

THE NEXUS OF NON-TRADITIONAL SECURITY AND NUCLEAR RISK: IMPLICATIONS FOR EU FOREIGN POLICY IN THE INDO-PACIFIC

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I. INTRODUCTION

The European Union (EU) Strategy for Cooperation in the Indo-Pacific (EU Indo-Pacific Strategy) reflects the increasing strategic importance of the Indo-Pacific region for the EU's foreign policy goals of ensuring stable trade relations, maintaining peace and strengthening international security.¹ Its cross-sectoral approach signals a promising shift towards a more comprehensive approach to security, encompassing both traditional hard security matters and non-traditional security (NTS) concerns.

The strategy was released in 2021 and updated at the start of 2024. However, even after the update, the strategy still retains a siloed implementation of its interrelated security domains and does not explicitly address one of the greatest security threats in the Indo-Pacific region with potentially far-reaching impact on European security: the risk of nuclear escalation among the region's four nuclear-armed states—China, the Democratic People's Republic of Korea (DPRK, or North Korea), India and Pakistan.² Even a small nuclear exchange in the region could have large-scale environmental and humanitarian impacts in Europe. It could also critically affect the nuclear taboo (i.e. the apparent global norm inhibiting the use of nuclear weapons), lowering the threshold for the use of nuclear weapons and increasing the risk of horizontal escalation of conflict to other regions. The omission from the strategy of the risk of nuclear escalation is

¹ European Union (EU), Strategy for Cooperation in the Indo-Pacific (EU Indo-Pacific Strategy), Jan. 2024.

² Russia is excluded from the analysis as it does not form a part of the EU Indo-Pacific Strategy. The United States is excluded due to its peripheral role in the strategy, which mainly involves cooperation on joint maritime exercises. As both countries are nuclear-armed states, they naturally have substantial impact on nuclear weapon developments in the Indo-Pacific given their geographical proximity to, and strategic importance within, the region.

SUMMARY

The updated European Union (EU) Indo-Pacific Strategy highlights the growing strategic importance of the region for the EU's foreign policy goals, incorporating both traditional security matters and non-traditional security (NTS) concerns. However, the strategy falls short by siloing policy implementation and not addressing the significant nuclear escalation risks among the region's nuclear-armed states, which could have severe global consequences, including for Europe.

NTS and nuclear risks intersect in complex ways, with NTS as a driver of conflict remaining underexplored despite increasing evidence of causal linkages. In the particular context of the Indo-Pacific, such domestic and interstate conflict holds the potential to escalate to a nuclear dimension due to the intersection of various historical, political and socio-economic factors.

This paper aims to address this gap by proposing that the EU should incorporate NTS-focused risk reduction measures into its Indo-Pacific Strategy, alongside traditional nuclear risk reduction efforts. Additionally, the paper suggests enhancing coordination between EU bodies to develop a more integrated approach to comprehensive security in the region.

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notable given a recent EU statement acknowledging the responsibility of all states to ensure nuclear risk reduction, especially in a time of increasing tension coupled with stalled arms control and disarmament efforts.³

While NTS and nuclear risks are seemingly separate issues, they may intersect in the Indo–Pacific nuclear-armed states in three key ways: (a) NTS factors may impact directly on nuclear issues, such as the effects of climate change on military installations housing nuclear weapons or delivery vehicles; (b) NTS factors may exacerbate pre-existing conflict dynamics; and (c) NTS factors may act as drivers of conflict from a local to interstate level. The latter intersection in particular remains understudied despite increasing evidence of NTS factors contributing to, and escalating, conflict. While the majority of such conflict would most likely remain at a localized level and involve only conventional weapons, the historical, socio-economic and environmental context increases the risk of NTS factors affecting nuclear escalation in the Indo–Pacific nuclear-armed states.

This paper builds on a growing body of evidence that suggests that NTS issues have contributed to the outbreak of violent conflict on a scale that has affected the national and regional security of multiple states.⁴ The paper mainly focuses on environmental, climate and economic insecurity issues, as well as the food–water–energy–health insecurity nexus, and explores the related effects of these issues, including large-scale population displacement and the formation of non-state extremist groups.⁵ These issues all differ

³ Conference on Disarmament, European Union statement on nuclear risk reduction (panel discussion), Geneva, 23 Mar. 2023.

⁴ Caballero-Anthony, M. (ed.), *An Introduction to Non-traditional Security Studies: A Transnational Approach* (SAGE Publications Ltd: London, Thousand Oaks, CA, New Delhi, Singapore, 2016); de Coning, C. et al., *Security Risks of Environmental Crises: Environment of Peace* (Part 2) (SIPRI: Stockholm, 2022); Rüttinger, L. et al., *A New Climate for Peace: Taking Action on Climate and Fragility Risk* (Adelphi/International Alert/Woodrow Wilson Center/European Union Institute for Security Studies, EUISS: Berlin/London/Washington, DC/Paris, 2015); World Food Program (WFP) USA, *Winning the Peace: Hunger and Instability* (WFP: Washington, DC, Dec. 2017); and WFP USA, *Dangerously Hungry: The Link Between Food Insecurity and Conflict* (WFP: Washington, DC, Apr. 2023).

⁵ Non-traditional security (NTS) covers more topics than those discussed in this paper. Other topics familiar to people with an interest in nuclear issues could include artificial intelligence and cybercrime. NTS issues differ from traditional security issues in that the risks do not necessarily stem from military sources within set geographical borders and cannot be addressed by traditional means of military force. Most NTS topics would also fall under the concept of ‘human security’. Human security is centred on people rather than the state and aims to

from traditional (hard) security issues in that the risks do not necessarily stem from military sources within set geographical borders and cannot be addressed by typical means of military force, but may, however, ultimately have an impact on the national security of multiple states.

Climate, in particular, has gained recognition as a security issue within EU security and defence policy due to climate change’s rapidly escalating effects on national and human security. Yet the potential impact of NTS issues on nuclear escalation remains underexplored.

In the Indo–Pacific, the four nuclear-armed states are exposed to a variety of intersecting NTS issues. They affect each state differently due to geographical, historical and social factors that may strengthen or weaken the resilience of peace and influence the way in which conflict develops. The state’s nuclear doctrine, strategy, force posture, signalling and the composition of its nuclear arsenal may, in turn, shape the way in which these lower-level and emerging conflicts contribute to increased nuclear risk.

Ultimately, NTS issues will have a growing impact on Indo–Pacific, and thus European, security and stability. While the impact could eventually involve a nuclear dimension, NTS challenges in the Indo–Pacific are likely to affect European security at least initially through mass displacement, disrupted trade routes and the rise of armed extremist groups. Addressing these NTS issues will therefore help to mitigate a broad spectrum of current, emerging and potential security threats, including those at the nuclear level.

The next section (section II) introduces the EU Indo–Pacific Strategy and views on NTS and nuclear risk. The paper then gives an overview of NTS issues in the Indo–Pacific nuclear-armed states and the factors that shape the potential for conflict (section III), before addressing the nuclear context and providing examples of potential conflict escalation pathways (section IV). It concludes in section V with a series of recommendations for the EU on addressing these issues, particularly in the context of its Indo–Pacific Strategy.

answer the question: ‘security for whom?’. The authors have chosen to use the term ‘non-traditional security’ in this paper to highlight how security issues that do not stem from traditional military threats can nevertheless affect the national security of one or more states.

II. THE EU INDO-PACIFIC STRATEGY

Defined as stretching from the east coast of Africa to the Pacific Island States, the Indo-Pacific region is home to roughly half of the world's population and accounts for nearly 60 per cent of global gross domestic product (GDP).⁶ China and India are among the EU's 10 largest trading partners, with the EU and the Indo-Pacific having the largest bilateral volume of trade among any two regions in the world.⁷ In addition, nearly 90 per cent of the EU's external trade in goods is seaborne and much of it passes through the Indo-Pacific. As the Indo-Pacific region is expected to continue its rapid increase in economic, demographic and political significance, its strategic importance to the EU is projected to grow.

