CHINA'S NUCLEAR THINKING: HISTORICAL EVOLUTION OF CONCEPTUAL FRAMEWORK

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INTRODUCTION

On November 27, 2025, China released its White Paper titled "China's Arms Control, Disarmament, and Nonproliferation in the New Era". The document reiterates Beijing's commitment to its No-First-Use (NFU) doctrine and underscores the stability and consistency of its nuclear policy. The document also emphasised China's restricted nuclear testing, the decommissioning of former nuclear research and manufacturing facilities, and its initiatives to establish a streamlined and efficient nuclear arsenal.[1] At the same time, China is rapidly modernising its nuclear arsenal, enhancing its capabilities in early detection, command and control, missile penetration, and overall survivability.

In this context, it is essential to understand how China's nuclear thinking has evolved over time, as many aspects of its current posture are rooted in decisions made decades ago. Analysing the historical development of

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1. "Full Text: China's Arms Control, Disarmament, and Nonproliferation in the New Era", *Xinhua,* November 27, 2025, http://english.scio.gov.cn/whitepapers/2025-11/27/content_118198082_5.html. Accessed on December 5, 2025.

China's nuclear thinking provides insights into an understanding of the origins of these concepts and their ongoing influence on China's nuclear posture today.

This paper explores the evolution of China's nuclear thinking, tracing it from the historical perspective. It aims to cover the context that shaped the foundation for China's acquisition of nuclear weapons. It also provides insights into how the Chinese leadership's thinking evolved on the role of nuclear weapons and the concept of deterrence. It also examines China's the doctrine, its rationale, and its enduring significance. The paper analyses these shifts through an examination of China's White Papers and writings by Chinese strategic analysts, as well as those from the US and India.

A nuclear doctrine is a foundational statement of ideas that establishes the rationale behind the development and use of nuclear weapons as well as their notion of application. Thus, it offers the theoretical foundation for the weapon's place in the overall security plan, regardless of whether it is viewed as a weapon of mass destruction or as a tool of politics to maintain deterrence.[2]

The purpose of a nuclear doctrine is to justify the possession of nuclear weapons and explain the underlying ideology related to key decisions such as target and timing of use. Every nation does not have a written and/or clear nuclear doctrine. But, authoritative publications and statements from the top leadership can provide insights into their nuclear doctrine. Although a nuclear doctrine offers important insights into some of the foundational ideas behind a country possessing nuclear weapons, it serves a limited purpose. A nuclear doctrine does not cover the operational aspects of the strategy, tactics and threat perception. As a system of belief, a nuclear doctrine serves the limited purpose of describing the utility of nuclear weapons to the state and how the weapons will be used to meet the purpose of their acquisition.[3]

2. Manpreet Sethi, "India's Nuclear Doctrine: The Basis For Credible Deterrence", *Air Power Journal*, vol. 2, no. 2, 2007, pp. 27–56.
3. Ibid.

It is challenging to categorise China's nuclear thinking into distinct eras, as some core principles have remained consistent over time while others have undergone gradual modifications. However, for the sake of clarity and ease of analysis, this paper divides the development of China's nuclear strategy into the following sections. The first section examines the period from 1949 to 1984, focussing on the early years following the establishment of the People's Republic of China (PRC) and the foundational stages of its nuclear strategy. The second section covers the years from 1985 to 2001, a period characterised by a shift from countering nuclear blackmail to emphasising the deterrent role of nuclear weapons. The third section analyses the period from 2002 to 2013, highlighting China's efforts to learn from the nuclear strategies of the major powers. The fourth section explores the nuclear expansion under Xi Jinping's leadership from 2013 to 2025. The following section discusses the terminological differences between the United States and China regarding nuclear strategy. Lastly, the concluding section summarises the key findings of the paper.

CHINA'S NUCLEAR THINKING 1949-1984: FROM COOPERATION TO SELF -RELIANCE

This section covers Mao's thinking on nuclear weapons as a counter-blackmail strategy and the rationale behind his idea of the atomic bomb as a 'paper tiger'. It also delves into the Sino-Soviet cooperation that helped lay the groundwork for China's nuclear programme. Apart from this, the section also covers some of the basic tenets of China's initial thinking on the role of nuclear weapons.

Mao's Era: Counter-Blackmail Strategy

Mao supported the idea that victory and defeat in a war are not determined by the quality of weapons but by the quality of the masses. Based on this understanding, in his writing "On Protected War", Mao called the masses the richest source of power. For him, weapons were an important factor in war but not the decisive factor of war. Therefore, to resist any invasion, he

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insisted on the superiority of preparedness over other supremacy. He believed the militia could make invasion impossible in China.

Based on this understanding, initially, for Mao, nuclear weapons were just another kind of conventional weapon. In 1946, one year after the Hiroshima bombing, in an interview with American correspondent Anna Louise Strong, Mao commented, "All reactionaries are paper tigers" and, further,

> The atom bomb is a paper tiger which the US reactionaries use to scare people. It looks terrible, but, in fact, it isn't. Of course, the atom bomb is a weapon of mass slaughter, but the outcome of a war is decided by the people, not by one or two new types of weapon.[4]

Similarly, in 1955, Mao, in his conversation with Carl-Johan, the Finnish envoy to China, repeated that "millet plus rifles" is enough for winning against American planes plus the A-bomb. He said, "The Chinese people are not to be cowed by US atomic blackmail. Our country has a population of 600 million and an area of 9,600,000 square kilometres. The United States cannot annihilate the Chinese nation with its small stack of atom bombs."[5] These statements align with Mao's experience of 'guerrilla warfare'. Another aspect was the domestic audience, where he wanted to maintain the high morale of the workers of the Chinese Communist Party (CCP).

