Grands enjeux stratégiques contemporains

PROLIFERATION CHALLENGES IN ASIA

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WHERE IS ASIA?
Characteristics of proliferation in Asia:

- Asia poses the **biggest proliferation challenge** in the world from states within the non-proliferation regime (China, Iran, Russia); outside the regime (DPRK, India, Israel, Pakistan); and from non-state actors.

- Asia is witnessing the **fastest proliferation** – vertical and horizontal – in the world and is challenging the top-down global nuclear order.

- Presence of nuclear weapons coupled with **absence of two supporting pillars** to maintain nuclear order:
  - No regional or global architecture to manage relations
  - No arms control experience

- Both **top-down and bottom-up** approaches have been sought to address proliferation in Asia with mixed results.
OUTLINE

• History, Motives, Capabilities and Doctrines: China, India, Pakistan

• Efforts to manage a ‘no war’ relationship:
  unilateral, bilateral, regional and global initiatives
  • Indo-US nuclear deal
  • China-Pakistan nuclear deal

• Nuclear crises:
  • India-Pakistan: 1999 (Kargil) and 2001-2002 (Op. Parakram)
  • India-China: 1986 (Sumdrong Chu) and 2013 border skirmishes
  • Quartet tensions: US, China, India and Pakistan

• Non-State Actor challenges:
  • Terrorist Groups
  • A.Q. Khan and proliferation networks

• Conclusion: New Challenges and Way Forward
• China’s initial motive was primarily security driven, though it might have contributed to China’s recognition as a major power.

• January 1955: China seeks to pursue a nuclear weapon programme primarily to counter threats from the US.

• The Chinese programme is initially provided technical support by the Soviet Union at least until 1960.

• China tests its first nuclear weapon on 16 Oct 1964; its first live missile-based detonation in 1966; and fusion bomb in 1967.

• China reportedly provides the 1966 bomb design to Pakistan in 1984, supplies missiles to Saudi in 1988 and joins the NPT in 1992.

• China conducted its last series of tests in 1996 – during the final rounds of the CTBT negotiations – signed the CTBT but has not ratified it. China also not a member of the MTCR.

• China has also not joined any arms control agreement and least transparent of the original nuclear weapon states.
Nuclear Test Site, Lop Nur, China, 20 October 1964

Ground Zero
<table>
<thead>
<tr>
<th>Missile</th>
<th>Status</th>
<th>Range (km)</th>
<th>Payload (kg)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-7 (CSS-8)</td>
<td>Operational</td>
<td>150</td>
<td>190</td>
<td>Domestic</td>
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<tr>
<td>DF-11 (CSS-X-7)</td>
<td>Operational</td>
<td>300</td>
<td>800</td>
<td>Domestic</td>
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<tr>
<td>DF-15 (CSS-6)</td>
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<td>600</td>
<td>500</td>
<td>Domestic</td>
</tr>
<tr>
<td>DF-21A</td>
<td>Operational</td>
<td>1,800</td>
<td>2,000</td>
<td>Domestic</td>
</tr>
<tr>
<td>DF-21</td>
<td>Operational</td>
<td>2,500</td>
<td>600</td>
<td>Domestic</td>
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<tr>
<td>DF-3A (CSS-2)</td>
<td>Operational</td>
<td>2,800</td>
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<td>Domestic/ USSR</td>
</tr>
<tr>
<td>DF-4 (CSS-3)</td>
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<td>5,500</td>
<td>2,200</td>
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</tr>
<tr>
<td>DF-31</td>
<td>Tested/development</td>
<td>8,000</td>
<td>700</td>
<td>Domestic</td>
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<td>DF-25</td>
<td>Operational?</td>
<td>3,200</td>
<td>???</td>
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<td>DF-41</td>
<td>Programme cancelled?</td>
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<td>Julang-1 (SLBM)*</td>
<td>Operational</td>
<td>1,000</td>
<td>600</td>
<td>Domestic</td>
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<tr>
<td>Julang-2 (SLBM)*</td>
<td>Tested/dev't</td>
<td>8,000</td>
<td>700</td>
<td>Domestic</td>
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</table>

* = Submarine-launched ballistic missile.

• India’s motives for going nuclear more complex: partly to do with security threat from China, later Pakistan, but also quest for ‘strategic autonomy’.

• India’s programme began in mid-1960s – after China’s nuclear test. India conducted its first nuclear test in 1974.

• Its first nuclear-capable missile was tested only in 1981.

• India conducted a series of tests on 11 and 13 May 1998 and declared itself to be a nuclear weapon state.