At the same time, the region is under strain from fierce geopolitical competition that threatens peace and stability. Great power competition between China and the United States, maritime disputes in the South China Sea, and political rivalry and border disputes between several states, as well as internal conflict and governance issues, all contribute to instability. Piracy, terrorism and cross-border crime in the region also pose challenges to security. Furthermore, the Indo-Pacific experiences some of the highest levels of exposure and vulnerability to climate change in the world while having relatively limited responsive capacity.⁸

The Indo-Pacific's strategic importance to the EU has been reflected in the increasing attention placed on the region since 2018.⁹ The EU has stated that its prosperity is linked to the stability and growth of the Indo-Pacific and has launched multiple economic- and security-related initiatives aimed at the region.¹⁰

⁶ Borrell, J., High Representative of the European Union for Foreign Affairs and Security Policy/Vice-President of the European Commission, 'The EU approach to the Indo-Pacific', Speech at meeting hosted by the Centre for Strategic and International Studies, Jakarta, 3 June 2021.

⁷ Keßler, C., 'A sea of troubles: Addressing the EU's incoherence on the Indo-Pacific', Centre for European Reform, Insight, 8 Jan. 2024.

⁸ Expert Group of the International Military Council on Climate and Security, *Climate and Security in the Indo-Asia Pacific 2020* (Center for Climate and Security: Washington, DC, July 2020).

⁹ France became the first European state to launch a national Indo-Pacific strategy in 2018, followed by Germany and the Netherlands. These initiatives paved the way for the formulation of the EU Indo-Pacific Strategy.

¹⁰ Third EU Indo-Pacific Ministerial Forum, Opening remarks by Borrell, J. (High Representative of the European Union for Foreign Affairs and Security Policy/Vice-President of the European Commission), Brussels, 2 Feb. 2024.

The EU Indo-Pacific Strategy, which was released in 2021 and updated in 2024, is the most comprehensive of these initiatives.¹¹ It spans seven priority areas: sustainable and inclusive prosperity; green transition; ocean governance; digital governance and partnerships; connectivity; security and defence; and human security. It is designed to promote an open and rules-based regional security architecture in the Indo-Pacific region to protect EU strategic interests. Many of its components are interlinked with other large EU initiatives, including the EU Global Gateway, which is set to invest 300 billion euros in infrastructure across the globe by 2030.¹² The EU Indo-Pacific Strategy also incorporates previously established programmes and cooperative partnerships, such as the strategic partnership with the Association of Southeast Asian Nations (ASEAN).¹³

The following subsections elaborate on how the EU addresses NTS and integrates it into its strategy for the Indo-Pacific (the concept of NTS and prior research on the topic are examined in more detail in section III). The discussion then shifts to the EU's nuclear policy, focusing on its approach to nuclear risk reduction.

The EU's conceptualization of non-traditional security and its strategy for the Indo-Pacific

The EU Indo-Pacific Strategy does not use the term 'non-traditional security', nor does the EU at large appear to have reached a consensus on use of the NTS concept. The concept in general remains mostly undefined in international relations. EU statements sometimes conflate NTS and more traditional hard security concepts or the EU incorporates NTS issues without using the specific terminology. For example, a 2022 European Parliament resolution on security challenges in the Indo-Pacific referred to the advancements in nuclear capabilities among the nuclear-armed states in the region as an NTS issue alongside issues such as terrorism and climate risk.¹⁴ However, advances in states' nuclear capabilities

¹¹ The 2021 strategy was revisited in January 2024 to update progress on its components over the first three years of implementation. Third EU Indo-Pacific Ministerial Forum (note 10); and European Union (note 1).

¹² European Commission, 'Global Gateway', [n.d.].

¹³ European External Action Service, 'EU and ASEAN elevate relations to a Strategic Partnership', 1 Dec. 2020.

¹⁴ European Parliament resolution of 7 June 2022 on the EU and the security challenges in the Indo-Pacific (2021/2232(INI)), *Official Journal of the European Union*, C 493, 27 Dec. 2022.

tend to be viewed as a traditional security matter in international forums, which is also the approach taken by this paper.

Despite an apparent lack of consensus across the EU over the use of the term ‘non-traditional security’, the EU Indo–Pacific Strategy does cover the NTS issues of environmental and climate security, the food–water–energy–health nexus, and economic security at the household and state levels. The EU incorporates some of these NTS aspects into its comprehensive climate security approach, recognizing that environmental degradation and climate change can act as conflict drivers when coupled with other demographic challenges.¹⁵ The European Parliament has called for one such initiative, its 2022 Climate Change and Defence Roadmap, to be placed at the top of priorities in the EU Indo–Pacific Strategy, indicating the importance member states place on addressing NTS challenges.¹⁶ Notably, the roadmap, which operationalizes the systematic integration of climate considerations throughout overall EU security policy, is an example of successful cooperation between the European Commission, the European Defence Agency (EDA) and the European External Action Service (EEAS) to widen the scope of the EU Common Security and Defence Policy.

EU nuclear policy and the Indo–Pacific Strategy

The EU and its member states actively contribute to restricting the spread of nuclear weapons through diplomatic, technical and financial support. The EU, together with its member states in their national capacity, is one of the world’s biggest donors in the area of non-proliferation and disarmament of weapons of mass destruction (WMD) and a supporter of a dozen international treaties aimed at restricting the spread of nuclear weapons and banning nuclear testing.¹⁷ A few EU member states have also ratified the 2017 Treaty on the Prohibition of Nuclear Weapons (TPNW), although the treaty retains overall low levels of support in the EU as a whole. The EU’s strategy against WMD proliferation is a central goal of its Common Foreign

and Security Policy (CFSP) and a dedicated Special Envoy for Non-Proliferation and Disarmament represents the EU in multilateral arms control and disarmament forums. One of the most notable diplomatic efforts led by the EU on nuclear topics is the Joint Comprehensive Plan of Action (JCPOA), which aimed at ensuring the peaceful nature of Iran’s nuclear programme. The EU has thus contributed significantly to global nuclear risk reduction measures.

While the concept of ‘nuclear risk reduction’ has been discussed for some time, the EU only recently began to use the term. At the 2023 Geneva Conference on Disarmament, the EU representative stated that all countries share the responsibility to prevent the use of nuclear weapons and that they should, as a matter of priority, recognize the need for concrete and effective measures to reduce strategic and nuclear risks.¹⁸ There is thus much incentive on the part of the EU and its member states to address global nuclear risks.

Yet the current Indo–Pacific Strategy contains only one component under its ‘security and defence’ priority area that focuses on nuclear risk and non-proliferation: the enhancing security cooperation in and with Asia (ESIWA) project.¹⁹ Policies under this project apply exclusively to non-state actors, however, thereby addressing only one component of nuclear risk. The 2023 EU–Japan Summit, which included commitments to cooperate on strengthening global nuclear disarmament and non-proliferation efforts, also fell under the security and defence area but provided few specific details on a practical approach.²⁰ The Indo–Pacific Strategy makes no further mention of addressing state-level nuclear risk reduction measures.

However, the first Council of the EU conclusion from April 2021 on the establishment of an Indo–Pacific Strategy specifically refers to ‘nuclear non-proliferation, arms control’ as a priority area. While the wording on arms control was excluded from the September 2021 Joint Communiqué on the strategy to the European Parliament and Council, its inclusion at an earlier stage suggests that EU member states initially prioritized engaging on state-level nuclear risks in the Indo–Pacific.²¹

¹⁵ Council of the European Union, ‘Concept for an integrated approach on climate change and security’, 12537/21, 5 Oct. 2021.

¹⁶ European External Action Service, ‘The EU’s climate change and defence roadmap: Addressing the implications of climate change for security and defence’, 2022.

¹⁷ European External Action Service, ‘What we do, policy and action: Disarmament, non-proliferation and arms export control’, 31 Jan. 2024.

¹⁸ Conference on Disarmament (note 3).

¹⁹ European External Action Service, ‘ESIWA—Enhancing security cooperation in and with Asia’, 8 Feb. 2024.

²⁰ European Commission, ‘EU–Japan Summit—Joint statement’, 13 July 2023.

²¹ Council of the European Union, ‘Council conclusions on an EU Strategy for cooperation in the Indo–Pacific’, 7914/21, 16 Apr. 2021; and European Commission, ‘Joint communication to the European

Integrating non-traditional security and nuclear risk in the EU Indo-Pacific Strategy

The EU clearly has a vested interest in maintaining peace and stability in the Indo-Pacific to ensure uninterrupted cooperation and stable trade relations with some of the largest economies in the world, while avoiding conflict spillover into its own territory. The current Indo-Pacific Strategy already covers multiple NTS issues alongside traditional security matters and indicates a shift towards a more comprehensive approach to security with greater integration between multiple security domains and the corresponding EU agencies. While the strategy lacks a focus on addressing state-level nuclear risks in the Indo-Pacific, EU overall foreign policy displays an increased emphasis on global nuclear risk reduction.