The CCP concept of 'paper tiger' constituted one of the "fundamental strategic ideas" in Mao's doctrine on revolutionary war. Mao's revolutionary theories are publicly unquestionable due to his status of the "cult of the

4. Marxist.org, "Talk with Anna Louise Strong: Mao 1946," https://www.marxists.org/reference/archive/strong-anna-louise/1946/talkwithmao.htm. Accessed on October 18, 2024.
5. Mao Zedong, "'The Chinese People Cannot Be Cowed by the Atom Bomb", Wilson Centre Digital Archive, January 28, 1955, https://digitalarchive.wilsoncenter.org/document/mao-zedong-chinese-people-cannot-be-cowed-atom-bomb. Accessed on December 3, 2025.

individual". Examples of the Tsar, Hitler, Tojo, and Chiang Kai-shek were provided to support the argument of the "paper tiger," which appeared strong but eventually failed. Even after China acquired the nuclear bomb in 1964, Mao continued to refer to the idea of "paper tiger". The reasons for this according to Powell, included preserving the morale of the Chinese people during the critical period when the development of the atomic bomb was in the initial stage until China developed a credible nuclear deterrent. On the other hand, China's argument for the development of its own weapon was to encourage revolutionary forces in Asia, Africa and Latin America. Powell underlined this contradictory position over nuclear weapons as "psychologically advantageous" for China until it achieved real nuclear deterrent capability.[6]

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COLD WAR NUCLEAR THREAT

The nuclear threat during the Cold War also strengthened China's resolve to pursue its own nuclear weapon programme. During the Korean War (1950-53), US President Harry Truman stated he was actively considering all weapons, including atomic bombs, to meet the necessity of the military situation.[7] He also authorised the deployment of nuclear weapons components to Guam in order to threaten China and the Soviets.[8]

6. Ralph L. Powell, "Great Powers and Atomic Bombs Are 'Paper Tigers'", The *China Quarterly*, no. 23, July-September 1965, pp. 55–63.
7 "Foreign Relations of the United States, 1950, Korea, Volume VII", US Office of the Historian, https://history.state.gov/historicaldocuments/frus1950v07/d909. Accessed on December 3, 2025.
8. William Burr and Jeffrey Kimball "Nuclear Threats and Alerts: Looking at the Cold War Background", Arms Control Association, April 2022, https://www.armscontrol.org/act/2022-04/features/nuclear-threats-and-alerts-looking-cold-war-background#endnote03. Accessed on December 3, 2025.

After this, in the Eisenhower Administration, the threat to use nuclear weapons was more evident, popularly known as the doctrine of "massive retaliation". On January 12, 1954, in a speech at the Council on Foreign Relations, US Secretary of State John Foster Dulles proposed the strategic doctrine of "massive retaliation". He said the US was not going to indulge in the economic exhaustive task of matching the land power of the Communist power, and would primarily focus on the "capacity to retaliate, instantly, by means and at places of our choosing".[9] This was interpreted as a nuclear threat to China and the Soviet Union. The idea of "massive retaliation", however, does not capture the whole gamut of the Eisenhower Administration's nuclear strategy. Eisenhower's nuclear strategy included three elements: first, he believed in the usability of nuclear weapons as military options. So, Eisenhower was ready to use nuclear weapons, if necessary, in the case of deterrence failure. Second, his administration publicly showed willingness to use nuclear weapons in both small- and large-scale Communist aggressions. Third, the military posture and planning also reflected the same preparedness to use nuclear weapons in the case of contingencies.[10]

Also, during the 1954-55 Taiwan crisis, the Eisenhower Administration used nuclear threats explicitly. The US Congress enacted the "Formosa Resolution" in January 1955, which granted President Eisenhower complete power to protect Taiwan and the offshore islands. Then, the US government declared that it would protect Taiwan from a Communist attack, but it did not specify which areas it would protect, to maintain ambiguity.[11] In response to this resolution, the Central Committee of the CCP circulated "Instructions on the Nationwide Petition Campaign against Nuclear Weapons" and "Instructions on Propaganda Concerning US Interference in the Question

9. Samuel F. Wells, "The Origins of Massive Retaliation," *Political Science Quarterly*, vol 96, no. 1, 1981, pp. 31–52.
10. Ibid.
11. "The Taiwan Straits Crises: 1954–55 and 1958", US Office of the Historian, https://history.state.gov/milestones/1953-1960/taiwan-strait-crises. Accessed on December 3, 2025.

of Our Liberation of Taiwan".[12] This campaign showed that China not only considered the US nuclear threat in the foreign policy domain but, at the same time, focussed on creating domestic public opinion support for its own atomic programme. After that, on March 16, in a press conference, Eisenhower stated that he saw no reason why nuclear weapons could not be used "as you use a bullet or anything else". Eventually, the crisis subsided, but it not only strengthened the CCP's resolve but also convinced China to pursue its nuclear weapon programme.[13]

Therefore, while Mao was depicting nuclear weapons as a 'paper tiger', he was also aware of the economic intensive nature of the atomic bomb project. Hence, on April 25, 1956, at an enlarged meeting of the Communist Party Politburo, Mao said that to build an atomic bomb, military spending needed to be cut, with a greater focus on economic development. He highlighted that in the first Five-Year Plan, military spending constituted 30 per cent of the state budget, which was too much. He told Party members that if they really wanted, and were committed to getting, the atomic bomb, they had to cut the proportion of military expenditure, and focus on economic development. [14]

SINO-SOVIET NUCLEAR COOPERATION

Sino-Soviet cooperation during the Cold War laid the basic foundation of China's nuclear programme. With the intention to maintain a leadership role in the Communist bloc, the Soviet Union supported China in building up its nuclear programme. Although the support was limited to peaceful purposes only, China utilised this support to develop its nuclear weapon programme.

