

Artificial Intelligence, Pakistan's National Security Policy: International Humanitarian Law (IHL)

*Dr Shabana Fayyaz**,

*Nabeel Hussain***

*Hafsa Andleeb****

ABSTRACT

Artificial Intelligence (AI) is still far from being applicable across the board, that is, the full autonomous form. As for progress in facial recognition, speech recognition, robotics and swarm drones, it is predicted that AI will achieve full autonomy in near future. AI is now being used at all levels, be it civil or military. In case of China, integration of high-end AI is making international system complex and uncertain making it hard for the states to cope up with the technological gaps. This research paper follows a mode of in-depth discussions with policymakers, researchers, academicians, international law experts and technological specialists related to the area of subject. The ambit of the study draws upon the literature available on Artificial Intelligence (AI), its ramifications on National Security of Pakistan and International Human Rights Law (IHL) – both from printed and online sources. The research study aims to unlock the delicate and unexplored domain of AI and National security of Pakistan vis-i-vis traditional and non-traditional security aspects. This is paralleled with understanding of IHL that has and can influence the national security framework of states like Pakistan. The research explores a set of inter-related questions: How to conceptualize AI in the international security sphere?; What are the aspects and challenges in embracing AI for traditional and non-traditional aspects of National Security of Pakistan?; How AI has impacted the national security outlook of Pakistan?; How to draw relevance of International Humanitarian Law (IHL) to AI generally and Pakistan specifically?

Keywords: *Artificial Intelligence, National Security, International Humanitarian Law*

* The Author is a Chairperson and Associate Professor of Defence and Strategic Studies Department, Quaid e Azam University, Islamabad.

** The Author is a Lecturer at Strategic Studies Department, National Defence University, Islamabad.

*** The Author is a Visiting Faculty Member, Bahria University, Islamabad.

INTRODUCTION

For a deeper understanding of the criticality of AI in the context of Pakistan's strategic landscape, an inclusive, integrated and multi-sectoral theoretical framework is proposed and applied. Parallel to this, IHL is approached within the notion of 'collective security'. A triangular analysis¹ will be done along with the application of securitization theory² that explains how Artificial Intelligence (AI) affects Pakistan's National Security and what the humanitarian costs of induction of AI into the national security policy are. Thus, following a triangulation mode, an analysis of Pakistan's national security policy through incorporation of Artificial Intelligence (AI) and International Humanitarian Law (IHL) is deliberated.

Through this scheme of research P3 strategy (protect, project & predict)³ is employed within Pakistan's national security domain for future threats in traditional and non-traditional realms. It is proposed to incorporate Artificial Intelligence (AI) in hard core national security domain as well as nontraditional domain. To probe further it is imperative to discuss the introduction of Artificial Intelligence into the parameters of national security under the pretext of International Humanitarian Law (IHL). Parallel to this, an explanation of both IHL and the relation between Artificial Intelligence and national security is described. International Humanitarian Law (IHL)⁴ tries to limit the intensity of an armed conflict. The first principle of IHL is discrimination between combatant and non-combatant, the second principle is the element of proportionality, and the third principle is military necessity.⁵ Though IHL is only applicable in times of armed conflict; however, the application of IHL on the use of Artificial Intelligence in national security of Pakistan will assist to understand the pros and cons of AI in national security policy.

1 Andrea J. Nightingale, "Triangulation," in *International Encyclopedia of Human Geography*, ed. Audrey Kobayashi (Kingston: Queen's University Publisher, 2020), 477.

2 Rita Taureck, "Securitization theory and securitization studies," *Journal of International Relations and Development* 9 (2006): 55-56, accessed July 2, 2022, <http://dx.doi.org/10.1057/palgrave.jird.1800072>.

3 United Nations Office on Drugs and Crime, *UNODC OPIOD Strategy: Predict Prevent Protect*, (United Nations Office on Drugs and Crime, 2019), accessed July 2, 2022, https://www.unodc.org/pdf/opioids-crisis/UNODC_Opioid-Strategy-Flyer_WEB.pdf.

4 International Committee of the Red Cross, *What is International Humanitarian Law?*, (International Committee of the Red Cross, 2004), accessed July 2, 2022, https://www.icrc.org/en/doc/assets/files/other/what_is_ihl.pdf.

5 Dieter Fleck, "Introduction," in *The Handbook of International Humanitarian Law*, ed. Dieter Fleck (London: Oxford University Press, 2021), 9-10.

THEORETICAL FRAMEWORK

As per the writing of Barry Buzan, at the state and societal level national security is composed of three fundamental elements: idea of the state, territorial base, and institutional bodies.⁶ In this research, it is analysed how Artificial Intelligence will impact and be impacted by the three aforementioned elements of national security: idea of state, territorial base and institutional bodies. Largely, there are two schools of thought regarding formation of state. One school says that; state is nothing without its people and the other believes that state is more than some of its people.