The EU is thus in a good position to further develop a comprehensive and de-siloed approach to tackling the intersecting security issues of NTS and nuclear risks in the Indo-Pacific through its Indo-Pacific Strategy. The following sections aim to introduce the connection between these two issues in the particular context of the Indo-Pacific nuclear-armed states and provide examples of potential nuclear escalation scenarios stemming from the impact of NTS issues.

III. NON-TRADITIONAL SECURITY AND THE INDO-PACIFIC

This section will first introduce the concept of NTS, before expanding on the interplay of factors within NTS that promote or restrict conflict dynamics. Finally, factors are analysed in the context of the nuclear-armed Indo-Pacific states to showcase how NTS may drive conflict on a scale that could potentially have an impact on nuclear risks.

Prior research on non-traditional security

Interest in NTS issues has grown rapidly in the past decade, driven by the increasing impact of trans-boundary security risks that ‘arise primarily out of nonmilitary sources’ and that cannot be countered by traditional means of military force, but may nevertheless affect the national security of one or more states.²² These security risks, spanning from

Parliament and the Council: The EU strategy for cooperation in the Indo-Pacific, JOIN(2021) 24 final, 16 Sep. 2021.

²² Caballero-Anthony (note 4).

environmental and climate security to the food–water–energy–health nexus and economic security, are often simultaneously local and cross-boundary and require governance approaches from the village to global level. Furthermore, their impact on national and international security is rarely singular and linear—but rather the result of multiple systemic, emergent, cascading and compounding risks—and may have effects in the short, medium and long term. While many of the issues encapsulated within NTS have existed for a long time, from natural disasters to epidemics, the speed and scale of impact is rapidly increasing due, in large part, to climate change, diminishing resources and global connectivity.²³

A growing body of literature reveals how NTS issues have in complex ways contributed to the outbreak of large-scale conflict that has ultimately divided countries, overthrown regimes and initiated civil wars.²⁴ One prominent example from the Indo-Pacific is the 1970 Bay of Bengal typhoon, which has been identified as having contributed to the outbreak of civil war in eastern Pakistan, eventually leading to the partition of the country into Pakistan and Bangladesh.²⁵ While the typhoon and its aftermath acted as the trigger of the civil war, multiple pre-existing historical, sociopolitical and environmental factors acted as drivers of the conflict and shaped the way in which it developed. Understanding the interplay of these pre-existing factors on conflict escalation dynamics allows for better understanding of how NTS may intersect with current and future nuclear risks. This is crucial for designing comprehensive policies capable of addressing these interrelated security risks.

Previous research into NTS and conflict has primarily focused on one specific issue, such as food insecurity, rather than the intersection of several NTS issues.²⁶ For instance, most of this research looks at

²³ de Coning et al. (note 4).

²⁴ Caballero-Anthony (note 4); de Coning et al. (note 4); Rüttinger et al. (note 4); WFP USA, *Winning the Peace: Hunger and Instability* (note 4); and WFP USA, *Dangerously Hungry: The Link Between Food Insecurity and Conflict* (note 4).

²⁵ Blondel, A., *Climate Change Fuelling Resource-based Conflicts in the Asia-Pacific*, Asia-Pacific Human Development Report, Background Papers Series 2012/12 (United Nations Development Programme: Geneva, 2013); and Islam, M. M., Chatterjee, N. and Basar, M. A., ‘The final straw? Bhola cyclone, 1970 election, disaster politics, and the making of Bangladesh’, *Contemporary South Asia*, vol. 31, no. 2 (2023).

²⁶ Teng, P. and Lassa, J., ‘Food Security’, ed. Caballero-Anthony (note 4); and Martin-Shields, C. and Stojetz, W., ‘Food security and conflict: Empirical challenges and future opportunities for research and policy making on food security and conflict’, *Food and Agriculture*

the impact of environment and climate change on peace and security.²⁷ Despite different focal points, the evidence from such studies reveals similar sets of factors interacting in diverse ways, contributing to conflict outbreak and escalation. This paper draws broadly from various intersecting NTS issues to explore the potential impact on nuclear risks in the Indo–Pacific nuclear-armed states.²⁸

Non-traditional security factors

At the foundation of the various areas of NTS explored in this paper, including food security and economic security, are issues such as hunger and poverty. These foundational factors may contribute to structural pressures, affecting societies' ability to respond to stress, which in turn has an impact on their capability to remain stable. However, environmental degradation, climate change, poverty, hunger, disease and water and energy scarcity in and of themselves do not cause conflict. Other sociopolitical factors such as inequality and governance intersect with these foundational pressures in different ways that may either restrict or enable conflict dynamics.

Inequality is often related to a specific identity such as, among others, ethnicity, language, religion or social class. An identity group's perceived belief that it is being disproportionately affected by an issue such as food accessibility with regard to other identity groups can cause tension and social grievances that may increase the risk of conflict, in particular if such inequality is accompanied by a loss of livelihood and a perceived loss of power.²⁹ Intertwined with such issues are unstable governance and weak state institutions that simultaneously reproduce inequalities and inhibit the potential for peaceful resolution of grievances. Further shaping these structural pressures is a history of tension and conflict among neighbours.

A state with high levels of hunger, for example, will thus have higher structural pressures and a lower

tipping point during a triggering event (e.g. lowered agricultural yield). This may, however, be mitigated by other factors such as strong governance or low levels of inequality, thereby increasing a state's resilience against conflict.

The factors should be understood as dynamic, as well as bi- or multi-directional and mutually reinforcing—for example, poverty and a lack of water, energy and sanitation all contribute to limiting access to, and the safe use of, food products, which is the basis for food security.³⁰ Unsustainable farming practices and energy needs for food processing can contribute to environmental degradation, which may in turn further reduce food production. Deterioration of one factor can thus result in the deterioration of other factors. Reciprocally, improvement in one factor may bring improvement in other factors. Rather than disaggregating the factors, analysing their interaction will allow for a more comprehensive approach that better explains how the different factors may facilitate and restrain conflict.

The factors should be understood as non-linear—for example, weakened institutions and governance may not only affect resilience to triggering events, but also shape the response of institutions and their capability to adhere to established nuclear risk reduction frameworks during interstate conventional conflict in ways that may shape nuclear escalation. Similarly, a rapid deterioration in foundational factors such as resource scarcity could potentially alter the incentives for nuclear use, should the scarcity appear to constitute an existential threat.

Finally, climate change acts as a risk multiplier, exacerbating vulnerabilities in all other areas.³¹ It can, for example, increase the magnitude of the impact of trigger events such as floods and typhoons through its influence on environmental degradation. As climate change is projected to worsen over the foreseeable future, many of the other factors are expected to experience deterioration as a result, putting further strain on resilience. Climate change thus introduces far-reaching future risks that are difficult to predict and is therefore one of the main reasons why the study of NTS impacts on conflict dynamics has increased in importance.

Organization of the United Nations (FAO), *FAO Agricultural Development Economics Working Paper 18-04*, Sep. 2018.

²⁷ See e.g. SIPRI, 'Environment of Peace', 2022; and Mobjörk, M. et al., *Climate-related Security Risks: Towards an Integrated Approach* (SIPRI: Stockholm, 2016).

²⁸ Bergner, E., 'Conflating factors: At the nexus of non-traditional security and nuclear risk', *One Earth Future*, presented at the annual conference of the Alva Myrdal Centre for Nuclear Disarmament, Uppsala, 15 June 2023. For further information see Open Nuclear Network (ONN), 'Broadening perspectives on nuclear disarmament: ONN participating at AMC conference', 19 June 2023.

²⁹ Mobjörk et al. (note 27).

³⁰ Bunse, S. and Delgado, C., 'Promoting peace through climate resilient food security initiatives', SIPRI Research Policy Paper, Feb. 2024.

³¹ Mobjörk et al. (note 27).

