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Stability-Instability Paradox: The Evolving Status of Artificial Intelligence in South Asia

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Abstract:

Artificial Intelligence has emerged as a breakthrough technology with dual use for civilian as well as military purposes. As a new field, it offers various opportunities along with challenges in the military sector. Major Powers are engaged in establishing and maintaining leadership in the AI sector. This is not only compelling for major nuclear powers to keep capacity building race due to the dilemma of security, but also provoking other states to engage in acquiring AI-based technology both for civilian and military purposes. This paper highlights the evolving status of AI particularly in South Asia, keeping in view the emerging global status of AI among major powers. The study also introduces the threat posed by AI to the stability-instability paradox both at strategic and sub-strategic levels. The theoretical lens of security dilemma is used for this study to understand and predict the evolving threat posed by AI in the context of South Asia. Furthermore, this study is qualitative and exploratory in nature, taking advantage of the competing truths and interpretations to highlight the growing use of AI for dual purposes.

Keywords: South Asia, Pakistan, Artificial Intelligence (AI), security dilemma, strategic stability, stability paradox

INTRODUCTION

The stability-instability paradox is an established concept in the field of International Relations, especially in nuclear security. With the advent of the atomic bomb, it was widely believed that states possessing nukes will not choose an all-out war due to the possible mass destruction. However, the instability paradox reveals that at sub strategic level the chances of skirmishes and violence may increase. Although the stability-instability paradox has competing interpretations to a great degree, it is presumed that the perseverance of interstate militarized encounters between two mutually deterred rival states is considered as the stability-instability paradox (Watterson, 2017).

Moreover, the beginning of Artificial Intelligence (AI) with dual use, both for civilian and military purposes makes the instability paradox more vulnerable. This factor of vulnerability will not only

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be witnessed in the future on a micro level but at a strategic level as well. The biggest threat posed by AI is the introduction of autonomous weapons systems. These autonomous weapons systems can take decisions and even strategies out of human hands (Lodhi, 2022). While the major powers are involved in capability races to compete with each other in the domain of AI. The evolving status of AI and its impacts on strategic stability is extremely striking. There is growing literature on the concerns and risks posed by the militarization of AI, which is termed by International Relations scholars as the securitization of AI.

The progress in the field of AI and its securitization makes states vulnerable by leading policymakers to make appropriate decisions and bring a course of action. Leading to an arms race in the new theater of AI among the major powers, especially those in possession of nuclear weapons (Buzan et al., 1998). In the case of AI capability race, it will have a direct impact on the way in which policymakers think of their national security. Thus in this regard, the national security of opponent states will pose serious threats to the adversary.

In the case of South Asia, the two nuclear opponent states that are India and Pakistan are discouraged by mutual deterrence of nuclear capabilities to opt for war. Since the inception of nuclear weapons, the two adversaries did not engage in an interstate war. However, in the 1999 Kargil war both states acted in a way parallel to the stability instability paradox (Panday, 2011). The instability paradox in South Asia, particularly the rivalry between India and Pakistan yields its best. The reason is the increase in low-level conflicts and skirmishes as both opponents try to avoid any major escalation under the umbrella of nuclear weapons.

South Asia is witnessing the phenomenon of security dilemma since the creation of the two neighboring but hostile states of India and Pakistan. Each of the two regional powers is investing in new capabilities, altering the geo-economics and geo-politics of the two adversary states keeping in view the security circumstances of South Asia (United States Institute of Peace (USIP), 2022). Although strategic stability is in its place due to the deterrent effect of nukes. However, at sub strategic level both are facing increased instability. For instance, India and Pakistan engaged in a limited war in 1999, and then the 2001-2002 military standoff, following several times border skirmishes. The more recent episode of the Pulwama attack and India’s air force infiltration into Pakistani territory claimed to strike terrorist camps with Pakistan's immediate parallel response, bringing South Asia to the brink of nuclear war (Kronstadat, 2019).