SECURITIZATION THEORY

Securitization theory presented by Barry Buzan Jape D Wilde and Ole Weaver explains that national security policy is not natural; it is made by politicians and decision makers depending upon the circumstances. The basic assumption of securitization theory describes that political issues are required to be dealt with urgency when they are considered as dangerous, threatening, alarming, and menacing by a securitising actor who has both social and institutional power to move it beyond politics. The securitising actors need to highlight the security issues as problems to attain the desired objectives.⁷

Securitization theorists consider five sectors: economic, societal, political, military, and environmental. In each sector, threat is specified referring to a certain object. Referent object of security is identity in the societal sector. In the military sector it is the state and rest of the three sectors are concerned with their prime objectives.⁸ This study explains how interplay of Artificial Intelligence under the guiding principles of IHL can substantiate the national security policy of Pakistan involving these five sectors.

The introductions of AI-based weapons have a great potential to detect and destroy threats coming from outside borders. Surveillance drones, information flow, speedy communication between different military cores can be enhanced through the introduction of Artificial Intelligence in the domain of military and defence. However, Artificial Intelligence

6 Barry Buzan, *People State and Fear*, ed. Edward E. Azar and Chung Moon (Maryland: Edward Elgar Publishing Limited for Center for International Development and Conflict Management, 1988), 36-37.

7 Rita Taureck, "Securitization theory and securitization studies," *Journal of International Relations and Development* 9 (2006): 55-56, accessed July 2, 2022, <http://dx.doi.org/10.1057/palgrave.jird.1800072>.

8 Mathias Albert and Barry Buzan, "Securitization, sectors and functional differentiation," *Security Dialogue* 42, no. 4/5 (August/September 2011): 414, accessed July 2, 2022, <https://www.jstor.org/stable/26301798>.

opens a room for enemy as well to penetrate into your communication signals. It will become difficult to identify source of threat in case AI with low human intervention is involved. Similarly threats inside border or territory can increase, as low cost technologies can be used by the non-state actors.

Securitizing AI through IHL

To design machines with the ability to think like humans, it is extremely important to understand human mind. At the individual level, security is solely linked with human being and its nature. In artificial intelligence, machines are designed to think and act rationally as a human does. Each of these four elements of Artificial intelligence itself is linked with human being. Machines which can think and act rationally have a potential to increase security and reduce threats. However, often machines have a possibility to become a threat themselves. This is the dichotomy around which the whole debate of national security and artificial intelligence revolves and can be better explained through the prism of IHL. As explained earlier that IHL has three basic principles: (i) discrimination between combatant and non-combatant (ii) military necessity (iii) proportionality. Machines equipped with weapons, no matter how intelligent, have a potential to respond and react mistakenly in case of a glitch or hacking. This aspect questions the development of Artificial Intelligence in the field of warfare. Increased level of error can jeopardize security and survival of the state. Developed countries are more confident about the role of AI in warfare but third world countries do not rely much on Cyberspace or AI due to the fear of being hacked or misinformed. Pakistan's marginal role in the field of AI, especially in matters of defence is indicative of this fear.

AI & National Security of Pakistan

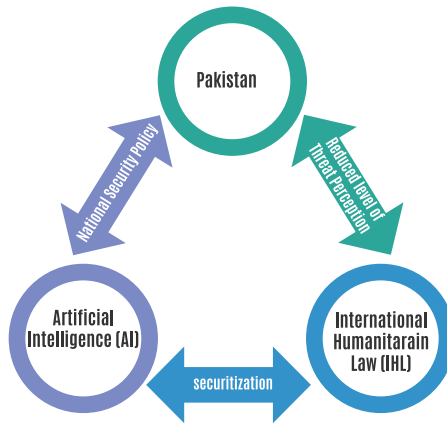
The national security policy of Pakistan is perceived to be threatened both internally as well as externally. Internal security threats include extremism, terrorism, sectarianism and rise in militancy. Externally, India remains a critical element for Pakistan. Presently, Pakistan needs a comprehensive security policy and strategy to deal with extensive threats. The national internal security paradigm would be incomplete until there is an identified linkage between external factors and various dimensions of human security.⁹ The geostrategic location of Pakistan and China Pakistan Economic Corridor (CPEC), the flagship project

9 Ministry of Interior, *National Internal Security Policy 2014-2018*, (Islamabad: Ministry of Interior Pakistan, 2018), accessed June 31, 2022, <https://nacta.gov.pk/wp-content/uploads/2017/08/National-Internal-Security-Policy-2014.pdf>.

of Belt and Road Initiative (BRI), have intensified threat perception. Violent non-state actors have challenged the writ of state in some hostile areas. Non-state actors are supported by external powers (India) and the eminent example is Kulbushan Jadhav who instigated instability in Balochistan.