It is thus when foundational factors of poverty, hunger and scarcity intersect with intervening factors of inequality, weak governance and neighbourly tension that these issues may become threats to national security. This weakens societal resistance to stress factors and resilience to large-scale conflict. These triggers can take multiple forms—such as a large-scale natural disaster or financial crisis—and may bring about further cascading effects—such as large-scale displacement—creating new challenges. These triggering events are thus the culmination of multiple, intersecting structural stresses that reach a tipping point for conflict escalation. As evidenced in this section, such conflict could take place domestically, but could also escalate to the interstate level, in particular over diminishing shared resources. In nuclear-armed states, such conflict could contribute to increased nuclear risks in ways that will be elaborated on in the next section (section IV). The remainder of this section explores relevant NTS issues in the nuclear-armed states of the Indo–Pacific. This should not be considered an exhaustive analysis of factors—rather it should be viewed as a roadmap to begin to consider the conditions under which these NTS issues may contribute to conflict at a scale sufficient to have an impact on national security and potentially contribute to increased nuclear risks.

Non-traditional security factors in the Indo–Pacific nuclear-armed states

Many of the factors identified as structural pressures are present in China, the DPRK, India and Pakistan, albeit in different ways. These include poverty, hunger, disease and energy and water scarcity as well as environmental degradation and climate change impacts. At the same time, sociopolitical intervening factors such as the strength of governance and institutions, the levels of inequality and the history of neighbourly relations intersect with these either to restrict or enable the outbreak or escalation of conflict. Analysing the relationship between these layers of factors in the Indo–Pacific nuclear-armed states reveals why similar triggering events may have different outcomes in the different countries, and why nuclear escalation may be more plausible in some contexts than in others.

China

China has made significant strides in eradicating extreme poverty and reducing hunger, but it faces growing challenges from climate change, including rising sea levels and worsening desertification, which may negatively affect these foundational factors and increase structural pressures in the near future.³² While surveillance and control measures in place in China currently restrict the space for conflict escalation, declining state legitimacy over the past two decades—most recently seen in the nationwide protest against Covid-19 policies—may reduce resilience against the outbreak of conflict domestically under conditions of increased structural pressures.³³ Additionally, cross-border conflict with India over territorial disputes and shared resources could ensue as climate change worsens the conditions of foundational factors due to diminishing resources.³⁴

The Democratic People’s Republic of Korea

The DPRK experiences severe structural pressures, with widespread poverty, undernourishment, energy shortages and high infectious disease levels compounded by environmental degradation and extreme weather events.³⁵ However, the inequality of the DPRK’s hereditary class structure is somewhat balanced by its informal economy with China as well as its extensive system of control and surveillance, which

³² World Bank Group, ‘The World Bank in China’, updated Apr. 2024; Global Hunger Index, ‘Global Hunger Index scores by 2023 GHI rank’, [n.d.]; Browne, A., ‘Desertification in China: Causes, impacts, and solutions’, Earth.org, 20 Dec. 2022; and Internal Displacement Monitoring Centre (IDMC), *Disaster Displacement in Asia and the Pacific: A Business Case for Investment in Prevention and Solutions* (IDMC and Asian Development Bank: Geneva, 2022).

³³ Fund for Peace (FFP), *Fragile States Index 2023, Annual Report* (FFP: Washington, DC, 14 June 2023); Freedom House, ‘Freedom in the world 2023: China’, [n.d.]; and Human Rights Watch, ‘China: Unprecedented nationwide protests against abuses: Xi consolidates power amid Covid-19, economic challenges’, 12 Jan. 2023.

³⁴ Ramachandran, S., ‘The long shadow of the 1962 war and the China–India border dispute’, Jamestown Foundation, *China Brief*, vol. 22, no. 21 (18 Nov. 2022).

³⁵ FAO, International Fund for Agricultural Development (IFAD), United Nations Children’s Fund (UNICEF), WFP and World Health Organization (WHO), *The State of Food Security and Nutrition in the World: Urbanization, Agrifood Systems Transformation and Healthy Diets Across the Rural–Urban Continuum* (FAO: Rome, 2023); Central Intelligence Agency (CIA), ‘The World Factbook: Field listing: Electricity access’, [n.d.]; Han, P. et al., ‘Epidemiology survey of infectious diseases in North Korean travelers, 2015–2017’, *BMC Infectious Diseases*, vol. 19, no. 13 (2019); and Chemnick, J. and E&E News, ‘With widespread deforestation, North Korea faces an environmental crisis’, *Scientific American*, 19 Apr. 2019.

restricts mobility and the formation of a functioning civil society and currently inhibits domestic instability and conflict.³⁶ Any changes to the precarious governance model centred around a single leader under a hereditary dictatorship and economic reliance on China (and more recently Russia) could significantly alter the intervening factors' ability to restrain the structural pressures. This could have a severe impact on domestic stability and potentially pose risks up to the level of nuclear command and control.³⁷ The DPRK's interstate tensions with the Republic of Korea (ROK, or South Korea), which is under the US nuclear umbrella, remain at a high level, meaning that any perceived instability in the DPRK may heighten nuclear risks on both sides. Cross-border conflict between the two may also ensue over shared maritime and other resources should structural pressures increase as a result of a worsening climate.

India

India, despite its lower-middle income status, faces substantial structural pressures from high levels of childhood poverty and hunger, extreme water scarcity and vulnerability to climate change impacts, such as severe weather events and rising sea levels.³⁸ Socio-economic disparities driven by caste, ethnicity and religion, which often cross the border into Pakistan due to the two countries' shared history, have previously contributed to domestic unrest and violence.³⁹ While

democratic participation may increase resilience to triggering events, worsening institutional biases and corruption contribute to growing polarization and diminished trust in leadership, which may place further pressure on resilience to domestic conflict.⁴⁰ Due to the make-up of identities in India and its neighbours as well as several ongoing regional territorial disputes, such conflict could take a cross-border dimension at an early stage and could develop into an interstate conflict, in particular due to the existence of armed non-state extremist groups.⁴¹ An event related to water scarcity, for example, could trigger cross-border conflict that could potentially escalate to nuclear use.

Pakistan

Pakistan faces substantial structural pressures, including poverty, hunger, energy shortages and high disease rates, that are exacerbated by water scarcity and climate change.⁴² Inequality—rooted in caste, ethnic and religious identities—contributes to socio-economic disparities, along with political polarization, corruption and instability in leadership. These issues, combined with the alleged past interest of armed non-state groups in the nuclear programme, severely weaken the resilience of intervening factors to withstand structural pressures. In addition to cross-border conflict with India, nuclear risks could thus potentially increase as a result of domestic instability and conflict.⁴³

³⁶ Patterson, Z., 'Political, social and economic inequality in North Korea', *North Korean Review*, vol. 13, no. 1 (spring 2017); Collins, R., *Marked for Life: Songbun North Korea's Social Classification System* (Committee for Human Rights in North Korea: Washington, DC, 2012); and Williams, M. and Slavney, N., *Digital Surveillance in North Korea: Moving Toward a Panopticon State*, 38 North Special Report (Stimson Center: Washington, DC, 16 Apr. 2024).

³⁷ Cha, V. and Katz, K. F., 'Unanswered questions about North Korean leadership', Center for Strategic and International Studies, 14 Mar. 2023; Williams and Slavney (note 36); and Gentile, G. et al., *Four Problems on the Korean Peninsula: North Korea's Expanding Nuclear Capabilities Drive a Complex Set of Problems* (RAND Corporation: Santa Monica, CA, 2019).

³⁸ Salmeron-Gomez, D. et al., 'Global trends in child monetary poverty according to international poverty lines', World Bank Group, Policy Research Working Paper 10525, July 2023; Global Hunger Index (note 32); Babel, M. S. and Wahid, S. M., Asian Institute of Technology, *Freshwater under Threat, South Asia: Vulnerability Assessment of Freshwater Resources to Environmental Change, Ganges–Brahmaputra–Meghna River Basin, Helmand River Basin, Indus River Basin* (United Nations Environment Programme: Nairobi, 2008); Space Applications Centre (SAC), Indian Space Research Organisation, *Desertification and Land Degradation: Atlas of India* (SAC: Ahmedabad, 2016); and IDMC (note 32).

³⁹ Ramachandran, R., 'Caste and socioeconomic disparities in India: An overview', ed. A. Deshpande, *Handbook on Economics of*

Discrimination and Affirmative Action (Springer: Singapore, 2023); Chatterjee, P. et al., 'When social identities intersect: Understanding inequities in growth outcomes by religion- caste and religion-tribe as intersecting strata of social hierarchy for Muslim and Hindu children in India', *International Journal for Equity in Health*, vol. 22, no. 115 (2023); and Maizland, L., 'India's Muslims: An increasingly marginalized population', Council on Foreign Relations, 18 Mar. 2024.