India and Pakistan's reaction is tit-for-tat. A missile launch show in one state inspires the other to do so as soon as possible. This dilemma of security will further intensify regional security with the addition of AI for military use. This will cost an arm and a leg to the two nuclear states to indulge in the capacity race of AI. States like Pakistan with a low defense budget as compared to its strategic rival will face a security dilemma ultimately leading to capacity building under severe economic challenges. Pakistan apart from economic challenges will find itself in hot waters at a strategic level viewing the challenges posed by AI.

METHODOLOGY

This study has been conducted through a qualitative method of research. The qualitative method would help to better understand the complexities of the stability-instability paradox and the status of the relationship of the South Asian major powers in the context of security relations.

Furthermore, this research work utilizes descriptive and analytical methods of research to draw a detailed picture of the topic under research. This study is based on both primary and secondary sources. The primary sources include official documents, official websites, and official statements of responsible stakeholders and policymakers. The secondary data is collected from books, journals, magazines, and newspapers. Utter reliance is on authentic and non-biased secondary sources. Apart from the above mentioned sources, governments, inter-governmental, including non-governmental organizations' official websites have also utilized. Moreover, in conducting this study all the available content is analyzed to abstract concise and relevant data.

THEORETICAL FRAMEWORK

This research paper applies and utilizes the basic principle of the theory of security dilemma. The concept was first developed by Herbert Butterfield, John Herz, and Robert Jervis (Tang, 2009). The theory of security dilemma explains the most critical and pressing challenges of international politics. According to Herbert Butterfield, security dilemmas can force states to engage in the war although they did not want to go to war. He considers the security dilemma as the core cause of all the major conflicts where fear of the adversary plays a major role (Butterfield, 1951). This fear of the opponent and vice versa encourages arm race, which can best be understood from the perspective of a security dilemma (Glaser, 2004).

Scholars of International Relations observe such phenomena through the theoretical lens of the security dilemma which is considered a central theme in the field of International Relations and foreign policy (Walt, 2022). The security dilemma helps in understanding how the vim of one state to make itself more guarded by investing in AI for military purpose gravitate other states to be less secure and pregnable leading them to react in the same way or of a value higher in magnitude. The result is an arms race which is inevitable looking from the realist perspective of International Relations. Security dilemma has always played a major role in the case of Pak-India rivalry. The hostile nature of relations between the two neighboring states accelerates their quest for the achievement of AI-based technologies either to overpower in the case of India or to balance and deter the opponent in the case of Pakistan.

STABILITY-INSTABILITY PARADOX IN SOUTH ASIA

The concept of the stability-instability paradox is largely based on Glenn Snyder's 1965 essay "The Balance of Power and the Balance of Terror" (Rajagopalan, 2006). In this essay, Glenn Snyder summarized the stability-instability as "The greater the stability of the 'strategic' balance of terror, the lower the stability of the overall balance at its lower levels of violence" (Snyder, 1965), which means stability is inviolate in the case of nuclear deterrence at the strategic level however, causes instability at the micro level.

The case of nuclearized Pakistan and India regarding the Kashmir issue is often quoted as the best possible example viewing from the theoretical lens of the stability-instability paradox (Krepon, 2005). Although the paradox was first used during the cold war era to the US-Soviet relations because both powers were engaged in low-level proxy wars. Keeping in view the stability kept by the phenomena of Mutually Assured Destruction(MAD) nukes of both camps proviso the confidence that neither side will irate the nuclear threshold by providing a free hand for taking minimal actions at sub-strategic levels (Krepon, 2005a).

According to the United States Institute of Peace Report 2022, South Asia is the only place on earth where one of the two nuclear states conducted a limited targeted airstrike on the territory of another nuclear state (USIP, 2022). The world for the first time experienced an airstrikes exchange between the two nuclear states of South Asia after the terrorist attack of Pulwama in 2019. The report also declares this piece of land as the only region where one nuclear state has accidentally launched a missile into the territory of another nuclear power (Clary, 2022).

