a bilateral arms control framework with India famously known as the Lahore Agreement.[28] Currently, Pakistan is looking upto China as a possible power lending state for military AI. The return of great power competition or the New Cold War between the US and China in general and especially in the realm of emerging military technology like AI could leave Pakistan in the same strategic dilemma again especially when the major trajectories of this new great power competition for emerging military technologies are supportive of India.

The Indian Prime Minister Narendra Modi has declared AI as a critical component of "India's New Revolution in Military Affairs." He also expressed his intention to use AI for offensive military operations in the future. To further strengthen the Indian narrative on military applications of AI, the National Security Advisor Ajit Doval declared emerging technologies especially AI as the major influencer for geopolitics. Former Army Chief General, Bipin Rawat, Indian Defence Minister Rajnath Singh and Union Defence Production Secretary, Ajay Kumar also gave similar

[26] Pftsch, "Power in International Negotiations," 39-56.
[27] Mohammed Ayub Khan, "The Pakistan-American Alliance," *Foreign Affairs* (January 1964), https://www.foreignaffairs.com/articles/asia/1964-01-01/pakistan-american-alliance
[28] Feroz Hassan Khan, "Prospects for Indian and Pakistani Arms Control and CBMs," Non-Proliferation Education Centre Project, http://npolicy.org/article_file/Prospects_of_Arms_Control_and_CBMS_Between_India_and_Pakistan-ESSAY.pdf

statements at various occasions.[29] According to General MM Naravane, the Indian Army Chief, India is looking for the surgical operations below the war threshold for which India is investing its resources to strengthen its kinetic and non-kinetic warfare capabilities. He specifically mentioned the Balakot airstrike as an example of short, intense, escalatory cycles of the military with attention from global media to conduct information warfare. Technologies are driving military doctrines and India is determined to exploit the emerging technologies for military purposes, he said.[30] However, these statements by Indian civil and military leadership are not just played to the crowd as India is taking substantial initiatives for turning these ideas into reality.

The official positions taken by India, Pakistan and China in the Group of Governmental Experts (GGE) on LAWS established under the 'Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons (CCW), 1980'[31] also provide an insight into how these three states are approaching AI arms control. Achieving a definitional clarity of the key terms, activities and process is the foremost step to make an arms control mechanism workable. The objective is to enhance the credibility and minimise the ambiguities.[32] The official positions of China, Pakistan and India regarding the definition, nature and scope of military AI are poles apart from each other and finding a common ground would be a rare instance. China defines LAWS as "fully autonomous lethal weapon systems"[33] while India has adopted an interesting definition of autonomy for

[29] RajatPandit, "DRDO Should Develop High-Tech Weapons & Technologies for Space, Cyberspace, Robotics," *Times of India,* last modified October 15, 2019, https://timesofindia.indiatimes.com/india/drdo-should-develop-high-tech-weapons-technologies-for-space-cyberspace-robotics/articleshow/71600621.cms;

[30] "Looking at Tapping Blockchain, Lasers for Military Use: Gen MM Naravane," *Indian Express,* March 05, 2020,https://indianexpress.com/article/india/looking-at-tapping-blockchain-lasers-for-military-use-gen-mm-naravane-6299782/

[31] Ibid.

[32] Christian Reuter ed., *Information Technology for Peace and Security: IT Applications and Infrastructures in Conflicts, Crises, War, and Peace*(Wiesbaden, Springer Vieweg: 2019): 259-60.

[33] United Nations, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System, "Position Paper submitted by China ─ Group of Governmental Experts of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects," CCW/GGE.1/2018/WP.7, April

autonomous weapon systems. According to India's official position, an autonomous weapon system refers to the system which operates autonomously after "deployment or launch…till the terminal phase."[34] By using such definitions, China and India are trying to keep as many as possible autonomous weapons out of arms control arrangements. These contrasting definitions of the autonomous weapon system would further complicate the negotiations for any potential AI arms control arrangement. Instead of indulging in this complex debate of weapon characterisation, Pakistan emphasises on simplifying the negotiation process by bringing all types of autonomous weapon system under international law.[35] Being a member of the Non-Aligned Movement (NAM), Pakistan considers these weapon systems as a threat to international peace and stability. They would seriously undermine the stability by disrupting the progress made on the issue of disarmament. While expressing its serious concerns regarding the ethical and humanitarian dimensions of these weapon systems, Pakistan has proposed a "pre-emptive ban" through a legally binding additional protocol of CCW and a moratorium on the production of these weapons till the conclusion of an additional protocol of CCW. [36]

11,2018,https://www.unog.ch/80256EDD006B8954/(httpAssets)/E42AE83BDB3525D0C125826C0040B262/$file/CCW_GGE.1_2018_WP.7.pdf

[34] United Nations, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System, "Statement by India – Characterisation of the Systems under consideration in order to promote a common understanding on Concepts and Characteristics relevant to the objectives and purposes of the Convention," March 25, 2018, https://www.unog.ch/80256EDD006B8954/(httpAssets)/F8C1F0AEE961CA93C12583CC00353A09/$file/25+March+2019+-+5(d).pdf

[35] United Nations, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System, "Statement by Pakistan – Possible options for addressing the humanitarian and international security challenges posed by emerging technologies in the area of LAWS in the context of the objectives and purposes of the Convention without prejudging policy outcomes and taking into account past, present and future proposals," August 29, 2018, http://pakistanmission-un.org/?p=2720

