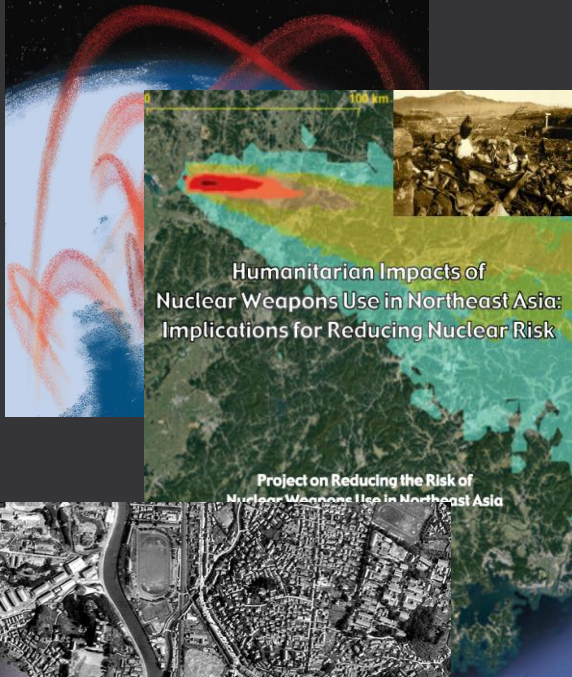


Possible Nuclear Use Cases in Northeast Asia:
Implications for Reducing Nuclear Risk



Reducing Risks of Nuclear Weapons Use in Northeast Asia

Day 2: Religions responding to escalating threats of nuclear war
80th Anniversary of the Dropping of the Atomic Bombs, The End of World War II, and the establishment of the UN
August 10, 2025

Tatsujiro Suzuki

Visiting Professor

Research Center for Nuclear Weapons Abolition, Nagasaki University (RECNA)

President, Peace Depot

Increasing Nuclear Risk

Global Nuclear Warheads (2025/06)



- While total number of nuclear warheads declined since the end of Cold War years, **number of “Deployable” nuclear warheads has been increasing.**
 - Total: 17,300 (2017) to 12,340 (2025)
 - Deployable: 9,260 (2018) to 9,615 (2025)
- **Many of nuclear armed states increased the number of “deployable” nuclear warheads.**
 - **China: 240 (2018) to 600 (2024) (150%)**
 - **UK: 215 to 225 (5%)**
 - **Pakistan: 140 to 170 (21%)**
 - **India: 125 to 180 (44%)**
 - **Israel: 80 to 90 (13%)**
 - **DPRK: 15 to 50 (233%)**

https://www.recna.nagasaki-u.ac.jp/recna/bd/files/NuclearWH_2025_ENG.pdf

Nuclear Threats in NE Asia(1)

- There are **four nuclear armed states** (Russia, US, China and DPRK) in the region.
- US-Russia nuclear disarmament negotiation is stalled. **Russia threatens to use nuclear weapons.**
- **China is reportedly increasing its arsenal**, including nuclear weapons(projected to increase to ~1000 by 2030), primarily against the US.
 - China is the only country officially declaring “no-first-use” policy.
- DPRK has been developing nuclear weapons as well as sophisticated missile programs.
 - In September, 2022, the new nuclear weapons **law includes the policy of first use of nuclear weapons.**
 - In January 2024, Kim Jong-un declares that **S. Korea as principle enemy and dismantle all unification organizations.**



Nuclear Threats in NE Asia(2)

- ROK and Japan, depending on “Extended Nuclear Deterrence(nuclear umbrella)” provided by the US, are **now emphasizing military alliance among three nations to strengthen “extended deterrence”**.
 - “*And we will enhance strategic coordination between the U.S.-Japan and U.S.-ROK alliances and bring our trilateral security cooperation to new heights.*”
 - The Sprit of Camp David: Joint statement of Japan, the ROK and US, August 18, 2023.