12. Gordon H. Chang and He Di, "The Absence of War in the US-China Confrontation over Quemoy and Matsu in 1954-1955: Contingency, Luck, Deterrence," *The American Historical Review*, vol. 98, no. 5, 1993, p. 1509.
13. Ibid., pp. 1519–1523.
14. "Talk by Mao Zedong at an Enlarged Meeting of the Chinese Communist Party Central Committee Politburo (Excerpts)", Wilson Centre Digital Archive, April 25, 1956, https://digitalarchive.wilsoncenter.org/document/talk-mao-zedong-enlarged-meeting-chinese-communist-party-central-committee-politburo. Accessed on December 4, 2025.

On February 14, 1950, China and the Soviet Union signed the "Sino-Soviet Treaty of Friendship, Alliance and Mutual Assistance". In this treaty, both parties agreed to assist each other in the state of war, with all means at their disposal. As mentioned in Article 1 of the treaty:

> The Two Contracting Parties undertake to carry out jointly all necessary measures within their power to prevent a repetition of aggression and breach of the peace by Japan or any other State which might directly or indirectly join with Japan in acts of aggression.

The treaty stated that if either state was to find itself in a state of war, the other Contracting Party would immediately come to help with all means at its disposal.[15] This treaty led to the foundation of cooperation between the Soviet Union and China in multiple domains. The Soviet Union played a crucial role in the development of the military industry and defence infrastructure in China. In March 1956, the Eastern Atomic Energy Institute was established in Moscow. The Joint Institute for Nuclear Research (JINR) was established in 1956 in Moscow, with 11 founding states. The objective of the institute was to conduct fundamental research in the domain of nuclear material. The JINR is situated on the bank of the Volga river, 120 km northeast of Moscow, in Dubna.[16] As an initiator, the Soviets contributed 50 per cent, and China contributed 20 per cent in the construction and operation costs. The Dubna Institute contributed significantly to Sino-Soviet atomic energy research. Some of the prominent Chinese nuclear physicists benefited from research at Dubna. For example, Wan Ganchang, a leading Chinese nuclear physicist, praised the learning and equipment support from the Soviets. Guangzao,

15. "Conclusion of the 'Sino-Soviet Treaty of Friendship, Alliance and Mutual Assistance " Ministry of Foreign Affairs of the People's Republic of China, https://www.mfa.gov.cn/eng/zy/wjls/3604_665547/202405/t20240531_11367548.html. Accessed on December 4, 2025.
16. "JINR Celebrates 50 Years," *CERN Courier*, March 1, 2006, https://cerncourier.com/a/jinr-celebrates-50-years/m. Accessed on December 4, 2025.

who later assumed the presidency of the Chinese Academy of Science, also did his research at JINR.[17]

China received assistance from the Soviet Union between 1954 and 1957 for the construction of a research reactor and cyclotron, uranium mining and exploration, plutonium reprocessing, missile development, and scientific training. It also helped establish the organisations needed for these initiatives. In all, six nuclear scientific, technological, and industrial agreements were signed between China and the Soviet Union. These included agreements on nuclear physics (1955), nuclear industrial construction (1956 and 1958), nuclear weapons research and production (1957), and uranium exploration and mining (1954 and 1956). These accords, according to Chinese analysts, provided the groundwork for a comprehensive system for nuclear production and research, encompassing everything from uranium exploration to basic nuclear physics.[18]

On the question of why the Soviets helped China with nuclear technology, historians have often seen Soviet aid to China as driven by Soviet leader Nikita Khrushchev's belief in a global socialist revolution and a strong Sino-Soviet alliance. However, based on archival research, Shen and Xia concluded that Khrushchev's agreement to help with Sino-Soviet nuclear cooperation was limited to peaceful purposes. One of the main reasons for this support was the power struggle within the Soviet government after Stalin's death, during which Khrushchev needed Mao's backing. As China became increasingly important in the socialist bloc, the Soviets worked hard to meet China's needs to prevent a split in the Sino-Soviet alliance.[19]

According to some Chinese accounts, the Soviets promised China "a sample of an atomic bomb and technical data concerning its manufacture" as a part of the agreement on "new technology for national defence" in

17. Shen Zhihua and Yafeng Xia "Between Aid and Restriction: Changing Soviet Policies toward China's Nuclear Weapons Program: 1954-1960", Wilson Centre Archive, May 2012, https://www.wilsoncenter.org/publication/between-aid-and-restriction-changing-soviet-policies-toward-chinas-nuclear-weapons. Accessed on December 4, 2025.
18. Ibid.
19. Ibid.

After the Sino-Soviet split, China worked towards self-sufficiency and decided to build the atomic bomb without any foreign assistance. In 1960, China started construction of the uranium hexafluoride plant and nuclear reactor to produce plutonium.