⁴⁰ Human Rights Watch, 'India: Events of 2022', 2023.

⁴¹ Center for Preventive Action, 'Instability in Pakistan', Global Conflict Tracker, 9 Feb. 2024; and Stolar, A., *Making and the 2001–2002 Standoff* (Stimson Center: Washington, DC, 2008).

⁴² World Bank Group, 'Pakistan', Poverty & Equity Brief, Apr. 2023; Global Hunger Index (note 32); CIA (note 35); Babel and Wahid (note 38); and IDMC (note 32).

⁴³ Center for Preventive Action (note 41); United States Institute of Peace (USIP), 'The current situation in Pakistan', Fact sheet, 23 Jan. 2023; and Gregory, S., 'The terrorist threat to Pakistan's nuclear weapons', *CTC Sentinel*, vol. 2, no. 7 (July 2009).

IV. THE NON-TRADITIONAL SECURITY–NUCLEAR RISK NEXUS IN THE INDO–PACIFIC

The recent global refocus on the role of nuclear weapons, the possible lowering of the threshold to nuclear use introduced by low-yield nuclear weapons and increasing strains on global resources caused by climate change will influence conflict dynamics in the future. While the potential domestic and interstate conflicts discussed in the previous sections are likely to remain within the conventional realm, this section explores the ways these conflicts could escalate to nuclear use given the changing dynamics in the Indo–Pacific region. It first expands on the factors that may drive increased nuclear risks under conditions of domestic and interstate conflict and then examines potential escalation pathway scenarios.

Nuclear risks in the Indo–Pacific states

In the realm of nuclear risk analysis, it has been established that conventional conflict represents a pathway capable of heightening the probability of the use of nuclear weapons, particularly when occurring either internally to a nuclear-armed state or externally between nuclear-armed states.⁴⁴ At the intrastate level, conflict may, in extreme circumstances, elevate the likelihood of mismanagement or loss of control of the state’s nuclear arsenal, a so-called loose nuke scenario, which is more probable in a political context where control is tightly related to a particular individual, such as in the DPRK, or in states with physical security concerns, such as in Pakistan.⁴⁵ Such a scenario could also increase the risk of nuclear weapon technology and material being proliferated by non-state actors and could increase the risk of foreign intervention and subsequent escalation. Domestic conflict may further foster internal factions that independently engage in hostile actions against a nuclear-armed neighbour, thereby instigating interstate conflict—a scenario that India claims took place in 2016 as the Indian army reported conducting surgical strikes into Pakistani

⁴⁴ Wan, W. (ed.), *Nuclear Risk Reduction: Closing Pathways to Use* (United Nations Institute for Disarmament Research, UNIDIR: Geneva, 20 Apr. 2020).

⁴⁵ Gentile et al. (note 37); Kerr, P. K. and Nikitin, M. B., *Pakistan’s Nuclear Weapons*, Congressional Research Service (CRS) Report for Congress RL34248 (US Congress, CRS: Washington, DC, 1 Aug. 2016); and International Atomic Energy Agency (IAEA), ‘Mission says Pakistan’s regulatory body effective, encourages continued focus on radioactive waste management’, Press Release 26/2022, 9 Mar. 2022.

territory following an attack against an Indian army base by militants based in Pakistan.⁴⁶

At the interstate level, conflict poses the risk of undermining established frameworks aimed at mitigating nuclear risks, such as arms control agreements and critical communication infrastructures.⁴⁷ For example, despite the existence of military hotlines between India and Pakistan, these have never been used in a crisis situation due to high levels of mistrust.⁴⁸ Furthermore, conflict may precipitate increased risks associated with both human and technical errors, attributable to the accelerated deployment of nuclear assets and heightened alert levels compressing decision-making timelines.⁴⁹ Additionally, the risks of misperception or miscalculation, particularly in discerning payload and target distinctions, can be exacerbated during active conflict, a challenge amplified by recent advancements in technology.⁵⁰ All four states (China, the DPRK, India and Pakistan) are building up and modernizing their nuclear arsenals, introducing technologies that blur the lines between conventional and nuclear targets.⁵¹

Conflict may also elevate the potential for deliberate nuclear weapon deployment, especially in scenarios characterized by asymmetrical conventional forces, where a country perceives an existential threat. The DPRK and Pakistan have articulated nuclear doctrines emphasizing first-use policies, citing the asymmetry of conventional forces in relation to their principal adversaries (the ROK and India respectively). Moreover, Pakistan conducted a test of a nuclear-capable ballistic missile in 2011, which it categorized as a tactical nuclear weapon, while the DPRK has unveiled footage purportedly depicting tactical nuclear warheads.⁵² The possible introduction of

⁴⁶ Center for Preventive Action, ‘Conflict between India and Pakistan’, Global Conflict Tracker, 9 Apr. 2024.

⁴⁷ Akhtar, R. et al. (eds), *Crisis Communications: Indian and Pakistani Perspectives on Responsible Practices* (British American Security Information Council/Institute for Conflict Cooperation and Security: London/Birmingham, June 2023); and Sethi, M., ‘Nuclear risks in Southern Asia: The chain conundrum’, ed. Wan (note 44).

⁴⁸ Sethi (note 47).

⁴⁹ William J. Perry Project, ‘Nuclear miscalculation’, [n.d.].

⁵⁰ United Nations Office for Disarmament Affairs (UNODA) and United Nations Institute for Disarmament Research (UNIDIR), *Hypersonic Weapons: A Challenge and Opportunity for Strategic Arms Control* (UNODA/UNIDIR: New York, 2019), p. 20.

⁵¹ Kristensen, H. M. and Korda, M., ‘World nuclear forces’, *SIPRI Yearbook 2024: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2024).

⁵² Khan, M., ‘Understanding Pakistan’s full spectrum deterrence’, *Journal of Strategic Affairs*, vol. 1, no. 2 (2016); and Kim, S., ‘N. Korean

lower-yield nuclear weapons into the Indo–Pacific may significantly alter the nuclear use threshold in regional conflict.

China, the DPRK, India and Pakistan are integral components of nuclear deterrence relationships that extend globally and have complex effects on their respective strategic postures, doctrines and capabilities.⁵³ For example, Pakistan’s strategic decisions are influenced by India, which in turn is influenced by China’s nuclear policies. China’s policies, meanwhile, are heavily influenced by those of the USA, which is itself influenced by Chinese and Russian actions. This interplay does not follow a linear cause-and-effect pattern but rather constitutes a complex web of mutual influence. Actual or misconstrued understanding of an adversary’s capabilities can thus spur developments in another state, setting off a chain reaction. This is further complicated by the lack of transparency related to nuclear developments. China discloses minimal data regarding the status of its nuclear arsenal, while India and Pakistan only share information on missile tests, and the DPRK provides only occasional warnings before missile and satellite launches. In addition, the DPRK withdrew from the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 2003, and India and Pakistan remain non-signatories, complicating regional and international arms control endeavours.

The Indo–Pacific is characterized by a dearth of comprehensive arms control measures, effective communication channels and shared understanding of nuclear risks, thus making the region susceptible to NTS risks acting as a conflict driver that could, in turn, increase nuclear risks. The following subsection examines escalation pathway examples in the Indo–Pacific nuclear-armed states, investigating scenarios in which NTS issues could potentially contribute to eventual nuclear use. This analysis offers an opportunity to identify escalation risks at an early stage to enable prevention and early intervention, given that the closer an escalation node is to nuclear use, the more difficult it is to address. This is particularly true for the EU and its ability to support nuclear risk reduction matters in the Indo–Pacific.

leader urges more production of weapons-grade nuclear materials; photos of tactical nuclear warheads released’, *Yonhap News*, 28 Mar. 2023.

⁵³ Sethi (note 47).

Examples of potential escalation pathways

Escalation pathways from NTS issues to increased nuclear risks in the Indo–Pacific may take diverse forms influenced by a complex, interacting set of factors far beyond those included in this paper. These examples should not be viewed as proof of a direct and linear causal effect between NTS issues and nuclear risks and should not be used to make simplified statements about complex topics; rather, they should be considered as an entry point for assessing the relationship between these interrelated security issues, offering a level of nuance that may provide insight into why some nuclear-armed states in the Indo–Pacific may currently be at greater risk than others of NTS intersecting with nuclear risks.