Introduction of Artificial Intelligence will enhance machine efficacy and speed in dealing with such incidents. This will have a huge positive impact on human security. Institutions equipped with highly intelligent machines can work without much cost and effort and also reduce level of error in calculation, data management and surveillance activities.¹⁰ Pakistan is the most affected country from terrorism after Iraq.¹¹ The introduction of machine based surveillance programs will reduce the level of perceived threat in Pakistan.¹²

Triangular Model for National Security



Source: Authors proposed triangular model

The study undertaken proposes P3 strategy i.e., Protect, Project & Predict. The P3 strategy

10 Darrell M. West and John R. Allen, *How artificial intelligence is transforming the world*, (Washington DC: Brookings, 2018), accessed July 2, 2022, <https://www.brookings.edu/research/how-artificial-intelligence-is-transforming-the-world/>.

11 Madiha Afzal, "Terrorism in Pakistan has declined, but the underlying roots of extremism remain," *Brookings*, January 15, 2021, accessed July 2, 2022, <https://www.brookings.edu/blog/order-from-chaos/2021/01/15/terrorism-in-pakistan-has-declined-but-the-underlying-roots-of-extremism-remain/>.

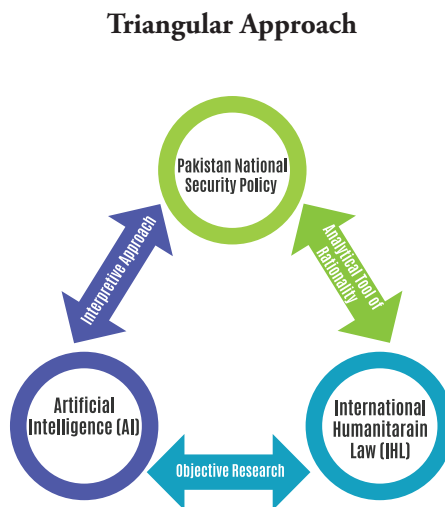
12 Khaqan Ahmed, *Need for National Artificial Intelligence Strategy for Pakistan*, (Islamabad: Centre for Strategic and Contemporary Studies, 2020), accessed July 2, 2022, <https://cscr.pk/pdf/perspectives/Need-for-National-AI-Strategy.pdf>.

refers to Pakistan's national security for future threats under traditional and non- traditional realms. It is proposed that Artificial Intelligence (AI) be incorporated in hard core national security domain. However, measures need to be adopted to enlarge its scope to non-traditional security domain as well. This model implies providing defence against future threats, projecting new strategies to counter the threats and predicting early warnings. The IHL will be utilized as a parameter to bifurcate between lethal and non-lethal use of AI in the national security policy of Pakistan.

RESEARCH DESIGN

Qualitative research design is used as the most viable methodology for present research exploration. The research method for this study is Action Research.¹³ The prime objective of Action Research is to assist the researcher in improving and refining analytical framework. The adaption of Action Research in this study situates AI for a comprehensive national security policy under the guiding principles of IHL. The data generation follows interpretive and rational approach as guiding sign posts to conduct an objective research.

The proposed model of analysis for this study is as follows:



Source: Author's Proposed Research Methodology

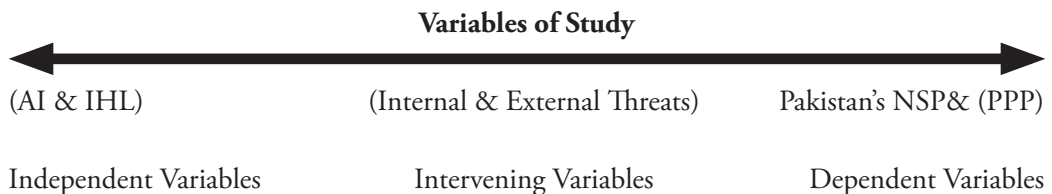
13 John W. Creswell, *Research Design Qualitative, Quantitative and Mixed Method Approaches* (London: Sage Publishers, 2009), 30.