October 1957 but went back on this promise in June 1959. The Soviets' refusal to assist China in the development of nuclear weapons was one of the most important factors that contributed to the conflict between the Soviet Union and China.[20] Differences between Mao and Khrushchev over nuclear weapons and their application was also one of the major factors in the Sino-Soviet split. Khruschev found Mao's slogan of "paper tiger" interesting, but for him, the US was not a "paper tiger" but a "dangerous predator".[21]

In June 1959, the Soviet Communist Party, in a formal letter, informed China that it would not deliver the promised prototype atomic bomb. It cited the ongoing test ban negotiations in Geneva as the reason for its inability to fulfil its promise. As a representative of this, China named its first atomic bomb "Device 596", indicating year and month.[22] By 1960, the last of the Soviet nuclear advisors in China returned to the USSR.

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20. Geoffrey Hudson, "Paper Tigers and Nuclear Teeth," *The China Quarterly*, no. 39, 1969, pp. 64–75.
21. John Wilson Lewis and Xue Litai, *China Builds the Bomb* (Stanford University Press, 1988), p. 60.
22. Ibid., pp. 64–65.
23. Ibid., pp. 103–111.

In an official statement after the explosion, China declared the nuclear test as a major achievement for strengthening national defence and against the "US imperialist policy of nuclear blackmail and threat". The statement also criticised the 1963 Partial Test Ban Treaty as a fraud and "an attempt to consolidate nuclear monopoly". On the question of the 'paper tiger', the statement mentioned that China still believed in Mao's idea of the nuclear weapons being a 'paper tiger' but was developing its own nuclear weapon to break the 'nuclear monopoly'. The statement also emphasised China's NFU policy, a cornerstone of its official doctrine, declaring: "The Chinese Government hereby solemnly states that China will never, at any time or under any circumstances, be the first to use nuclear weapons."[24]

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China's official nuclear doctrine, based on its 1964 NFU policy, has stayed the same, but its approach to nuclear weapons has changed over time. China's development of increasingly sophisticated nuclear weapons, including new delivery systems like multi-warhead missiles and hypersonic glide vehicles, is indicative of these shifts. China is also focussing on building a mix of land, sea, and air-based nuclear forces. This shows a change from its earlier simple approach to a more complex strategy. Therefore, the following section will discuss China's evolving approach towards nuclear weapons.

COUNTER BLACKMAIL TO MINIMUM DETERRENCE (1985-2001)

This section covers China's shift from the 'people's war' doctrine to localised war and its implications for China's nuclear strategy. During this period, China emphasised maintaining a "lean and effective force". Therefore, this section also discusses the rationale behind China maintaining a lean and effective force structure.

24. Ibid., pp. 241–242.

Doctrinal Shift

China's failure in the Vietnam War in 1979 led to a major rethinking of its 'people's war' doctrine. During this war, China became aware of the importance of 'positional war'. Thereafter, by 1985, the People's Liberation Army's (PLA's) warfare strategy changed from preparing for early wars, major wars, and nuclear wars (*zaoda, dada, da hezhanzheng*) to winning smaller wars or local wars close to the borders.[25]

China's nuclear strategy has gradually changed since 1985, moving from preventing nuclear blackmail to emphasising minimum deterrence. Several important factors led to this change. China developed its strategic nuclear forces over many years with notable success. By September 1989, it had developed a comprehensive nuclear warfighting system that could execute strategic retaliation successfully. Furthermore, China has incorporated the idea of nuclear deterrence into its nuclear doctrine since 1986. Since 1984, the PLA's Second Artillery has maintained constant combat readiness as the significance of nuclear weapons in China's defence strategy increased following the reduction of its sizeable conventional forces.[26]

In 1988, Deng Xiaoping proposed the idea of "using strategic nuclear missiles as a form of guerrilla warfare", which intended to increase the mobilisation of strategic missiles to improve the nuclear retaliation capabilities.[27] For Deng, the nuclear weapon was a symbol of power and status. He stated that "if China had not had atomic and hydrogen bombs and launched satellites since the 1960s, it would not have been able to be called a major power with significant influence and would not have had the international status it has now".[28]

25. Nan Li, "The PLA's Evolving Warfighting Doctrine, Strategy and Tactics, 1985–1995: A Chinese Perspective", *The China Quarterly*, no. 146, June 1996, p. 444.
26. Xia Liping, "Impacts of China's Nuclear Doctrine on International Nuclear Disarmament", *NTI,* https://www.nti.org/wp-content/uploads/2021/09/Xia_Liping.pdf. Accessed on December 4, 2025.
27. Ibid.
28. Tong Zhao, "Political Drivers of China's Changing Nuclear Policy", 2024, https://carnegieendowment.org/research/2024/07/china-nuclear-buildup-political-drivers-united-states-relationship-international-security?lang=en. Accessed on December 4, 2025.