[36]United Nations, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System, "Statement by Pakistan – Characterisation of the Systems under consideration in order to promote a common understanding on Concepts and Characteristics relevant to the objectives and purposes of the Convention," August 27, 2018, https://www.unog.ch/80256EDD006B8954/(httpAssets)/F76B74E9D3B22E98C12582F80059906F/$file/2018_GGE+LAWS+2_6a_Pakistan.pdf

On the other hand, India holds a position that states should be responsible for the deployment, production and development while international law should be only concerned with the risks like proliferation.[37] Pakistan holds a view that national laws would be inadequate and Confidence Building Mechanisms (CBMs) are just an "interim setup."[38] China is not in favour of any type of legal restriction before objective and impartial discussions on the nature and scope of AI. China holds a view that the solution of challenges related to the regulation of AI weapons is extremely complex and requires an active exploration of "effective measures" for various aspects of new AI weapons and AI integration with existing weapons. China has made this argument on the basis of dual-use nature of AI technologies.[39]According to the Chinese official position, states must take precautionary measures and refrain from the indiscriminate use of autonomous weapons till the finalisation of appropriate international legal framework.[40]

Keeping in view the contemporary strategic landscape of South Asia, development of military AI along with the military modernisation of India, expecting refrain from India regarding use of autonomous weapons would not be advisable for any South Asian Country. In the absence of a legally binding arms control agreement or an interim setup, the militarisation of AI would produce greater implications for regional strategic stability. The integration of AI with other technologies like cyber, quantum, hypersonic, BMD and directed energy weapons will change the nature of warfare to its core in the region. AI-cyber nexus is a dangerous development for the safety and security of critical infrastructures including nuclear and conventional weapon systems. Moreover, the integration of AI with space-based assets will revolutionise the role of ISR and missile capabilities for military

[37] United Nations, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System, "Statement by India – Statement by India: An exploration of the potential challenges posed by Emerging Technologies in the area of Lethal Autonomous Weapons Systems to International Humanitarian Law," March 26, 2018, https://www.unog.ch/80256EDD006B8954/(httpAssets)/F8C1F0AEE961CA93C12583CC00353A09/$file/25+March+2019+-+5(d).pdf

[38] Ibid.

[39] United Nations, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System, "Position Paper submitted by China," April 11, 2018.

[40] Ibid.

operations. The regional security dynamics will take a risky turn with the shift from the AI integration with the existing conventional weapons to AI integration with nuclear weapons. With the consolidation of military AI, oceans will become transparent. The introduction of maritime autonomous vehicles and submarines will affect the strategic stability in South Asia as it will reduce the significance of the sea-based deterrence.

The most transformative element is the speed of AI and other emerging military technologies that could generate crisis instability. The ability to launch a sudden and swift attack and inflict significant damage to adversary will give a false sense of superiority to a state with advanced military AI capabilities. This will create a temptation to strike first with a misleading confidence of a complete control over conflict escalation. Such posture will inculcate a fear of defeat at machine speed in other state that could in turn translate into pressure of a pre-emptive strike from the position of strength. Furthermore, this speed will close a window for the exchange of signals and diplomatic communication for de-escalation.[41]

Conclusion

The different pace of progress implies that consolidation of military AI in the three major powers of the South Asian security matrix will take place at different time in the future. China is trying to achieve self-sufficiency in AI amid western animosity and already going through a military revolution based on intelligentised military technologies. The Indian defence institutions like DIAC, ISRO, DRDO and CAIR are working on indigenous research, development, experimentation and production of military AI to come at par with China. India is also actively pursuing international collaborations and public-private partnerships for the acquisition of lethal as well as non-lethal AI technologies for its armed forces. Furthermore, India is integrating AI into the defence strategy to speed up a shift from an experimentation stage to an actual deployment.

[41] The Institute of Strategic Studies Islamabad, Report: ACDC Webinar on Lethal Autonomous Weapon Systems (LAWS) and State Behaviour: Global and Regional Implications (April 7, 2021): 7-9, http://issi.org.pk/wp-content/uploads/2021/04/Report_Webinar_Apr_7_2021.pdf

Considering the existing and expected level of Indian AI development, hegemonic agenda of Indian political and military leadership, and its strategic partnership with other countries, it is clear that Pakistan could face a new challenge of automated warfare in the coming decade. These developments would generate negative effects on deterrence equation, arms race stability and crisis stability in South Asia. Keeping in view such regional security dynamics, Pakistan should re-evaluate current official position and set its priorities right in the realm of military applications of AI to maintain full spectrum deterrence. Despite a strong existing stance of a ban on the weaponisation of AI, Pakistan cannot restrict other states especially India from the development of military AI capabilities and their inclusion in force postures, defence strategies and doctrines. With the consolidation of AI technology at global level, states might agree to align AI technology with arms control norms. However, the prospects of a pre-emptive global ban on AI weapons are extremely grim. Furthermore, the official positions taken by India, Pakistan and China on AI arms control-related issues are poles apart from each other. The different official position on the regulation of military AI along with this asymmetric development of AI capabilities would impede the prospects of any AI arms control framework in South Asia. This requires a re-assessment of current policy position and critical analysis on how military AI could affect the regional deterrence equation for Pakistan. While adopting a principled position in favour of an international legal regime to regulate the research, development, testing, production and potential use of AI weapon systems, Pakistan should also keep its options open regarding the research and development of military applications of AI for its national defence.