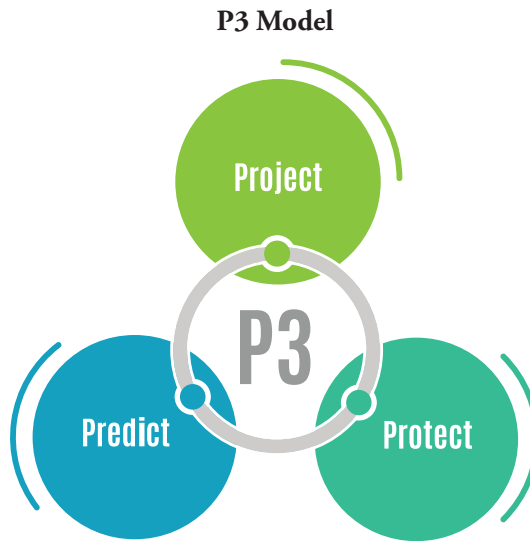
Data Collection

The data collection process for this study has been based on primary and secondary sources. For primary data collection methodology, one to one interviews and focus group discussions have been registered. The process included direct interaction with the concerned government officials and experts related to the area of research study. The primary data available in the open source (including official statements, official reports, treaties and books) has been harnessed and used for this research. For Focus Group Discussions (FGDs) a panel of relevant persons consisting of three to four persons were gathered for interpersonal communication on the study. The secondary data includes the research articles written by eminent scholars on the subject, Think Tank Reports, Magazine Articles such as IHS Janes, SIPRI Year Book and Military Balance by IISS, Foreign Affairs, Foreign Policy and other available sources on the internet.

Variables

It is imperative to highlight and explain the variables of the study. It consists of independent, dependent and intervening variables. Independent variables are static and bring change to the dependent variable. The intervening variables have the capacity to create a relation between dependent and independent variables. Artificial Intelligence and International Humanitarian Law are the independent variables because inclusion of these factors impacts the discourse of national security policy of Pakistan. However, the dependent variable is the national security policy of Pakistan along with the Protection, Projection and Prediction (PPP) strategy. Intervening variables of this study are the internal and external threats to Pakistan.





Source: Author's Illustration

Artificial and Human Intelligence in International Security

The philosophy of human intelligence is based on the notion of cognition, human intuition and natural language which distinguishes it from the machine. In 1956 John McCarthy proposed the name of Artificial Intelligence. Since intelligence was not defined, the concept remained unclear. Cognitive science has basically evolved the concept of AI, which deals with looking at humans and trying to mould their thinking into machine. Two questions which emerge at this point are how to perceive AI and if AI can be traced and predicted. The AI optimists are trying to create a machine that can understand and communicate with humans. However, there is no machine invented yet that can replicate accurate human responses. Another concern is if a machine would be capable enough to carry human self- intuition/awareness. The cognitive model of human is based on self- intuition/awareness and it comes from belief system. Self-intuition is based on the understanding of the language. Natural language is the form of AI and it is dependent on human.¹⁴

There are numerous indirect effects of the artificial intelligence on the global strategic environment and the international security. The integral linkage between traditional and non-traditional security threats will assist to understand how AI innovations will shape global economy, information based environment and societies around the world. The nexus between AI and economic power can be studied through the ability of states to exploit AI for the future programs. The immediate question in the international economic security realm is that whether AI will match or exceed the existing economic order.

There is a kind of uncertainty when it comes to the creation of job market for the labour in the times of AI.¹⁵ Research by Carl Benedict Frey and Michael A. Osborne at Oxford University suggest that 47% of U.S. workers might be at risk from automation by about 2030.¹⁶ Economic disruption has the potential to fuel and instigate political and social disruption. In the contemporary era of AI, large number of previously employed groups and those who are at disadvantage due to the current integrated wave of AI and economy are prone to protest and agitate. This economic transition can lead to political conflict, domestic

14 Focus Group Discussion, Dr Shabana Fayyaz, 24 October 2020, Karachi, Pakistan.

15 James Manyika et al., Jobs lost, jobs gained: *What the future of work will mean for jobs, skills, and wages*, (Washington: McKinsey Global Institute, 2017), accessed July 3, 2022, <https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages>

16 Carl B. Frey and Michael A. Osborne, "The future of employment: How susceptible are jobs to computerisation?," *Technological Forecasting and Social Change* 114 (September 2013): 255-56, accessed July 3, 2022, <https://doi.org/10.1016/j.techfore.2016.08.019>.

unrest, civil wars, insurgencies, nationalism and xenophobia. Such instability fuelled by the automation is a driving force behind the rise of populist nationalist movements across the globe.

The research accentuates that there is an integral linkage between economic and military power. A weak economy does not have the capacity to maintain a strong military power. The economic, social and political disturbance infused by AI could further complicate the dynamics of international security. The voter profiling by AI technologies can affect democratic norms in the electoral process. This kind of AI advancement includes content creation with bots for amplifying this message in targeted sub-groups. Such technologies were used in targeted political ads based on social media profiles of voters in 2016 US Presidential elections and in the UK Brexit referendum.¹⁷ Authoritarian regimes have the capacity to use social media platforms to manipulate news environment and to control messaging. In China it is estimated that the government creates and posts about 448 million social media comments in a single year.¹⁸ As identified by David Baldwin, the concept of security is contested and it is very difficult to explain and accept any single definition of security, hence it is a contested concept.