India and Pakistan the two nuclear powers of South Asia with different doctrines regard to "no first use" are masterly engaged in a sub-strategy underneath the aegis of nukes. Both states are fully aware of the stability-instability paradox by exploiting the shelter provided by deterrence. New Delhi under the leadership of Prime Minister Narendra Modi had revealed a more aggressive response to Pakistan in case of terrorist attacks on the Indian homeland. Such an aggressive foreign policy towards a hostile neighbor having one of the world's fastest-growing nuclear systems is worrisome (Arms Control Association, 2022). In such a chain of worrisome events, the stability paradox can be compromised. Pushing the two nuclear states to be indulged in the security dilemma.

The already deteriorating situation of instability paradox in South Asia can be inflamed by the introduction of AI for military use. AI weapon systems can independently target and neutralize the opponent without involving the human mind in pensive assessments of the risks involved. This dual use of AI technology will mold the security relations between India and Pakistan to more problematic and complex. This complex relationship will change the traditional notion of security by challenging the existing strategic stability resulting in misfortune and ultimately catastrophe.

Security Dilemma in the Context of South Asia

The term Southern Asia is used to include countries apart from those eight of South Asia (Andaya, n.d.). The term mainly uses to present the strategic relationship between China, India, and Pakistan. China, however, did not lie in South Asia, but China is playing a great strategic role in South Asia (USIP, 2022). The three nuclear states of Asia are sharing not only territorial boundaries with each other, but also disputed territories and the likelihood of arms race, crisis, and militarized conflicts with the possibility to temper the nuclear threshold.

The triangular placement of the three nuclear states sharing disputed borders remains the preeminent source of potential crisis. A nuclear conflict in this part of the region will shock the world. Any major conflict will lead millions of people to suffer as this part of the world comprises about 39 percent of the total world population. However, in the case of nuclear use, it could be a global catastrophe (Robock et al., 2019).

China, India, and Pakistan each recognize security threats from more powerful adversaries. Their military and nuclear doctrines are calculated to avoid military confrontation and to balance out asymmetry division of power in Southern Asia. For instance, Pakistan's defense budget is 7.5 billion USD (Grevatt & MacDonald, 2022). India spends 10 times the defense budget of Pakistan. On the other hand, China invests 229 billion USD in its defense three times higher than India's defense budget which is 76 billion USD (Baig, 2022). Pakistan looks east to counter-balance its mighty neighbor India. Investing in short and long-range strategic missiles having the ability to carry nukes. The rationale behind this is to deter India's conventional upper hand. However, India

engaged in the same dilemma looking northeast to balance the rising economic and military power of China. Notwithstanding China looks beyond the triangle across the Indo-Pacific to balance the US increasing presence in the region which spends three times more than the Chines defense budget (Smithberger & Hartung, 2021).

This triangular security dilemma along with extra-regional major powers engagements makes the region more prone to become part of the vicious cycle of the security dilemma. From a geopolitical perspective, Pakistan has always observed India from the lens of a security dilemma. Both states have a long history of wars, border clashes, and territorial disputes, making each other as perpetual enemies ("'Pakistan views India,'" 2011).

This relationship of 'my neighbor, my enemy' in Southern Asia is compelling states for the arms race. Although every state is trying to secure itself from external threats. However absolute security of one state creates absolute insecurity for another. Southern Asia is witnessing the same dilemma where China is trying to balance the US in the Indo-Pacific region. India is trying to balance China, on the one hand, and on the other overpower Pakistan. Although Pakistan's total budget is less than India's defense budget (Safi & Alam, 2022) but still trying hard to counterbalance and keep the power equilibrium to swing back and forth. India compared to Pakistan in conventional power is lopsided, while Pakistan is keeping its deterrence through non-conventional arms by the use of nukes as the "first use" of nuclear weapons against states possessing nuclear capabilities such as India (Mills, 2022).

The Evolving Role of Artificial Intelligence (AI)

Artificial Intelligence is evolving with dual use more rapidly than ever. Many scholars did not consider AI as a weapon system or a unified technology. It is considered more accurate to compare AI with electricity to understand its essence, rather than considering it a specific type of technology or weapon system or a missile (Boulanin, 2019). However, the concept of Artificial Intelligence bears different meanings for different people. This is because of AI's subject matter which is intelligence, which is hard to define in concrete terms (Madhavan, 2016). This reveals that there is a gap between the realities of what AI can do and the people's fear, policymakers' concerns, and states' worry about the increasing capacity race in the field of AI.