Water conflict between India and Pakistan

The risk of nuclear escalation stemming from water access disputes has been highlighted before by Asokan and Helfand in the context of India and Pakistan and the Indus River.⁵⁴ The authors argue that climate-triggered water scarcity will escalate tension between these two countries and, as a consequence, increase the risk of nuclear war. This subsection aims to build on Asokan and Helfand’s study by providing a more in-depth overview of how such a conflict escalation may occur through the analysis of NTS and nuclear risks.

The Indus River is vital for the provision of water for food and energy production in a region with scarce water resources and is closely tied to local livelihoods. India is the upstream state and thus possesses more control over the river, despite Pakistan having a larger percentual share of the resource. In 1960 the Indus Waters Treaty was signed to address shared use but has since been disputed on various occasions.⁵⁵ One prominent incident took place in 2016 as India responded to an alleged Pakistani militant attack by threatening to pull out of the treaty, which Pakistan stated it would consider an act of war.⁵⁶

As discussed in the previous section, both countries score poorly on several of the foundational factors such as hunger, water and energy scarcity and

⁵⁴ Asokan, A. and Helfand, I., ‘Climate change and water scarcity will increase risk of nuclear catastrophe in South Asia’, *Bulletin of the Atomic Scientists*, 11 July 2022.

⁵⁵ World Bank Group, ‘The Indus Waters Treaty 1960 and the role of the World Bank’, Fact sheet, 11 June 2018.

⁵⁶ Jorgic, D. and Wilkes, T., ‘Pakistan warns of “water war” with India if decades-old treaty violated’, *Reuters*, 28 Sep. 2016.

environmental degradation, creating structural pressures on both societies. Inability to access sufficient river resources would considerably worsen these factors; thus, both countries rely on the river to combat these issues. Climate change is causing the Himalayan glacier that feeds the river to melt rapidly with projected shortages in the near term, worsening the condition of the other factors and creating a state of consistently increasing structural pressures.

Inequality remains high along caste, ethnic and religious lines, indicating that the impact of lack of river access on foundational factors is likely to differ among the populations of both states. This is further complicated by the existence of cross-border identities along these similar social divides. The instability of the Pakistani state and difficulties faced in security provision make institutional resilience uncertain and have spurred the formation of violent extremist actors. The two states also have a history of violent conflict and confrontations on their shared border, particularly in the regions of Jammu and Kashmir through which the Indus River flows. These incidents have sometimes involved non-state actors and the situation has remained tense since partition in 1947.⁵⁷

Triggering factors for large-scale conflict under these circumstances are likely to be connected to resource scarcity as a result of climate change and may take the shape of sudden drops in energy and food production and subsequent increases in energy and food prices. Such conflict may start on a domestic basis driven by those most adversely affected by the sudden shortage and lead to instability in both countries, weakening state control, in particular in Pakistan. Conflict could further escalate to the interstate level if the Indian government—under pressure from domestic upheaval due to national resource shortages—deems it necessary to revoke or rearrange the terms of the Indus Waters Treaty. Based on past events, the possibility of this happening may increase if Pakistan-based extremist groups, active in regions most likely to be adversely impacted at an early stage and potentially further spurred by a weakened state, launch a cross-border attack.⁵⁸ The possibility of revocation may increase if such an attack is construed by India as being directed by the Pakistani state or not sufficiently addressed by it. India could respond to such an attack in a similar way to what it claims to have done in the past—as

noted above, the Indian army reportedly conducted surgical strikes into Pakistani territory following a Pakistan-based militant attack against an Indian army base in 2016.⁵⁹ Pakistan may also decide to keep to the statement made in the past that the revocation of the treaty will be considered an act of war. In addition, interstate conflict could ensue on the initiative of Pakistan if it deems that India is claiming excessive use of the resource, in particular as 90 per cent of Pakistan's agriculture is dependent on the resource.⁶⁰

Interstate conflict between the two countries could remain on a conventional level, as it has in the past. However, as presented earlier in the section, active conflict between nuclear-armed states can increase nuclear risks in a variety of ways. Misunderstanding may occur during conventional warfighting as a result of new types of missiles and delivery vehicles that make it difficult to distinguish between conventional and nuclear warhead deliveries. The risk for misunderstanding may increase if, as in the past, the military hotline between the two countries is not adequately used during crisis.⁶¹

The threshold to nuclear use is also potentially lowered in this case because of Pakistan's lack of no-first-use policies and its development of low-yield tactical nuclear weapons to compensate for the perceived advantage India has at the conventional level. Such risks may increase based on the severity of the decrease in the resource, in particular if the decline appears to represent an existential risk to the state, which is more likely for Pakistan due to its heavier reliance on the resource. Further weakening of the state due to domestic upheaval may also affect decisions made during crisis. Should the conflict involve a revocation of the Indus Waters Treaty, Pakistan would fulfil three of four triggers of water conflict, as identified by Homer-Dixon: (a) economic reliance on the river as a downstream state; (b) expression of threat to restrict waterflow by the upstream state; and (c) a history of antagonism between the two states.⁶² The fourth triggering condition, the downstream state's belief that it has sufficient military capability to defeat the upstream state, is not met in the conventional

⁵⁹ Center for Preventive Action (note 46).

⁶⁰ Zahra, S. M. et al., 'Sustainable water management in Indus Basin and vulnerability due to climate change', *Environmental Sciences Proceedings*, vol. 25, no. 1 (2023).

⁶¹ Sethi (note 47).

⁶² Homer-Dixon, T. F., *Environment, Scarcity, and Violence* (Princeton University Press: Princeton, NJ, 1999).

⁵⁷ Center for Preventive Action (note 46).

⁵⁸ Center for Preventive Action (note 46).

realm. This could push Pakistan into considering the use of a low-yield nuclear weapon against India under the strategy of ‘escalate to de-escalate’ to overcome the asymmetry.⁶³ Such use is unlikely to target nuclear facilities due to the 1988 India–Pakistan Non-Attack Agreement, although both states claim that the lists of facilities are not complete, increasing the risk of accidental violation.⁶⁴

In such a scenario, Pakistan may rely on the assumption that the use of low-yield nuclear weapons would not provoke an immediate nuclear response from India, in an effort to avoid further escalation. However, this perception is not necessarily supported by India’s doctrinal framework, which emphasizes massive retaliation as a key element of its nuclear strategy.⁶⁵ In addition, even without an immediate nuclear retaliation by India, use of low-yield nuclear weapons by Pakistan could significantly escalate conventional warfare, increasing the risks of misperception and creating a greater risk of further nuclear exchange as the conflict develops.

China–South Asian nuclear triangle and climate disruptions

In China, foundational factors are relatively stable with low levels of poverty, hunger and general scarcity. Certain intervening factors, such as the relative stability of the state and economy and the state’s ability to monitor its population comprehensively, currently support societal resilience against shock events, making it highly unlikely for domestic conflict to reach the kind of level that may affect nuclear risks. However, environmental degradation and climate change are increasingly contributing to structural pressures, which may significantly challenge China’s resilience to conflict in the future. The combined projected impact of rising sea levels, river floodings, heatwaves and desertification may force the displacement of hundreds of millions of people in a country that already has the highest level of disaster-induced displacement in Asia.⁶⁶ The impact will depend on the government’s ability for mitigation and adaptation, which may experience constraints due to China’s apparent

reluctance to consider climate change as a security issue.⁶⁷

Additionally, there is a possibility of other cascading risks of NTS involving China in the future—the country may be entangled in a conflict between India and Pakistan or be engaged in conflict with India, in particular as China controls the upstream area of the Indus River but is not a party to the water treaty.⁶⁸ Furthermore, China is cooperating with Pakistan to construct dams on the Indus River in the disputed Pakistan-controlled areas of Kashmir, and its China–Pakistan economic corridor runs through the region, which India, on multiple occasions, has stated violates its territorial integrity.⁶⁹ China, moreover, is the upstream state of another of India’s major rivers, the Brahmaputra, but the two countries do not have any formal water-sharing agreements.⁷⁰ For China, the need for the water resources is also growing as a result of increasing water scarcity that is particularly prominent in the north of the country, which requires China to divert its southern rivers. And, what is more, the Brahmaputra is becoming of greater importance to the agriculture of Tibet, which falls under Chinese administration.