PAKISTAN'S TRADITIONAL SECURITY THREATS AND AI (WAR & MILITARY USE)

Lethal Autonomous Weapon System (LAWS) are the autonomous military robots that have the ability to search any target and employ an onboard weapon system to destroy a target according to their programing, constraints and description.¹⁹ LAWS, killer robots or slaughter robots are effective players of the fifth generation warfare. However, the utility of such programed machines is dynamic in nature. LAWS can be used for both offensive and defensive purpose. The advent of LAWS in the course of war fighting could have negative consequences on war termination and conflict resolution mechanism.

17 Christine B. Williams, "Introduction: Social Media, Political Marketing and the 2016 U.S. Election," *Journal Of Political Marketing* 16, no. 3 (2017): 208, accessed July 3, 2022, <https://www.tandfonline.com/doi/pdf/10.1080/15377857.2017.1345828>

18 Garry King, Jeniffer Pan, and Margaret Roberts, "How the Chinese government fabricates social media posts for strategic distraction, not engaged argument," *American Political Science Review* 111, no. 3 (2017): 484, accessed July 3, 2022, <https://doi.org/10.1017/s0003055417000144>.

19 Neil Davison, "A legal perspective: Autonomous weapon systems under international humanitarian law," International Committee of the Red Cross, last modified 2019.

The offensive use of LAWS can impose negative ramifications on human life. Disarmament of such weapons is idealistic. However, certain states such as Pakistan have a clear stance on LAWS and its development. Pakistan states that LAWS are unethical. Despite their sophisticated nature, they cannot be programed to comply with IHL. Pakistan has argued for a legally restricting CCW (Convention on Certain Weapon) that pre-emptively bans the advancement and utilization of such weapons.²⁰

National Centre of Artificial Intelligence (NCAI) is the latest technological initiative under the Government of Pakistan Vision 2025. The center is designed to become the leading hub of innovation, scientific research, transfer of knowledge to the local economy, and training in the area of Artificial Intelligence (AI) and closely affiliated fields. The central aim is to facilitate the researchers in the field of AI; help them establish and grow AI industry following international trends and seek solutions to the indigenous problems through AI. National Center of Artificial Intelligence (NCAI) is situated at the main campus of National University of Science & Technology (NUST), Islamabad and was inaugurated on 16th of March, 2018.²¹

National security of Pakistan is challenged by internal and external threats. To counter external national security threats, war fighting capabilities and assurance to de-escalate and escalate the conflict is required. These are the areas where AI can play a critical role. Air power in case of Pakistan has played a crucial role, where AI can be used. There is a concept called “Loyal Wingman”²² which includes the use of unmanned fighter jets (drones). In the nuclear command and control structure, the AI has a crucial role to play. Pakistan can jam the Indian system if India mobilizes its army in future. In war-fighting capabilities, a number of things are happening and will happen, but again the question is who is going to control the phenomena.

Artificial Intelligence parading is progressing towards a new deterrence because the adversaries can jam the systems. Does AI has capability to predict future scenario? Technology

20 United Nations Convention on Certain Weapons, “*Meeting 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*,” United Nations Convention on Certain Weapons, last modified November 13, 2019, <https://documents-dds.ny.un.org/doc/UNDOC/GEN/G19/343/64/PDF/G1934364.pdf?OpenElement>.

21 Focus Group Discussion, Dr Shabana Fayyaz, 13 October 2020, Islamabad, Pakistan.

22 Loyal Wingman is an unmanned aircraft with an interchangeable nose cone which can be quickly interchanged with other modules for a new mission and incorporates artificial intelligence.

has blurred the binary distinction. There is a digital divide between India and Pakistan. Technology is a different ball game altogether; rather, the control on technology is also blurred. Artificial intelligence is a product of competition. Pakistan is looking towards India's progress in artificial intelligence and developing it on the principle of parity with India.²³ Since Pakistan's security threats are India centric therefore, Pakistan responds to Indian threats even in AI domain. Similarly, it has both positive and negative connotations to it. The competitive paradigm is far more relevant and important. AI is also a challenge for the IHL paradigm. It will become too challenging to determine the convicted personality in AI. In the competitive paradigm, Pakistan is at the receiving end and cannot compete with India as India and China are investing heavily in AI and robotics at a great speed. Pakistan's national security is facing vulnerabilities in the competition paradigm. Technology control mechanisms are never ethical nor ethically used. Pakistan needs to address this upcoming threat from AI.²⁴

PAKISTAN'S NON-TRADITIONAL SECURITY THREATS

According to Mely Caballero Anthony, non-traditional security threats may be defined as: "Challenges to the survival and well-being of peoples and states that arise primarily out of non-military sources, such as climate change, cross-border environmental degradation and resource depletion, infectious diseases, natural disasters, irregular migration, food shortages, people smuggling, drug trafficking, and other forms of transnational crime."²⁵ However, there is no precise definition which explains the concepts of non-traditional security (NTS) as a whole because it's a complex phenomenon, varying from region to region and state to state. There are a number of factors which define non-traditional security threats to a state, for instance, its geography, culture, societal values, demography and primarily its relationships with the neighbouring countries, etc.