The United States is considered as the birthplace of Artificial Intelligence. The concept of AI came into existence in a workshop held at Dartmouth College, New Hampshire, where 20 of the world's top researchers in computer and cognitive science participated (Veisdal, 2019). John McCarthy pioneered the idea of AI in 1956, broadly defining it as the science and technology of creating smart machines (Pearl, 2017). The government of the United States is actively contributing to funding research and development in the field of AI.

The US is showing its keen interest in developing the field of AI to its next level. Since 2014 the government of the US has published several official policy documents. Among these the most recent policy document is published in 2019, publically known as the American AI Initiative. It reveals the intentions of the United States to achieve supremacy by harnessing the revolution in the field of AI. It is also noteworthy that the US has established separate units and centers within the Department of Defense (DOD) for achieving the desired results in the field of AI through research and development. These new setups include Defense Innovation Unit (DIU) and Joint Artificial

Intelligence Center (JAIC) (Boulanin et al., 2020). In 2018 Defense Advanced Research Projects Agency (DARPA) announced an investment plan of $2 billion to develop the next wave of AI.

The two strategic policies documents of 2016 and 2019 of the US regarding AI describe its dual use-both for military and civilian purposes. US Deputy Secretary of Defense, Work Bob described AI during his remarks on the "Third Offset Strategy" of the US, as the most important technological element for US military supremacy in the future. He stressed the importance of AI for military purposes by describing AI as the "technological sauce" of the third offset strategy of the US (Work, 2016). In this regard, the USA is considered the most advanced nation using AI for military purposes. Apart from the US, other major power like Russia and China is also trying to have the upper hand in AI. US official documents reveal the fact that China has capabilities parallel to the US in the field of AI (Sayler, 2020).

On the contrary, Russia is most vocal in advocating AI for military purposes besides civilian use. In his 2017 speech, Russian President Vladimir Putin declared AI as the future. Vladimir Putin goes further by claiming that whoever becomes the leader of AI in the coming future will become the leader of the world (Karpukhin, 2017). This reveals Russian intentions to compete with any other nation in the field of AI. Scholars are observing closely that there is a great possibility of great power competition in AI. An expert conference was held by the Russian Ministry of Defense in response to Vladimir Putin's directives, and a 10-point plan was announced at its conclusion (Bendett, 2018). Furthermore, the Russian government announced first draft of its national AI strategy in 2019. Russian national AI strategy has two goals: first, to establish Russia as a leader in the field of artificial intelligence; and second, to guarantee Russia's sovereignty in this space (Konaev et al., 2019).

According to the Russian news agency, Tass, the total budget allocated for the national program of digital economy development is 1.8 trillion rubles ("Russia's digital economy," 2018). 125.3 billion rubles of the total 1.8 will be allocated to the areas like AI, big data, and quantum technologies. Putin's statements on AI make it loud and clear that Russia is considering AI as a strategic game changer. Russia is trying to harness this new form of technology to uphold its great power ambition in the future of technology.

Other major powers like the UK, France, China, India, and Pakistan are also recognizing the greater importance of AI in civil as well as military purposes. UK has contributed a lot to the field of AI. Most of the leading minds in this field had studied AI in the UK. Since 2015, the UK government has identified the need to hold its prominent leading position at the global level in the field of AI. In September 2016, for the first time, an official report was published on robotics and AI. The British Government has recently produced many AI policy documents, however, the most advanced is the 2018 AI Sector Deal. This strategic strategy outlines a roadmap for how the UK can continue its dominance in the AI sector (Sumroy et al., 2021).

China is also committed to becoming a leading player in the emerging field of AI. China has not only the potential to do so but the required budget as well. The Chinese government 2017 published its New Generation Artificial Intelligence Plan. The new generation plan reveals that China is determined to lead the world in the field of AI. Chinese Ministry of Industry and Information Technology (MIIT), has added AI 2.0 as the 16th megaproject to its list of Science and Technology Innovation 2030 Megaprojects (Ding, 2018).