After Deng, Jiang Zemin also supported the idea that China should "strive to build a lean and effective strategic nuclear force commensurate with China's great power status".[29] Jiang also, in his interview with Arthur Sulzberger Jr. and the *New York Times* delegation, on August 8, 2001, articulated a similar stance on China's nuclear weapons, emphasising their purely defensive nature. He stated that China's limited nuclear arsenal was maintained solely for self-defence and posed no threat to any other country. On the question of upgrading its nuclear force in response to the US development, he said, "We would increase our defence capability in keeping with the development of the international situation, and we would do this for the sole purpose of self-defence." Jiang underscored that China's approach aimed to safeguard its national security interests while ensuring the effectiveness of its nuclear deterrent. Additionally, he expressed concerns that initiatives like the anti-missile systems could disrupt global strategic stability and highlighted the importance of addressing such issues through dialogue to avoid compromising the security interests of any nation.[30]

Considering the support for the lean force structure during the times of different leaderships, the following sub-section discusses the rationale for China's focus on a lean and effective force, and avoiding a high alert posture.

Reasons for China's Lean Force Structure

According to Sun Xiangli, Chinese leaders in the past decades purposefully avoided a high-alert posture. For the Chinese leaders, nuclear deterrence is more about being able to respond with a nuclear weapon in the event of an attack than it is about being able to conduct swift and accurate retaliation. At many international gatherings, the Chinese leadership has emphasised its policy of keeping an "appropriate level of readiness," which it views as a major strength. This demonstrates that Chinese officials favour a low-

29. Ibid., p. 19.
30. "In Jiang's Words: 'I Hope the Western World Can Understand China Better,'" *The New York Times*, August 9, 2001, https://www.nytimes.com/2001/08/09/international/asia/in-jiangs-words-i-hope-the-western-world-can-understand-2001080993694234002.html. Accessed on December 4, 2025.

alert posture for their nuclear weapons, which is seen by the world as a responsible and cautious strategy.[31]

Sun Xiangli underlines that from the start of its nuclear programme, China's approach has been to develop a limited but reliable deterrent rather than seeking a large or offensive nuclear arsenal. To achieve this, China prioritises a "lean but effective" force, selecting technologically advanced weapons with high survivability, mobility, and concealment capabilities, while maintaining a limited stockpile.[32]

This policy has allowed China to optimise its nuclear capabilities without investing heavily in nuclear expansion. Additionally, China has refused to engage in nuclear superiority competitions, instead emphasising survivability, mobility, and a step-by-step, long-term approach to nuclear modernisation. For instance, China began its programme with basic capabilities and, over time, invested in more advanced technologies like mobile, solid-fuel missiles and sea-based deterrents. This gradual approach has been crucial for ensuring a sustainable and resource-efficient programme.[33]

Jeffery Lewis has also observed that China's nuclear policy has maintained a small and cost-effective arsenal that balances strategic deterrence with political control. This approach aligns with China's history of limited nuclear deployments and reflects a preference for stability over expansion. Rather than building a large arsenal or enhancing offensive capabilities, China's policy focusses on maintaining a credible but minimal retaliatory force sufficient to deter attacks without escalating an arms race. In agreement with Nie Rongzhen, one of the founding fathers of China's nuclear programme, he also supports the idea of "enough" weapons as "the minimum means of reprisal". As quoted by Lewis, Nie Rongzhen said:

31. Tong Zhao, "Epilogue: Changes in and the Evolution of China's Nuclear Thinking" in *Understanding Chinese Nuclear Thinking* (Carnegie Endowment for International Peace, 2016), pp. 267–272.
32. Sun Xiangli, "The Development of Nuclear Weapons in China", in Ibid., pp. 79-102.
33. Ibid.

> My attitude was clear throughout. For more than a century, imperialists had frequently bullied, humiliated and oppressed China. To put an end to this situation, we had to develop sophisticated weapons such as the guided missile and the atomic bomb, so that we would have the minimum means of reprisal if attacked by the imperialist with nuclear weapons.[34]

M. Taylor Fravel and Evan S. Medeiros offer two sets of arguments for China's slow and limited development of the nuclear strategy and forces until the mid-1990s. First, they argue, the beliefs of top leaders like Mao Zedong and Deng Xiaoping had a lasting impact on China's nuclear strategy even after their deaths in 1976 and 1997. Both leaders viewed nuclear weapons as a tool to deter attacks and resist threats rather than being used in a direct battle. Therefore, China's approach to nuclear weapons is better understood as "assured retaliation" rather than "minimum deterrence". Second, they argue that organisational and political issues limit the formulation of the nuclear strategy and related plans. The Cultural Revolution (1966-76) and the political climate after the test discouraged the development of the nuclear doctrine and strategy.[35]

LEARNING AND EVOLUTION (2002-2013): FOLLOWING THE PATHS OF THE MAJOR POWERS

Hu Jintao, during his address at the UN Security Council Summit on Non-proliferation and Disarmament, stated that China would continue to keep the "nuclear capabilities at the minimum level required for national security". He reiterated that China pursues a self-defensive nuclear strategy and "adheres to the policy of no-first-use of a nuclear weapon at any time and under any circumstance".[36]

34. Jeffrey G. Lewis, *The Minimum Means of Reprisal: China's Search for Security in the Nuclear Age* (Cambridge: The MIT Press, 2007), p. 1.
35. M. Taylor Fravel and Evan S. Medeiros, "China's Search for Assured Retaliation: The Evolution of Chinese Nuclear Strategy and Force Structure," *International Security*, 35, no. 2, 2010, pp. 48–87.
36. "President Hu Jintao Attended the UN Security Council Summit on Nuclear Non-Proliferation and Disarmament and Delivered an Important Speech," China Atomic Energy Authority,

The strategies of other nuclear-armed countries are gradually influencing China's traditional thinking on nuclear deterrence.