Pakistan in non-traditional security quarters has number of challenges to face such as, extremism, energy crisis, economy, demographic challenges, border security, governance issues, refugees and illegal emigrants, trans-border/ trans-national crimes, food security, human security, climate change, fragile political system, foreign policy dilemmas, foreign influences, and institutional angling, etc. Hence, NTS issues are transnational and trans-regional, national

23 Ibid.

24 Focus Group Discussion, Dr Shabana Fayyaz, 13 October 2020, Islamabad, Pakistan.

25 Ralf Emmers, and Mely Caballero-Anthony, "Understanding the Dynamics of Securitizing Non-Traditional Security," in *Non-Traditional Security in Asia Dilemmas in Securitization* (London: Routledge, 2006), 10-11.

in nature in order to cater and address the issues a state has to have a multi-sectoral expertise on multiple levels. National security needs to have a comprehensive and inclusive approach when it comes to mitigating challenges regarding both traditional and non-traditional security.

The new technological advancement like Artificial Intelligence (AI) can act as a revolutionary innovation. It brings along strong level of autonomy in non-traditional domain. AI is acquired by states due to its comparative advantage to mitigate challenges more efficiently against rivals. The rapidly growing technology of AI has compelled the “traditionalists” to introduce AI in its banks, hospitals, and governance structure. This, in turn, increases human intelligence manifold which leads to better sophistication and shrinkage of errors. Therefore, it is seen as a tool by the Great powers to undermine the balance of power in their favour.²⁶

In Pakistan, AI can contribute towards better development of the society. The non-traditional security threats consider human as the referent object which includes economy, politics, environment and society. The economic security threats to Pakistan's economy in the form of money laundering and illegal transactions can be traced out by the effective use of AI. Incorporation of AI in NTS is dependent on economic stability and is placed in cyber space. 16.7 trillion dollars (\$) in fifteen years, US economy is around 20 trillion dollars (\$) and Chinese economy is 14-trillion dollars. Out of 16.7-trillion dollar \$, 8.7-trillion dollars \$ will be consumed by Chinese (according to Reports by US think tanks) which is going to disturb the overall equilibrium. 4.3 trillion \$ will be taken by US. So, there is a need to develop a national AI strategy. India has not yet published a national security strategy on AI. Pakistan has an opportunity to place itself and invest in Research and Development of this technology.

Dual use of Artificial Intelligence

AI has a dual use - it's not a military tool which can be used for traditional war purposes only. AI is equally useful for peaceful purposes. There exists a room to employ AI for civilian pursuits in Pakistan. Internationally, AI has not been developed by military industrial complex but it was developed by software experts, who developed Google, Microsoft, etc. Artificial Intelligence can be beneficial to improve non-traditional security domain; it can develop new innovations which can be cost effective and timesaving. The energies which a human brain uses can now be replicated by

26 Shaza Arif, “Emerging Trends of Artificial Intelligence in South Asia and its Implications for Pakistan,” *NUST Journal of International Peace & Stability* 2, no. 2 (2019): 59.

machines which capable of performing tasks such as policing and face recognition, etc.

There is a vast scope of AI in the field of health sector. Pakistan is collaborating with the United States partnership in which latter is sponsoring AI based bio-tech research deemed to be useful for the diagnosis of diseases. It prescribes treatment by just taking sample of blood.

Another initiative is National Centre of Artificial Intelligence (NCAI). It is aimed to be a nerve center of innovation, scientific research, knowledge transfer to the local economy, and training in the area of Artificial Intelligence (AI) and its closely affiliated fields. The central aim is to facilitate the researchers in the field of AI in crafting indigenous solutions to the non-traditional security challenges. In the political domain Pakistan is looking forward to include the E-voting machine for effective and transparent transition of democratic regimes. Similarly, in the environmental domain, climate change, tornados, tsunami and harsh weathers can be early detected by the use of AI in order to reduce the cost on human life.

Use of AI in National Database & Registration Authority (NADRA) data is extremely useful both in the traditional and non-traditional security realm. Pakistan is also developing laws which make AI acceptable in the domain of internal and external security. The mobile and cellular devices have also created space for the artificial intelligence. In case of India and Pakistan the digitization at both sides of the border it is not about doing a physical explosion in Mumbai or in Karachi; it is about hacking your systems. Couple of years ago there was a judgment in Islamabad High Court about mainstreaming the Qadianis (minority group of Pakistan) bringing into NADRA database.²⁷

The gap is increasing definitely for example, face detection, language transmission and so on. Facebook has integrated 100 libraries and it can translate more than 100 languages. Pakistan does not have such equipped technology because of its expensive nature. The definition of AI depends upon how you perceive it.