Along with the development of economic zones, the Zhongguancun Development Group proposes to develop AI Development Park, having a national-level artificial intelligence laboratory and hosting AI developers. The group has an estimated budget of 13.8 billion Yuan for the mentioned AI Park (Cadell, 2018). Due to the increasing importance of AI Chinese military officials are keen to achieve it as soon as possible. According to People Liberation Army Lieutenant General Liu Guozhi, director of the Central Military Commission's Science and Technology Commission China must try to harness the new technological opportunity to change the paradigm. If you do not disrupt the new disruptive technology, you will be disrupted(Canadian Security Intelligence Service, 2018). China North Industries Group Corporation Limited (NORINCO) one of PLA's largest arm-producing companies, senior executive stated that Lethal Autonomous Weapons Systems (LAWS) will be the common fighting force in 2025. He further stated that in future battlegrounds instead of soldiers autonomous machines will fight and for that matter use of AI for military purposes is unavoidable (Allen 2019, 32).

Status of AI in South Asia

The 21st century is witnessing the ever-greater importance of Asia in international politics. The great power politics in the Indo-Pacific and the rise of China and India are compelling for all major powers to shift towards Asia, labeling it as the Asian century. In this power politics, South Asia is playing an important role, especially India and Pakistan. Keeping in view the fact of security dilemma in Southern Asia India never overlooks Chinese advancement in the military domain. Military advancement in technology shall at any time lead to an unending strategic chain reaction. The strategic chain will eventually influence Pakistan as well, to become part of the capacity-building race in new and autonomous AI-based technology for civil and military purposes (Arif, 2019).

India's Quest

Likewise, other countries discussed above India also quests for controlling AI. In 2018 Indian Land Warfare Doctrine issued weights prominence on exploiting AI for military purposes. According to Indian Army Chief, General Bipin Rawat India needs to keep pace with Chinese spending on AI (" Army chief for tapping AI," 2019). India using the convention on Certain Conventional Weapons (CCW) has repeatedly emphasized the risks posed to the strategic stability by LAWS. India is viewing the situation as leading states towards an arms race in the emerging field of AI for military purposes, which compels states to go for or against the LAWS. For instance, the United States opposes a ban on LAWS, while enhancing its AI capabilities for military use.

India looks at China as a security threat due to its experience of border clashes. China the immediate neighbor having troublesome historical relations with India is heavily investing in AI by making superb progress in AI. On the other hand, India is now in full swing to use AI for military purposes by enhancing its capabilities to balance its hostile neighbor(Kaur, 2018). To gear up its race for enhancing its capabilities in AI the government of India allocated 30 billion Indian rupees ($480 million) during its budget for the 2018-2019 financial year. However, the National Association of Software and Service Companies (NASSCOM) reported that the budget will double by 2023. As per NASSCOM's most recent study on the AI adoption index, investments in India's AI capabilities are expanding at a Compound Annual Growth Rate (CAGR) of 31.8% and are expected to reach $881 million by 2023 (Lele, 2022).

For AI R&D to increment its influence the government of India has set up broadly two task forces. Among these two task forces, one will work under the Ministry of Commerce and Industry (MOCI) while the other will work under the Ministry of Defense (MoD). MOCI's task face is assigned to assist the government to find solutions to socioeconomic problems by utilizing AI. MOCI's task force for AI looks inward, limiting itself only to the use of AI for civilization purposes only (Government of India, 2018). On the other hand, the task force working under the MoD is assigned to the use of AI in the military field. This outward look of the MoD's task force is to study the strategic implications of AI from a national security perspective. The report of the task force on AI provides various recommendations including how to turn India into a prominent player in the field of national defense, specifically in the areas of cyber, nuclear, biological, and ground warfare. It also includes recommendations for the encouragement and regulation of AI-based engineering for military use.