If India is placed under increasing structural pressures because of reduced waterflow in its major rivers as described in the previous subsection and perceives that China is aggravating those conditions through its use of the water resources, tensions may increase. Tensions could further increase if China in turn perceives that India misuses the water resources in a way that negatively impacts, for example, the China–Pakistan dams and related infrastructure further down the Indus River. These tensions would take place against the backdrop of other related tensions over disputed regions through which the rivers flow.⁷¹

A triggering factor in such a scenario could be a drastic change in water use by China, either restricting use for India or causing a sudden large influx of water

⁶³ Sethi (note 47).

⁶⁴ Nuclear Threat Initiative (NTI), ‘India–Pakistan Non-Attack Agreement’, Fact sheet, [n.d.].

⁶⁵ Velangi, A. and Bommakanti, K., ‘Pakistan’s tactical nuclear weapons limit India’s conventional military options’, Observer Research Foundation, 25 June 2024.

⁶⁶ IDMC (note 32).

⁶⁷ United Nations, ‘Security Council fails to adopt resolution integrating climate-related security risk into conflict-prevention strategies’, Meetings coverage, SC/14732, 13 Dec. 2021.

⁶⁸ Manhas, N. S., ‘A fragile lifeline: India and China must collaborate on water’, The Interpreter, Lowy Institute, 21 Nov. 2023.

⁶⁹ Taneja, P., ‘Why India missed China’s Belt and Road summit’, The Interpreter, Lowy Institute, 15 May 2017.

⁷⁰ Sikorsky, E., *China’s Climate Security Vulnerabilities* (Center for Climate and Security, Council on Strategic Risks: Washington, DC, Nov. 2022).

⁷¹ Ramachandran (note 34).

(e.g. through new dam constructions), resulting in widespread flooding and damage to agriculture. In both cases, increased stress would be placed on an already strained food situation.⁷² A conflict of this nature between China and India is unlikely to lead to nuclear escalation under current circumstances—both countries have articulated no-first-use policies and remained removed from the nuclear dimension during previous border skirmishes.⁷³ However, India's existential need for the water resources may prompt a larger-scale conventional exchange that goes beyond the level of recent border skirmishes. It may further involve targeting of water-related infrastructure, which could invoke incursions by China into contested territory. Such conflict heightens the risk of misconception and overreaction, in particular as China is developing dual-use delivery systems (i.e. missiles that can carry both conventional and nuclear warheads) that may cause uncertainties over weapon payload should such systems ever be used.⁷⁴ While China has previously suggested that India's nuclear weapon programme has little influence on Chinese plans, India closely follows developments in China, which could influence the composition of India's nuclear arsenal.⁷⁵ Furthermore, China's recent rapid modernization of its nuclear weapons, expansion of its warhead stockpile and reported possible development of low-yield warheads may increase the risk of misunderstandings and potential nuclear use.⁷⁶

The Democratic People's Republic of Korea

The DPRK, despite its vulnerabilities to stress from poverty, hunger and weak governance, remains insulated from conflict escalation due to several intervening factors. These include rigid political control by a long-standing ruling family, comprehensive state surveillance that suppresses dissent, and economic support from China and Russia, which mitigates the impacts of the DPRK's economic underdevelopment. The probability is thus currently

⁷² Mukherjee, A., 'China's dam building is a security risk for India's northeast', *The Diplomat*, 26 Mar. 2021.

⁷³ Thakur, R. and Sethi, M., 'India–China border dispute: The curious incident of a nuclear dog that didn't bark', *Bulletin of the Atomic Scientists*, 7 Sep. 2020.

⁷⁴ Panda, A., 'China's dual-capable missiles: A dangerous feature, not a bug', *The Diplomat*, 13 May 2020.

⁷⁵ Yang, X., 'China's perceptions of India as a nuclear weapons power', *Carnegie Endowment for International Peace*, 30 June 2016.

⁷⁶ Kristensen, H. M. et al., 'Chinese nuclear weapons, 2024', *Bulletin of the Atomic Scientists*, 15 Jan. 2024.

low of NTS issues escalating into conflict at a scale that may affect nuclear risks in the DPRK.

This situation, however, is dependent on the above-mentioned balancing intervening factors, and the loss of one such factor could significantly shift escalation pathways. One possible change among the intervening factors could take the shape of severely reduced or revoked Chinese economic support. Such a factor is highly improbable under current circumstances, as economic support to the DPRK fulfils the Chinese foreign policy goal of ensuring the DPRK's stability, helping to provide a buffer between China and USA-supported ROK and to prevent mass immigration to China from the DPRK.⁷⁷ However, this situation could alter in the event of a major diplomatic dispute between China and the DPRK or a reorientation of Chinese funding priorities towards domestic needs, perhaps based on concerns about the impact of climate change. In either scenario, China could significantly reduce or revoke its aid to the DPRK. This factor could in turn be dependent on Russian political will and ability to supplant China's reduced support, which itself would be dependent on the outcome of the war in Ukraine as well as numerous political factors. The subsequent potential escalation could take the path described below, which should be viewed as more speculative than the other pathways discussed so far.

First, the DPRK's loss of economic and material support would put pressure on factors of poverty, hunger and scarcity due to significantly lowered agricultural output. The state may become unable to supplant the loss of economic support and may weaken, lowering its ability for monitoring and control as people seek increasingly disruptive survival strategies. The situation could deteriorate as a result of extreme weather events, further affecting domestic food availability. In the 1990s similar loss of economic support from the Soviet Union, coupled with natural disasters and weak state planning, escalated into a famine that may have killed up to two million people.⁷⁸ Yet it did not generate either domestic or cross-border conflict. One differing intervening factor under current circumstances may be the inability to keep such an event from the notice of the outside world. Current remote sensing capabilities along with global monitoring of humanitarian disasters and improved

⁷⁷ Fong, C. and Albert, E., 'The China–North Korea relationship', *Backgrounder*, Council on Foreign Relations, 7 Mar. 2024.

⁷⁸ Haggard, S. and Noland, M., *Famine in North Korea: Markets, Aid, and Reform* (Columbia University Press: New York, 2007).

communication networks mean that it is highly unlikely that international society would remain ignorant of such an event. In addition, DPRK citizens are probably more aware now of the economic realities of neighbouring countries than during the 1990s, which could potentially increase the willingness to seek support abroad.⁷⁹

A triggering event could then potentially consist of foreign intervention from the ROK, which considers the full Korean Peninsula to be part of its territory according to its constitution.⁸⁰ Such intervention could spark cross-border conflict under already strained interstate relations, resulting in a weakened DPRK leadership feeling threatened by a possible forced unification or other leadership change. Such conflict could potentially develop into nuclear escalation if the DPRK considers using a low-yield nuclear weapon to compensate for its conventional disadvantage with regard to the ROK.⁸¹ The DPRK lacks a no-first-use policy and has instead recently expressed an aggressive nuclear doctrine; however, the nuclear dimension would also depend on the statements and actions of the USA in such a scenario as it serves as a nuclear umbrella to the ROK and is perceived by the DPRK as one of its primary adversaries.⁸² There may be an increased risk of miscalculation under such tensions, especially if the DPRK perceives that the USA is attempting to station nuclear weapons in the ROK or aiming for a decapitation strike in the course of the conflict, which could prompt a pre-emptive nuclear attack by the DPRK.

V. RECOMMENDATIONS FOR THE EU

Ultimately, the escalation pathways presented in this paper are greatly simplified examples intended to illustrate the connection between NTS issues and nuclear risks in the nuclear-armed states of the Indo-Pacific. They show how engagement in the region on the foundational and intervening sociopolitical factors of NTS may contribute to stability and security in the nuclear realm by heading off escalation before it can lead to nuclear use. Such understanding is particularly

beneficial for the EU, which would face barriers to engagement in the traditional nuclear risk reduction intervention efforts that would be required at later stages of nuclear conflict escalation.

As articulated in its Indo-Pacific Strategy, the EU has multiple incentives to ensure peace and stability across the region, including to maintain stable trade relations and to avoid conflict spillover. In order to develop an approach that better addresses these intersecting non-traditional and traditional security risks, the EU should: (a) integrate state-level nuclear risk reduction into its strategies; (b) apply lessons from adjacent fields; (c) increase coordination between bodies working on security in the Indo-Pacific; (d) deepen its partnership with ASEAN for exchange of expertise on NTS; and (e) expand its knowledge on comprehensive security and continue to develop research on escalation pathways to better understand these complex dynamics. Below are some specific suggestions for such an approach. While aimed at the Indo-Pacific Strategy, the outcomes of this approach would be beneficial to European security policy overall.