IHL: TRADITIONAL SECURITY THREATS AND NON-TRADITIONAL SECURITY THREATS:

Artificial Intelligence offers both opportunities and challenges to the very conception of security in traditional and non-traditional security dynamics. As IHL is a law which deals

²⁷ Ibid.

with the armed conflict, there exists caveats in the IHL. IHL puts complete set of limitations in traditional security domain as well as non-traditional domain. The case of Palestine and Western wars against terrorism in Afghanistan, Pakistan, and Iraq, it is highly questionable that UCAV technology helps reduce the killing of civilians according to IHL. In contrast, UCAVs and other means of digital warfare appear to be used simultaneously in disregard of international humanitarian law. In a few cases, one gets the impression that these armchairs are used for the purpose of terrorizing and killing not only enemy soldiers but also civilians.²⁸

As drones have become a major source of armed conflict, the legality of their use is hotly debated for a variety of reasons. At the same time, drones have many civilian uses as well, which indicates their dual-use nature (e.g., for drone photography). There are legal and ethical questions about various drone technologies, especially for drones that fall in the LWS category. In the 21st century, the use of drones in military operations is one of the most contentious issues facing international humanitarian law (IHL) and the Law on Armed Conflict (LOAC). In the recent past, various states have formalized their policies for the use of drones, and this process is expected to be dynamic. As LAWS, drones can be considered bedrock for developing legal frameworks. Today, various technical and policy aspects of this technology are known and some legal explanations are emerging. In general, however, it needs to be registered that the debate on the law is recent and will take time to develop a comprehensive legal agenda.²⁹

After the highest number of signature strikes, Pakistan emerged as a useful state for identifying and assessing the impact of drone strikes. However, it is logical to consider the steps taken by the US and Pakistan in the aftermath of the September 11, 2001 attacks. Significant shift can only be traced back to 2004 when regular heavy-handed signature attacks in Pakistan's tribal areas became a regular feature of targeting militants seeking refuge in Afghanistan. It is worth noting, however, that the diverse nature of the conflict that continues to erupt has shown the complexity of the use of drones in Pakistan's case. As a result, riots and violence cannot be facilitated as a single insurgency with separate and identifiable objectives.³⁰

28 Jutta Weber, "Armchair Warfare 'on Terrorism'. On Robots, Targeted Assassinations and Strategic Violations of International Humanitarian Law," *IGI Global* 10, no. 1 (September 2019): 14, accessed July 3, 2022, https://juttaweber.eu/wordpress/wp-content/uploads/2015/01/Weber_Armchair-Warfare-IGI-Global_JW_oA.pdf.

29 Ajay Lele, "Debating Lethal Autonomous Weapon Systems," *Journal of Defence Studies* 13, no. 1 (January 2019): 55-56.

30 Jonathan Lim, "The Future of the Outer Space Treaty – Peace and Security in the 21st Century," *Global Politics Review* 4, no. 2 (October 2018): 78.

The United States has acknowledged such concerns over the use of RPVs. In a 2012 speech, John Brennan spoke about the legitimacy, justice, and wisdom of US drone strikes, including similar ones in Pakistan. He acknowledged that “the United States is the first nation to regularly conduct strikes using remotely piloted aircraft in armed conflict.” Because “many more nations are seeking” this technology and “more will succeed in acquiring it,” Brennan argued, the United States is “establishing precedents that other nations may follow.” “If we want other nations to use these technologies responsibly,” Brennan stated, “we must use them responsibly”.³¹ “If we want other nations to adhere to high and rigorous standards for their use, then we must do so as well. We cannot expect of others what we will not do ourselves.”

But the speech was delivered long after the first US use of the weapon, prompting a backlash against such use. In 2012, in an attempt to make a moral, practical and strategic point for the legitimate use of such weapons during the war, the States of America had clearly reacted rather than furthered and debated the debate and the former clearly has a weaker position than the latter. Law and technology are in a relationship of mutual influence, and this is a default and established relationship. An argument on the relationship between law and future technology, therefore, predicting material change, basically needs to be an argument for present and present change, for the future that is already here.³²

Whereas, talking about the role of International Humanitarian Law (IHL) it is observed that, IHL is an evolutionary law and it evolves with human growth and development it changes with the changing dynamics of warfare. A question arises that what is the legality of AI in contemporary war, science and strategic studies? Here, it is noted that international Humanitarian Law (IHL) prohibits the use of any weapons which is not being used by humans as there are certain rules and regulations which only a human understands. As IHL says that when there are three civilian and one military personnel you cannot attack. You can attack the military personnel only when he points out his gun upon you. There are so many grounds which do not provide a legal framework or a vacuum for artificial Intelligence to operate. Therefore, the developed countries would be more efficient to use AI because of the resources. So, IHL does not provide much ground to operate AI in war science. For AI-kinetic applications, it will only be allowed, if they are aligned with the definition of legal weapons of Additional Protocol-I (AP-I).