He also proposed a five-point plan for nuclear non-proliferation and disarmament. The five-point plan included a call for advancing nuclear disarmament, abandoning the first-use policy, strengthening the non-proliferation regime, promoting the peaceful use of nuclear weapons and enhancing nuclear security.[37]

The strategies of other nuclear-armed countries are gradually influencing China's traditional thinking on nuclear deterrence. Xue Bingjie has underlined that major military powers around the world are focussing on developing early warning systems as a key part of their national defence. The Chinese strategic community also increasingly supports the idea of building an early warning capability and reducing the nuclear response times to strengthen deterrence. This can be observed through the Defence White Papers in which, since 2004, China has repeatedly emphasised the need to improve its quick-response nuclear capabilities.[38]

Like other major nuclear countries, China has also followed a similar path in its nuclear modernisation. Before concentrating on sea-based nuclear capabilities, it first developed silo-based missiles and, subsequently, road-mobile missiles. Additionally, the nation advanced from single-warhead missiles to multiple-warhead missiles (Multiple Independently Reentry Vehicles – MIRVs). Adopting concepts and procedures from other major nuclear-armed nations has also impacted China's nuclear policy. [39]

Traditionally, China did not follow the major powers' approach that a first nuclear strike necessitates quick retaliation. According to some studies,

September 25, 2009, https://www.caea.gov.cn/english/n6759361/n6759363/c6793296/content.html. Accessed on December 4, 2025.

37. "Chinese President Offers Five-Point Proposal for Safer World," Embassy of the People's Republic of China in the Republic of the Philippines, September 25, 2009, http://ph.china-embassy.gov.cn/eng/xwdt/200909/t20090925_1156960.htm. Accessed on December 4, 2025.
38. Zhao, n. 31, p. 269.
39. Ibid., p. 267.

after being struck by nuclear weapons in a conflict, China was likely to wait days or perhaps longer before launching a nuclear counter-attack. In its 2008 National Defence White Paper, the Chinese government said it would only raise the alert level of its nuclear forces "if China comes under a nuclear threat". The government sees its policy of keeping an "appropriate level of readiness" as a positive part of its nuclear strategy and has stressed this at important international events. According to Zhao, the international community considered the low-alert stance of Chinese leadership as a careful and responsible approach.[40]

In the initial stage, China's nuclear capability was primarily symbolic. Although China possessed nuclear weapons, it lacked reliable delivery systems, making a real retaliatory threat impossible.

Li Bin, in his briefing on Nuclear Weapons and International Relations, presented to the Beijing Student Doctoral Union, outlined how China's nuclear strategy has evolved through three distinct stages [41]:

1. **Existential Deterrence (*cunzaixing weishe*):** In the initial stage, China's nuclear capability was primarily symbolic. Although China possessed nuclear weapons, it lacked reliable delivery systems, making a real retaliatory threat impossible.
2. **Minimal Deterrence *(zuidi weishe)*:** In the next stage, China's strategy shifted to "minimal deterrence". The key here was to create uncertainty in the minds of adversaries, particularly the superpowers, discouraging them from launching a first strike by making them fear that even a few surviving Chinese weapons could cause "unacceptable damage." Additionally, minimal deterrence relied on the idea that an adversary could suffer "unacceptable damage" (*buke renshou de sunshi*) from a small number of nuclear weapons.

40. Ibid., p. 269.
41. James C. Mulvenon, et. al., *Chinese Responses to US Military Transformation and Implications for the Department of Defense* (RAND Corporation, 2006), p. 97.

3. **Credible Minimal Deterrence *(zuidi kexin weishe):*** Presently, China aims for "credible minimal deterrence," relying on mobile and survivable missile systems. This ensures that adversaries cannot be certain that they can destroy all of China's nuclear weapons in a single strike, reinforcing China's deterrent credibility, even with US advancements in missile defence and precision-strike capabilities.

According to Chinese strategists, American missile defence systems may undermine China's nuclear deterrence by obstructing a credible retaliation strike. The United States may act more aggressively against Chinese interests if its defences are able to neutralise China's nuclear reaction. China is modernising its nuclear forces in response to this, building missiles with counter-measures, expanding the number of missiles, and, may be, adding more than one warhead.[42]

The National Defence White Paper is one of the important sources to understand China's understanding of its security, threat perception and defence goals. Since 1998, China has been releasing a White Paper on National Defence bi-annually. Over the period, China has pursued strategic modernisation with the intention to enhance the *survivability and efficiency* of its nuclear weapons.

The Defence White Paper of 2010 mentioned, "China consistently upholds the policy of no-first-use of nuclear weapons, adheres to a self-defensive nuclear strategy, and will never enter into a nuclear arms race with any other country." While continuing with the NFU policy, the paper raised concerns about the international missile defence system, indicating its insecurity arising from US deployment. The paper mentioned "that the global missile defense program will be detrimental to international strategic balance and stability…. will have a negative impact on the process of nuclear disarmament." Therefore, China feels that "no state should deploy overseas

42. Ibid.

missile defense systems that have strategic missile defense capabilities or potential, or engage in any such international collaboration".[43]

The paper also mentioned that the People's Liberation Army Strategic Support Force (PLASSF) follows the principle of a "lean and effective force," that works to advance its modernisation and enhances its capabilities in "rapid reaction, penetration, precision strike, damage infliction, protection, and survivability" while gradually improving its capabilities in "strategic deterrence and defensive operations."[44]