Address state-level nuclear risk reduction in the Indo-Pacific

As recently stated by the EU, nuclear risk reduction is the responsibility of all states. The EU should therefore strengthen its commitment to global nuclear risk reduction. While recognizing that it can be a sensitive topic that sometimes requires less visible engagement, the EU should work towards integrating some further nuclear risk reduction measures at the interstate level in its Indo-Pacific Strategy. Certain measures aimed at decreasing nuclear risks in the Indo-Pacific may be under way through EU leadership on, for example, dialogue facilitation; however, integrating these into the strategy where possible could clearly demonstrate the EU's commitment to nuclear risk reduction on a global stage. It would also signal that nuclear risks are one of many intersecting global security issues and would facilitate the development of a more comprehensive security approach as discussed below.

Apply lessons from the EU comprehensive climate security approach and the humanitarian-development-peace nexus

Previous research on adjacent issues has highlighted the need for addressing the root causes and drivers

⁷⁹ Lee, S. Y., 'North Korea's war against outside information and culture', 38 North, 25 May 2023.

⁸⁰ Constitution of the Republic of Korea, 12 July 1948.

⁸¹ Kelly, R. E., 'Why North Korea may use nuclear weapons first, and why current US policy toward Pyongyang is unsustainable', *Bulletin of the Atomic Scientists*, 21 Nov. 2023.

⁸² Shaheen, S., 'North Korea's nuclear use doctrine', Asia-Pacific Leadership Network, 8 Feb. 2023.

of NTS issues through an integrated approach, for which the EU is well placed.⁸³ As evidenced by this paper's findings, such an approach could have widespread regional stability benefits up to the level of nuclear risk. The EU already possesses much of the necessary interdisciplinary knowledge on complex and interrelated security issues, and such policies are already being implemented through the comprehensive approaches to climate security and the humanitarian–peace–development nexus.⁸⁴ These approaches promote conflict-sensitive development on matters such as food, water and environment, and do so cognizant of local population needs and continuous climate pressures.

A first step should thus be to further integrate such actions into the comprehensive approach to Indo–Pacific security and peacebuilding. This should begin with interagency dialogue and could take inspiration from some of the UN integration mechanisms.⁸⁵ Such dialogue should take place between actors from various fields—including those addressing humanitarian and development, traditional security and nuclear risk issues—and examine how integrated approaches could lower the risk of conflict escalation in and with nuclear-armed states. Such an approach would offer the advantage of working practically on nuclear risk in a less direct manner that allows for greater cooperation.

Develop the coordination of EU bodies on the Indo–Pacific Strategy

Previous research on adjacent topics has also shown that addressing these multiple risks separately and eliminating complexity by breaking the work down into sector-specific approaches is not effective.⁸⁶ As evidenced by the cross-sectoral characteristics of the Indo–Pacific Strategy, the EU is already targeting multiple NTS issues alongside traditional security issues, which reflects a promising operationalization of a more comprehensive approach to global security

⁸³ van der Lijn, J., *Fit for Purpose: Effective Peace Operation Partnerships in an Era of Non-traditional Security Challenges* (SIPRI: Stockholm, Feb. 2024).

⁸⁴ European Commission, European Civil Protection and Humanitarian Aid Operations, 'Resilience & humanitarian–development–peace nexus', Fact sheet, 6 Sep. 2022.

⁸⁵ For background information on these integration mechanisms see Dag Hammarskjöld Library, 'Overview of coordination of UN system', accessed 4 Oct. 2024. For a more detailed explanation of interagency cooperation and the potential for the EU see van der Lijn (note 83).

⁸⁶ Bunse and Delgado (note 30).

and the safeguarding of European interests in the international arena. However, EU bodies still often struggle with interoperability, which can leave gaps and result in duplication of efforts, ultimately leading to many of the challenges being addressed in isolation.

The EU should continue to develop the level of interoperability between the European Commission, the EDA, the EEAS and other EU bodies, while enhancing the integrated approach of domains in its Indo–Pacific Strategy. The strategy could thus present an opportunity for the EU to broaden knowledge on the interlinkages of global security issues and construct infrastructure for coordinated efforts within and between EU bodies that can inform EU approaches to global peace and security in other geographical locations.

Deepen the partnership with ASEAN on non-traditional security and nuclear diplomacy

The EU should also continue to strengthen its cooperation with ASEAN on comprehensive approaches to the topic of NTS. While none of the four nuclear-armed Indo–Pacific states is a member of ASEAN, the regional organization has decades-long experience in working on NTS and comprehensive security. Additionally, ASEAN has experience of addressing such security concerns with a non-invasive approach that respects national sovereignty as expressed in an Asian context, which may be beneficial when working on issues concerning China and the DPRK. Further alignment on comprehensive security could be conducted under the current strategic partnership and in relation to the ASEAN security forum. This should be accompanied by further cooperation on arms control and disarmament diplomacy, forwarding a two-tiered approach of targeting root causes of NTS while simultaneously engaging in diplomacy aimed at supporting traditional nuclear risk reduction measures, such as information-sharing, test notifications, hotlines and other transparency and confidence-building measures.

Conduct additional research on potential escalation pathways in the Indo–Pacific

As evidenced by this paper, additional research on potential escalation pathways from issues of NTS to increased nuclear risk must be conducted in the specific contexts of China, the DPRK, India and Pakistan. Such

research should further consider the likelihood and severity of specific conflict drivers, and work towards developing policy interventions to address them. It should also go beyond the study of NTS as conflict drivers as articulated in this paper to investigate other pathways through which NTS issues may affect nuclear risks. Such pathways could include the direct impact of climate change on military installations or investigating other ways in which NTS may exacerbate pre-existing conflict. Such studies should then be applied to inform future approaches to conflict and nuclear risk reduction and to connect already existing initiatives and programmes in the EU Indo-Pacific Strategy to this larger approach. This research should also pay close attention to the influence of Russian and US nuclear weapon programmes on regional issues.

In addition, previous studies on the climate risk-conflict nexus have pointed to the importance of anticipatory approaches for preventative measures in a rapidly changing climate. Future research on the NTS-nuclear nexus and in-depth development of escalation pathway models would thus benefit from integrating forecasting and prediction methodologies. Such methodologies could contribute to improved development of escalation risk models due to the forward-looking nature of the exercises, which offer space for multiple interdisciplinary experts to identify factors not necessarily present in the current time and understand their potential effects on other factors.

ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
CFSP	Common Foreign and Security Policy
DPRK	Democratic People's Republic of Korea
EDA	European Defence Agency
EEAS	European External Action Service
ESIWA	Enhancing security cooperation in and with Asia
EU	European Union
GDP	Gross domestic product
JCPOA	Joint Comprehensive Plan of Action
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NTS	Non-traditional security
ROK	Republic of Korea
TPNW	Treaty on the Prohibition of Nuclear Weapons
WMD	Weapons of mass destruction

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A EUROPEAN NETWORK

In July 2010 the Council of the European Union decided to support the creation of a network bringing together foreign policy institutions and research centers from across the EU to encourage political and security-related dialogue and the long-term discussion of measures to combat the proliferation of weapons of mass destruction (WMD) and their delivery systems. The Council of the European Union entrusted the technical implementation of this Decision to the EU Non-Proliferation Consortium. In 2018, in line with the recommendations formulated by the European Parliament the names and the mandate of the network and the Consortium have been adjusted to include the word 'disarmament'.

STRUCTURE

The EU Non-Proliferation and Disarmament Consortium is managed jointly by six institutes: La Fondation pour la recherche stratégique (FRS), the Peace Research Institute Frankfurt (HSFK/PRIF), the International Affairs Institute in Rome (IAI), the International Institute for Strategic Studies (IISS-Europe), the Stockholm International Peace Research Institute (SIPRI) and the Vienna Center for Disarmament and Non-Proliferation (VCDNP). The Consortium, originally comprised of four institutes, began its work in January 2011 and forms the core of a wider network of European non-proliferation and disarmament think tanks and research centers which are closely associated with the activities of the Consortium.

MISSION

The main aim of the network of independent non-proliferation and disarmament think tanks is to encourage discussion of measures to combat the proliferation of weapons of mass destruction and their delivery systems within civil society, particularly among experts, researchers and academics in the EU and third countries. The scope of activities shall also cover issues related to conventional weapons, including small arms and light weapons (SALW).

www.nonproliferation.eu

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