• India has never signed the NPT or the CTBT, although it is a signatory to the PTBT.

• India has sought membership of the UNSC and more recently the various export control regimes: NSG, MTCR, Zangger.

• Indo-US nuclear deal of 2005 was passed in Dec 2006: Civil Nuclear Cooperation Initiative. Similar agreements with France, Russia, UK.
INDIA
<table>
<thead>
<tr>
<th>Test</th>
<th>Shakti I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Pokhran, Thar Desert, Rajasthan, India</td>
</tr>
<tr>
<td></td>
<td>27.0716 deg N, 71.7612 deg E</td>
</tr>
<tr>
<td>Test Height and Type</td>
<td>Underground, more than – 200 m</td>
</tr>
<tr>
<td>Yield</td>
<td>30 kt est. (22-30 kt possible range; 43-45 kt claimed)</td>
</tr>
</tbody>
</table>
Test: Shakti II

Time: 15:47:07 11 May 1998 (IST);
     10:17:07 UCT (Indian Government), 10:13:42 UCT (USGS)

Location: Pokhran, Thar Desert, Rajasthan, India
          27.0716 deg N, 71.7612 deg E

Test Height and Type: Underground, more than -150 m

Yield: 12 kt
Seismic Waveforms and Regional Map
Indian Nuclear Test: 11 May 1998

**Origin Time:** 1998/05/11 10:13:44.2

**Coordinates:** 27.09°N, 71.69°E

Depth: 13-14 km

$m_b = 5.0$  
$M_s = 3.2$

<table>
<thead>
<tr>
<th>IDC Solution</th>
<th>Ground Truth</th>
<th>Difference</th>
</tr>
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<tbody>
<tr>
<td>OT (GMT)</td>
<td>LAT (°N)</td>
<td>LON (°E)</td>
</tr>
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<td>10:13:44.2</td>
<td>27.0925</td>
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<tr>
<td>Missile</td>
<td>Status</td>
<td>Range (km)</td>
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<tr>
<td>-------------</td>
<td>-------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Prithvi-1</td>
<td>Operational</td>
<td>150</td>
</tr>
<tr>
<td>Prithvi-2</td>
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<td>250</td>
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<tr>
<td>Prthi-3/</td>
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<td>350</td>
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<tr>
<td>Agni-1 variant</td>
<td>Tested/</td>
<td>725</td>
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<tr>
<td>Agni-I</td>
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<tr>
<td>Agni-II</td>
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<td>Agni-III</td>
<td>Development</td>
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<tr>
<td>Agni-V</td>
<td>Development</td>
<td>5000</td>
</tr>
<tr>
<td>Surya</td>
<td>Development</td>
<td>5500+</td>
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<tr>
<td>Sagarika/</td>
<td>Development</td>
<td>350</td>
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<tr>
<td>Brahmos</td>
<td>Production</td>
<td>290</td>
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</table>

**Source:** Worldwide Ballistic Missile Inventories available at <www.armscontrol.org/factsheets/missiles.asp>
IN TEST OR DEVELOPMENT

Agni-I  Agni-II  Agni-II+(AT)  Agni-IIITD  Agni-III  Agni-III SL  Agni-V
INDIA
PAKISTAN

- Pakistan’s initial motives related to perceived security threat from India’s conventional and nuclear superiority.
- Pakistan’s nuclear weapon programme began in earnest in 1972 – after the 1971 Indo-Pak war – but accelerated after India’s nuclear test of 1974.
- Pakistan initially pursued the Plutonium path but soon shifted to the Uranium option. By 1986 Pakistan had built weapons based on enriched U-235.
- Pakistan also conducted a series of nuclear tests in 1998.
- Pakistan too has not signed the NPT or the CTBT although it is a signatory to the PTBT. Pakistan is also seeking membership of the various export control regimes (though not the UNSC).
- A China-Pakistan nuclear deal to build 2+3 additional reactors without safeguards has raised concerns. Proliferation implications of China-Pakistan nuclear deal.
Seismic Waveforms and Regional Map
Pakistani Nuclear Test: 28 May 1998

Origin Time: 1998/05/28 10:16:17.6
Coordinates: 28.91°N 64.84°E
± 13-15 km
$m_s = 4.9$ $M_s = 3.5$

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<th>Difference</th>
</tr>
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<td>OT (GMT)</td>
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<td>LON (°E)</td>
<td>LAT (°N)</td>
<td>LON (°E)</td>
</tr>
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<td>28.9089</td>
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<td>28.8300</td>
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PAKISTAN