31 Jean-Lou Chameau, “Emerging and Readily Available Technologies and National Security — A Framework for Addressing Ethical, Legal, and Societal Issues”. *National Academy of Sciences*, 1, no.8 (November 2014) 1-349.

32 Kalpouzos, Ioannis. “Double Elevation: Autonomous Weapons and the Search for an Irreducible Law of War.” *Leiden Journal of International Law* 33, no. 2 (2020): 289–312. doi:10.1017/S0922156520000114.

CONCLUSION

Artificial Intelligence has a critical value both for the traditional and non-traditional security domains. This requires in-depth research and development (R & D), sustained efforts and clarity of futuristic goals. Today's international system is quite complex, uncertain and inter-connected making it harder for the states to cope up with the ever-widening technological gaps. On the alarmist note, future scenario with full autonomous systems seems to be quite disruptive. Fully autonomous systems eliminating human decisions have raised a major concern for the political, legal and ethical paradigms of warfare. At the very same time, it would not be wrong to predict that the technological race and its integration into military will further increase the arms race among the states, which would trigger the security dilemma pushing states to inculcate more weapon systems with AI in order to deter the adversary. Future of warfare would not be limited to nuclear deterrence; it will be highly dependent on the technological superiority of the state. The state having technological edge would have more credible deterrence in order to threaten or balance its adversary.

Concerns by the international organizations, non-governmental organizations, human rights watch, policy makers, etc. have already been raised regarding lethal autonomous weapons running on the Artificial Intelligence. In 2003, human rights watch and many other international organizations urged to initiate a campaign for stopping killer robots. Similarly, in 2018, UN Secretary General appreciated and encouraged states to prohibit the use of weapon systems that could detect, target and attack by themselves, referring them to be morally repugnant and both ethically and politically unacceptable.

RECOMMENDATIONS

Though there are grave ramifications of the inclusion of AI into the war domain; however, apart from that there are some positive aspects where the AI can be used to enhance the state security and in making a welfare state. As mentioned above that when it comes to the non-traditional security domain where human is considered as the referent object the AI can act as a source to strengthen human security. The following recommendations can assist in enhancing the national security of Pakistan inculcating AI and also strengthening the role of IHL to counter its adversarial affects.

- AI can be an effective tool in the health sector of Pakistan. During the Covid-19 phase, health security became an eminent threat. AI based haematology machines (blood sample analyzer) proved critical way for quick and effective results and also can predict the future diseases as well.

- Pakistan's economy is dependent on agriculture sector that contributes 18.9 percent of GDP and absorbs 42.3 percent of labour force. The Locust invasion destroyed the crops in Pakistan in mid of 2020. Utilizing the AI based machines in the agriculture sector would assist Pakistan in countering such threats and will increase crops production and strengthen the state economy. A multi-layered feed forward artificial neural network based system was formulated by Robinson and Mort to protect citrus crops from frost damage in Sicily island of Italy. Similar image based AI technique is also produced for wheat crop using the pixel labelling algorithm to strengthen the image formation. Such technologies can be utilized to protect the wheat crop and can have a positive contribution towards the economy of Pakistan.
- Introduction of E-Voting system based on AI in Pakistan will assist to bring transparency and contain rigging in the electoral system and further strengthen the democratic process in Pakistan.
- Money laundering and embezzlement can also be curtailed by the induction of AI based financial system into the State Bank of Pakistan which is able to calculate and monitor the illegal transactions and outflow of money from Pakistan.
- In the Research and Development sector AI is flourishing rapidly in Pakistan. The Public and Private sector universities are offering degree programmes and special courses on AI. The National University of Science and Technology (NUST) has established a prime department on AI and robotic warfare. Similarly, different think tanks in Pakistan are also conducting training sessions, seminars and workshops on educating the masses regarding this newly emerging trend in technology.
- International Humanitarian Law (IHL) and ICRC can act as a bridge to develop a non-proliferation pact with states [such as Nuclear Non Proliferation Treaty (NPT)] which can monitor and curtail the proliferation of AI based technology.
- IHL whose referent object is individual and its welfare and its Additional Protocols (AP-1) can be a key source to maintain human privacy and preserve human rights (i.e. right to privacy) from AI based systems.