The upper tier of the Indian government including the Indian military believes that the achievement of top-notch AI military technology is inevitable for security and strategic purposes. In 2018, Indian Prime Minister Narendra Modi call attention to the importance of AI. Modi calls AI the determinant factor of the offensive or defensive capabilities of any force in the future battleground. A senior MOD fellow describes AI-based technology as pivotal for India because future wars are increasingly technology-based, robotized, unmanned, and automated (Pandit, 2018). To realize this dream India's Defense Research and Development Organization (DRDO) has been engaged in this area. The DRDO has set up a separate laboratory to speed up its progress in the field of AI and robotics known as the Center for Artificial Intelligence and Robotics (CAIR). Since its inception, CAIR is playing an important role in the development of AI-based technologies for the defense sector. CAIR is responsible for major R&D in defense-related projects (Rafiq, 2021). A few of its projects are mentioned as under;

1. Decision Support System (DSS) with lookup algorithms.
2. Multi-Agent Robotics Framework (MARF).
3. Planning comprehensive data mining toolbox.
4. Designing AI algorithms for Simultaneous Localization and Mapping (SLAM).
5. Developing drone swarm algorithms and game-theoretic approach.
6. ISR robots and service-oriented architectural framework.

These efforts do not conclude here, India is developing new research excellence centers, for instance, the International Centers of Transformational AI (ICTAIs). For AI, machine learning, and deep learning Indian Central Electronics Engineering Research Institute (CEERI) contracted US big-data storage companies. Countries like Sweden are also investing in India's AI modernization program. A lab, Global Artificial Intelligence Accelerator (GAIA) is dedicated to automation and AI systems announced to open in Bengaluru, Karnataka by Swedish business company, Ericsson, while another AI center will be operated in Chennai, Tamil Nadu (Kannan, 2018).

India has set up a High-Level Defense AI Council (DAIC). DAIC has seven key responsibilities which also include the enabling of AI to be part of Indian defense strategy. Additionally, it includes the providence of AI-driven information for determining the strategic direction of defense(Government of India, 2019). Under this new AI-based defense strategy Indian Army can use AI for decision-making to mechanized warfare. This deliberate use of AI for mechanized warfare will be implemented by the South Western Army Command, which is Pakistan-centric (Peri, 2019). Literature also highlights that the recent Balakot fiasco and Wing Commander AbhiNandan crossing

the Line of Control (LoC) has compelled Indian authorities to invest more and more in AI-based technologies in the military sector to save the face in future by avoiding technical glitches (Arif, 2019).

Pakistan's Quest for AI

AI has been on the political agenda of Pakistan since 2018. AI emerged in Pakistan as a policy priority when in December 2019 President Arif Alvi launched the Presidential Initiative for Artificial Intelligence and Computing (PIAIC). President also shed light on the dual use of AI for economic as well as security purposes (Alvi, 2019). This initiative is the first official paper on AI that highlights the importance of AI for civilian purposes. However, it also refers to the military use of AI.

Currently, Pakistan is not in a position to grab southern Asia leadership in the field of AI, but Pakistan is struggling to incorporate the AI race. Under the PIAIC initiative, it called for the enrollment of 100,000 students in 2018 to be educated in the emerging field of AI, cloud-based computing, and block chin. In 2018 National Centre of Artificial Intelligence (NCAI) was established by the government of Pakistan. NCAI became a leading hub for knowledge, research, and innovation in AI. NCAI consists of nine (09) research labs operating in six (6) universities in Pakistan, including NUST, FAST, LUMS, PUCIT, and ITU (" Artificial intelligence in Pakistan," 2022).

Pakistan AI applications for military use are limited. Although Pakistan has made some little progress in the field of high-tech, stability deterrence provokes Pakistan to take concrete measures. Recently, Pakistan Navy has inducted state-of-the-art maritime patrol aircraft and tactical unmanned aerial vehicles (UAVs), for Intelligence, Surveillance, and Reconnaissance (ISR) capabilities. This Induction of LUNA NG Unmanned Aerial Vehicles (UAVs) will contribute to Pakistan navy combat facilities ("Patrol aircraft, latest drones," 2020). Pakistan's armed forces mostly rely on the increasing amount of conventional weapons. While it is focusing less on AI compared to fast nuclear weapon systems.