Dr. Samer Mubarakmand

Dr. A. Q. Khan
<table>
<thead>
<tr>
<th>Missile</th>
<th>Status</th>
<th>Range (km)</th>
<th>Payload (kg)</th>
<th>Source</th>
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</thead>
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<tr>
<td>Hatf-1</td>
<td>Operational</td>
<td>80–100</td>
<td>500</td>
<td>Domestic</td>
</tr>
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<td>Hatf-2</td>
<td>Tested/dev't</td>
<td>190</td>
<td>500</td>
<td>Domestic/China</td>
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<td>Tested/dev't</td>
<td>280</td>
<td>500</td>
<td>Domestic/China (Ghaznavi)</td>
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<tr>
<td>Tarmuk</td>
<td>Development</td>
<td>300</td>
<td>800</td>
<td>Domestic/China Haider-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>350</td>
<td>?</td>
<td>Domestic</td>
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<tr>
<td>Shaheen-1</td>
<td>Tested/dev't</td>
<td>750</td>
<td>500</td>
<td>Domestic/China Ghauri-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1300+</td>
<td>700</td>
<td>Domestic/DPRK (No-Dong-1)</td>
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<tr>
<td>Ghauri-2</td>
<td>Tested/dev't</td>
<td>2300</td>
<td>700</td>
<td>Domestic/DPRK Shaheen-2</td>
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<tr>
<td></td>
<td></td>
<td>1000</td>
<td>Domestic/ China Ghauri-3</td>
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</tr>
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<td></td>
<td></td>
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<td>Development 3000</td>
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<td>Development</td>
<td>600</td>
<td>?</td>
<td>Domestic</td>
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<tr>
<td>Ra’ad (Hatf-8)</td>
<td>Development</td>
<td>350+</td>
<td></td>
<td>Domestic</td>
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<tr>
<td>Nasr (Hatf -9)</td>
<td>Development</td>
<td>60</td>
<td>?</td>
<td>Domestic</td>
</tr>
</tbody>
</table>

IRBM GHAURI
(RANGE 1500Km)
SUCCESSFULLY TEST FIRED
ON MONDAY, APRIL 6, 1998
AT 0723 HOURS

P A F KAMRIA
DR A G CHAUDHARY RESEARCH LABORATORIES
KAHUTA

[Images of a rocket being launched and a group of military personnel]
**DOCTRINES AND STABILITY**

**Doctrines:**

**China**: Clearly articulated no-first-use doctrine amongst nuclear weapon states and non-use against non-nuclear weapon states. Notionally under civilian control.

**India**: Clearly articulated doctrine of no-first use and survivable second strike arsenal with strong civilian control.

**Pakistan**: First and, possibly, early use with a predominantly military command and control structure. No stated doctrine.

**Nuclear stability:**

- All three have some degree of **de-targeting**
- India and Pakistan also have non-deployed and **de-alerted forces**
- All three have a number of **CBMs** with each other.
- India and Pakistan also have a **non-attack** on nuclear facilities and **prior-notification** of missile launches agreement.
• Have undertaken not to test, though neither has signed the Comprehensive Test Ban Treaty (CTBT)

• Although neither has deployed, they are unlikely to roll-back and sign the Nuclear Non-Proliferation Treaty (NPT)

• Three agreements in particular are noteworthy:
  
  • Non-attack on nuclear facilities (1991)
  • Pre-notification of ballistic missile tests (1999 & 2005)
  • Agreement on Reducing the Risk from Nuclear Weapon Accidents (2007)
1999 KARGIL CRISIS

May 6 - Army patrol notices 9-10 infiltrators east of Batalik
May 7 - Pak artillery fires on Indian patrol
May 8 - Clash between troops and infiltrators
May 9 - Heavy Pakistani shelling damages ammo dump in Kargil
May 10-14 - Infiltrators noticed in Drass, Kaksar & north of Mashkoh valley
May 14 - Flushing out operations begin

Map not to scale
1999 KARGIL CRISIS

Intrusions spotted in May 1999. Indian Air Force begins operations; Pakistan Air Force not brought into action. India suffers heavy losses and contemplates crossing the Line of Control.

Pakistan PM Nawaz Sharif threatens to use ‘ultimate weapon’. International pressure mounts on Pakistan to withdraw.

US General A. Zinni meets General P. Musharraf in Islamabad.

Sharif visits Beijing and Washington and agrees to withdraw.