While analysing China's nuclear strategy through Defence White Papers in 2011, Manpreet Sethi has highlighted that the stated doctrine had been the same as envisaged by Mao in 1964. Even though China has graduated from "limited" to "minimum" deterrence, it has reiterated the NFU posture. She suggests that China will not change its "declaratory position on its nuclear strategy." She argues, "The continuation of this nuclear policy makes a lot of strategic sense for China, given that nuclear deterrence, and not conventional deterrence, is the primary purpose of its nuclear weapons." The NFU also makes China appear as a more responsible and less belligerent power.[45]

NUCLEAR EXPANSION UNDER XI FROM 2013-2025

Under Xi Jinping, China has been continuously modernising and expanding its nuclear weapon arsenal. According to the latest Pentagon report, which was released on December 18, 2024, China had surpassed 600 operational warheads in 2025 and is projected to get over 1,000 nuclear warheads by 2030. Currently, China has 400 Intercontinental Ballistic Missiles (ICBMs) and is working to enhance the accuracy of its road-mobile system. The report also claims that China is working towards "early warning counter-

43. "China's National Defense in 2010", Ministry of National Defense, PRC, http://eng.mod.gov.cn/xb/Publications/WhitePapers/4887922.html. Accessed on December 4, 2025.
44. Ibid.
45. Manpreet Sethi, "Looking Through China's Nuclear Prism" in Gurmeet Kanwal and Dhruv C. Katoch, eds., *China's Defence Policy: Indian Perspective* (New Delhi: Centre for Land Warfare Studies, KW Publishers, 2011), pp. 75–83.

strike capabilities", which are similar to the Launch-on-Warning (LOW) posture.[46]

However, the core understanding of the political nature of nuclear weapons remains unchanged. According to Professor Sun Mingfu from the Rocket Force Command College, Xi Jinping, in 2012, in a meeting with Chinese missile force officials, highlighted that the core nature of nuclear weapons as strategic, deterrent, and political tools would remain unchanged for the foreseeable future. He also emphasised that the strategic significance of nuclear weapons in political, diplomatic, and military conflicts remains constant, with their deterrent function being absolute.[47]

To understand nuclear thinking during Xi Jinping's period, the following section analyses *The Science of Military Strategy* and the role of the PLA's Rocket Force in China's National Defence White Papers.

The Science of Military Strategy

The *Science of Military Strategy* (战略学, *zhanlüe xue*) is one of the crucial publications by PLA officers on the strategic planning and conduct of war. This is an important source to understand the PLA's doctrine. The Academy of Military Sciences (AMS) and National Defence University (NDU), China's two top defence universities, have published multiple versions of *the Science of Military Strategy* during the past 30 years. In the 2013 edition of *The Science of Military Strategy* published by AMS, Chapter 9 deals with various domains of the military struggle. In this chapter, one section is dedicated to the military struggle in the nuclear domain, along with the space and network domains.[48]

46. "Military and Security Developments Involving the People's Republic of China 2024", US Department of Defence, December 18, 2024, https://media.defense.gov/2024/Dec/18/2003615520/-1/-1/0/MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA-2024.PDF. Accessed on December 4, 2025.
47. Zhao, no. 28, p. 13.
48. "PLA's Science of Military Strategy (2013)", *CASI*, February 8, 2021, https://www.airuniversity.af.edu/CASI/Display/Article/2485204/plas-science-of-military-strategy-2013/https%3A%2F%2Fwww.airuniversity.af.edu%2FCASI%2FArticles%2FArticle-Display%2FArticle%2F2485204%2Fplas-science-of-military-strategy-2013%2F. Accessed on December 4, 2025.

The deviation from China's traditional thinking of the low level of preparedness towards the posture of "launch-on-warning", in similarity with powers like Russia and the US, can also be observed through this document. It mentions that if circumstances permit and it is verified that an adversary has attacked China with nuclear weapons, a counter-attack may be initiated before the enemy's warheads strike and inflict damage. This strategy would help shield China's nuclear forces from additional losses and improve their capacity to retaliate while adhering to China's "no first use" policy.[49]

The document mentions that China's nuclear deterrence is directed only towards nuclear weapon states, and China will not use nuclear weapons against non-nuclear states. The deterrence goal of nuclear weapons development is to stop nations from threatening the use of nuclear weapons. It mentions the policy of no first use and the self-defensive role of nuclear weapons. However, the definition of the defensive nature is broad: "China's nuclear deterrence is established on the basis of effective counter-attack, and the use of real strength able to cause the enemy unsustainable nuclear destruction, as well as its possibility to achieve the goal of deterring the enemy's nuclear attack, is nuclear deterrence of a defensive nature".

Some of the main characteristics and issues in the implementation of China's thinking on nuclear deterrence, according to this book, are the following[50]:

First, the role of nuclear weapons is as an "existential deterrent". China decided to develop nuclear weapons against nuclear blackmail and monopoly. The later stage of development followed the logic of "if you have something, we also will have it," as well as of "the presence of nuclear weapons in itself is a deterrent."

Second, its retaliation thought is expressed as "using nuclear to contain nuclear". As nuclear war poses the gravest security threat, the approach of "using nuclear to contain nuclear" is considered a "rational choice" for bringing into play the role of nuclear weapons. This requires a firm commitment to

49. Zhao, n. 31, p. 269.
50. Ibid., pp. 216-219.

Information about China's nuclear strength is mostly shared during peace-time, aligning with nuclear force development, while resolve to use it is communicated as needed.

the policy of no first use and improving the ability to respond effectively to any nuclear attack, ensuring that nuclear deterrence remains reliable and strong.