The new trend of AI use for military purposes and the capacity race in this field encourages states to engage in AI adaptation in the military sector. South Asia is never less an exceptional case. Pakistan cannot overlook India's leapfrogging advancement in AI. India has shown concerns about LAWS that can potentially disturb strategic stability. For Pakistan militarization of India in AI will have a severe impact on both the strategic as well as sub-strategic levels.

CPEC and AI Initiatives

Under the umbrella of China Pakistan Economic Corridor (CPEC) Pakistan can develop big data centers, AI labs, and machine learning hubs. China has developed AI parks along Special Economic Zones (SEZs) in China. Pakistan with the help of Chinese investment can compete with India in the field of AI by establishing AI zones/parks along EZs of CPEC. Pakistan can bring in top AI companies and FDI in the field of AI under such initiatives. For instance, the AI laboratory setup at the National University of Science and Technology (NUST) is the finest in Pakistan constructed under joint efforts of NUST and the Guangzhou Institute of Chinese Academy of Sciences ("Work on Pakistan's first," 2022).

The first high-standard artificial intelligence laboratory under CPEC is the first joint venture in the field of AI between China and Pakistan. The National Center of Artificial Intelligence (NCAI) at NUST has nine (09) affiliated labs including, deep Learning and Intelligent Robotic Lab.

Pakistan needs to utilize the platform provided by CPEC and take bold initiatives to enhance AI in both civil and military domains. CPEC projects, including Gawadar, energy mega projects, and nuclear reactors for civilian purposes need high-tech surveillance systems. CPEC umbrella can provide investments in this emerging field of AI to better secure and operate CPEC projects.

A brief comparison based on various attributes of India and Pakistan AI initiatives is shown in table 01 below.

Comparison Between India and Pakistan IA Use for Military and Civilian Purposes

Table-1

Attributes	**India**	**Pakistan**
Budget for	$480 Million/ $360.49 billion	$3.3 Million/$47billion
AI Centers	10+ (the exact number of Indian AI Centers is Unknown)	06
AI Labs	52	09
IT Exports	$178 Billion	$2.1 Billion
AI Strategy	National Strategy for AI (2018)	National Security Policy (2022)
AI Use for Military Purposes (Initiatives)	• Defense Artificial Intelligence Council (DAIC) • Defense Research and Development Organization (DRDO) • Center for Artificial Intelligence and Robotics (CAIR)	• Cognitive Electronic Warfare (CEW) Program at CENTAIC
R&D Spending	0.7% of the GDP (3.176 trillion USD in 2021)	0.2% of the GDP (348.3 billion USD in 2021)
Startups Hub	19th globally	76th globally
AI Initiatives	• RAISE • MAC 3.0 • US-India AI Initiative • QSim • AI for All • Quantum Computing Lab- Indian Army • Drone Shakti • ScAi • GAIA • TIF etc.	• Presidential Initiative for Artificial Intelligence and Computing (PIAIC)

Source: Author's own compilation.

CONCLUSION

AI-based technologies with dual-use are causing strategic instability. The introduction of LAWS will minimize the strategic stability maintained by nuclear weapons. Maintenance of strategic stability

at the macro level while instability at the lower level equation will be disrupted. Advancement in AI-based technologies is bringing the world to witness a new arms race. The results aren't only lethality in terms of destruction, but also the autonomous nature of these weapons systems.

The complex nature of security dilemma compels states to indulge in war despite the fact they did not want to engage militarily. The concept of Security dilemma is always in full swing when it comes to Pak-India security relations. During the past 76 years of independence both the states never enjoy a decade of peaceful and friendly relations. In case of South Asia which is a volatile region and had witnessed many wars and border skirmishes, the advancement in AI-based technologies and its introduction to military equipment will ultimately lead towards instability and unstoppable arms race in the new emerging field of AI-based technologies with dual use. It is widely believed that the two rival states of South Asia will face an inevitable arms race in AI-based technologies by adding to the already tense sub-strategic level of stability.

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