4th July 1999 agreement with US President Clinton

At the bilateral level two aspects crucial:

• Direct telephonic contact between the two PMs
• Back-channel of communication also established
In the 2001-2002 crisis both India and Pakistan tested nuclear capable missiles (India tested the *Agni I* in January 2002 and Pakistan tested the *Ghauri* and the *Ghaznavi* in May 2002) and are also reported to have deployed nuclear weapons.

Both Indian and Pakistan leaders made belligerent statements while the world looked on in growing concern. The crisis was compared in its intensity to the Cuban missile crisis.

The international community sought to defuse the crisis and some countries (US-UK) withdrew citizens from the region, thus indicating that it perceives the prospects of nuclear war as being very real. However, an element of political signalling cannot be ruled out.

Although this crisis was defused, after the Indian demobilisation after the October 2002 elections in Kashmir, there is a distinct possibility that a similar crisis might recur in the future.
Showdown in Tawang (Sum Dorong Chu) in 1986 with nuclear edge.

The CBM agreements of September 1993 and November 1996. also focus on missile deployment but have no verification clause.

Tensions over India’s 1998 nuclear tests; China leads UNSC effort

2005 Agreement on Political Parameters and Guiding Principles for the Settlement of the India-China Boundary Question.

Series of hostile confrontations in 2012 and 2013 along Line of Actual Control, especially in the Depsang Valley in Ladakh.

New naval confrontation in South China Sea.

The 2013 Border Defence Cooperation Agreement, the fifth of its kind.

However, cross-border tensions persist.
NUCLEAR TERRORISM?

**Direct threat:**

Building and using nuclear weapons (less likely)

Building and using a radiological weapon – dirty bomb – (more likely)

**Indirect threat:**

Potential of actions by non-state actors prompting the two nuclear neighbours – India and Pakistan – into an inadvertent nuclear confrontation is most likely.
NUCLEAR TERRORISM?

The 26 November 2008 terrorist attack on Mumbai, which originated from Pakistan, raised tensions.
SOUTHERN ASIAN CHARACTERISTICS

- Potential **major powers** (China and India) as well as **weak or failing states** (Pakistan) possess nuclear weapons.

- There are very **few or weak** bilateral or regional **norms and institutions** that allow nuclear-armed states to manage their relations (no OSCE or NATO/Warsaw Pact). ARF is only forum but has limitations. All these states are also not part of all the global institutions to manage their relations (such as the UNSC) and prevent proliferation (such as the NPT) either by design or choice.

- **None of the Southern Asian states** have undertaken **nuclear arms control**. Instead weapons arsenals are improving quantitatively and qualitatively.
US-China global rivalry gives Beijing cover to modernise and expand its nuclear arsenal with regional implications (eg. 3,000 km range DF-25).

Nuclear and conventional asymmetry and blurring nuclear-conventional capabilities both between India and Pakistan and India and China. Also role of new technology.

Nascent BMD and ASAT capabilities further weaken classic nuclear deterrence stability.

Role of ‘nuclear terrorism’ particularly in the India-Pakistan deterrence relationship is problematic.

Growing border and territorial claims increasing tensions.
<table>
<thead>
<tr>
<th></th>
<th>UNILATERAL</th>
<th>BILATERAL</th>
<th>REGIONAL</th>
<th>GLOBAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CO OP ’N</strong></td>
<td>Reaffirm Lahore; Test moratorium; pre-notify missile tests; de-alert and non-deploy status; keep ceasefire (since Nov. 2003)</td>
<td>Resume and sustain dialogue; formalise the restraint regime; avoid arms race.</td>
<td>Provide security guarantees to others; extend dialogue with China. Support NWFZs</td>
<td>Support multilateral non-proliferation regime: NPT, CTBT and FMT.</td>
</tr>
<tr>
<td><strong>CO NF RO NT</strong></td>
<td>Continue tests; put nukes on high alert; no prior notification of tests; and violate ceasefire.</td>
<td>Disrupt dialogue; violate bilateral agreements; avoid verification; start arms race.</td>
<td>Build offensive military alliance and disrupt regional arrangements.</td>
<td>Challenge and violate international norms and obligations; obstruct efforts to strengthen regime.</td>
</tr>
</tbody>
</table>
Southern Asia is witnessing top-down and bottom-up proliferation challenges.

The top-down relationship will be determined by the US and China while the bottom-up will be driven by Pakistan, India and China.

In addition to ensuring India-Pakistan strategic stability, similar efforts need to be made on the India-China front. So far such efforts have been missing at the bilateral, regional and global level.

In the absence of formal institutions to manage relations, the prospects of rising tensions leading to conflict is a real concern.

However, were Southern Asia to establish a regional nuclear order it would also transform the outdated global nuclear order.