Third, on the tactics of nuclear deterrence, *The Science of Military Strategy* discusses three approaches to tactically using deterrence. The first approach is moderate ambiguity by keeping its nuclear capabilities somewhat uncertain; China makes it harder for opponents to predict its response, strengthening its nuclear deterrent, and when or how it might respond. The second approach is expanding strategic thinking to make opponents genuinely believe in, and fear, China's nuclear forces. Consistent statements can enhance deterrence, but sometimes, varied statements from different sources can be even more effective. This involves using diverse, well-coordinated tactics to clearly convey China's strong commitment to a nuclear counter-attack, if necessary. The third approach is timing. Information about China's nuclear strength is mostly shared during peace-time, aligning with nuclear force development, while resolve to use it is communicated as needed. Effective deterrence depends on the opponent's understanding, which varies with circumstances and targets. So, nuclear tactics should adapt to different situations and avoid following a fixed pattern. From this book, it can be observed that while China maintains the "no first use" policy as the core of its doctrine, there is enough flexibility and manoeuvrability when it comes to its application to maintain ambiguity and to signal adversaries.

Evolving PLARF Roles

The Defence White Paper also dedicates one sub-section to the role of the PLA Rocket Force (PLARF). The PLARF is responsible for China's conventional and nuclear missiles. Before 2016, it was known as the PLA Second Artillery Force (PLASAF). In 2016, along with the name change, the PLARF's status was also elevated to an independent branch of the military,

such as the army, navy, and air force, which were directly under the control of China's Central Military Commission (CMC).

The 2013 Defence White Paper mentioned that the PLASAF is striving for its transformation towards "informationization" and boosting "independent innovations in weaponry and equipment". The paper mentioned that the objective was to strengthen "rapid reaction, effective penetration, precision strike, damage infliction, protection and survivability capabilities".[51] The 2015 Defence White Paper also reiterated the same principle of a lean and effective force and called for transformation.[52] In 2015, China specifically called for enhancing its nuclear early warning systems for the first time.[53]

China's 2019 Defence White Paper mentioned that the PLARF is critical for maintaining China's national sovereignty and security. It consists of both nuclear and conventional capabilities.

Under Xi Jinping's reform plan, the strength of the PLA Army (PLAA) was significantly reduced, while the strength of the PLA Navy (PLAN) and the PLA Rocket Force (PLARF) increased. China's 2019 Defence White Paper mentioned that the PLARF is critical for maintaining China's national sovereignty and security. It consists of both nuclear and conventional capabilities. The role of the PLARF is to provide both credible nuclear deterrence and counter-attack.[54]

CONCLUSION

To sum up, this article has provided insights into China's nuclear thinking from historical perspectives. The historical analysis underscores how geopolitical factors and Cold War politics shaped China's nuclear thinking

51. "The Diversified Employment of China's Armed Forces", Ministry of National Defence, PRC, http://eng.mod.gov.cn/xb/Publications/WhitePapers/4887929.html. Accessed on December 5, 2025.
52. "China's Military Strategy", Ministry of National Defence, PRC, http://eng.mod.gov.cn/xb/Publications/WhitePapers/4887928.html. Accessed on December 5, 2025.
53. Zhao, n. 31.
54. "Full Text: China's National Defense in the New Era", https://english.www.gov.cn/archive/whitepaper/201907/24/content_WS5d3941ddc6d08408f502283d.html. Accessed on December 5, 2025.

and weapon acquisition plan. During this period, the role of nuclear weapons was projected as a counter-blackmail instrument. Cooperation between China and the Soviet Union laid the foundation of China's civilian nuclear programme. But later on, due to the Sino-Soviet split, China worked towards self-sufficiency and built atomic weapons in 1964; after the explosion, China adopted the doctrine of NFU . Since the late 1980s, China's approach towards nuclear weapons changed from "counter-blackmail" to achieving "minimal deterrence". Later, deterrence shifted from 'minimal' to "limited and credible". However, when we assign these conceptual categories to Chinese thinking, we need to be careful about the divergence in terminologies.

Li Bin underscores the difference between the Chinese and US perspectives on security, which are rooted in philosophical and cultural contexts. Unlike the US distinction between "security" and "safety," the Chinese term "security" (*anquan*) encompasses both natural disasters and risks generated by humans. China's "comprehensive security theory" explains its lower nuclear alert level for better safety balance by integrating military and non-military factors. The US views deterrence and compellence as separate ideas, while China views them as interwoven. This is another difference in the way that the two countries approach nuclear deterrence. For the US, nuclear deterrence is a defensive posture, while China considers it an offensive posture. The term "deterrence" is translated as "*weishe* (威慑)," although in Chinese, "*weishe*" actually means "coercion."[55]

Overall, the historical analysis of China's nuclear thinking offers a crucial lens for understanding its current nuclear posture and strategic motivations. With this perspective, today's policies and modernisation efforts become clearer, revealing how long-standing ideas continue to shape China's choices.

55. Li Bin, "Chinese Thinking on Nuclear Weapons", Arms Control Association, December 2015, https://www.armscontrol.org/act/2015-12/features/chinese-thinking-nuclear-weapons. Accessed on December 5, 2025.