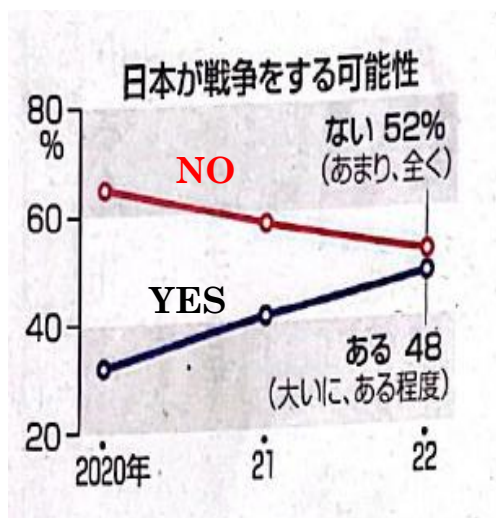


Extended Nuclear Deterrence
 (“Nuclear Umbrella”): US promises to respond with all options, including nuclear weapons, under the bi-lateral security agreement if allies are attacked by enemies.

<https://www.whitehouse.gov/briefing-room/statements-releases/2023/08/18/the-spirit-of-camp-david-joint-statement-of-japan-the-republic-of-korea-and-the-united-states/>

Public Opinion Poll : Concerned about increased risk of war (Nagasaki Shimbun, 22/08/01)(Japan Association of Public Opinion)

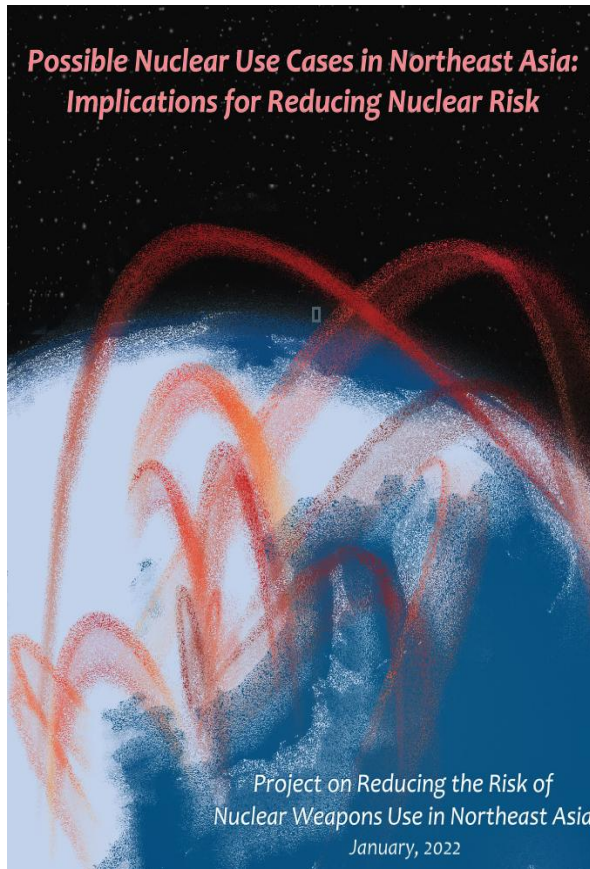
How likely that Japan will be
Involved in war?



- **Likelihood of Japan involved in War** **48%**
 - Involved in other countries' war 50%
 - Invaded by other countries 42%
 - Most likely enemy China 38%
- **Nuclear Weapons may be used in the next 10 years** **59%**
- Discussion on "Nuclear Sharing" should proceed
 - Yes 20%
 - No 56%
- Should maintain "exclusively defense-oriented policy" 60%
- Should have "counter-strike capability"
 - Yes 36%
 - No 33%
- **Support TPNW** **61%**
- Should maintain 3-non-nuclear principles 72%
- Most effective measures against external threats
 - **Diplomacy for peace building** 32%
 - Maintaining peace constitution 24%
 - Large increase in defense capability 15%

RECNA's Project on "Reducing Risk of Nuclear Weapons Use in Northeast Asia"(2021-2024)

Possible Nuclear Use Cases in Northeast Asia (1st year) (2022/01)

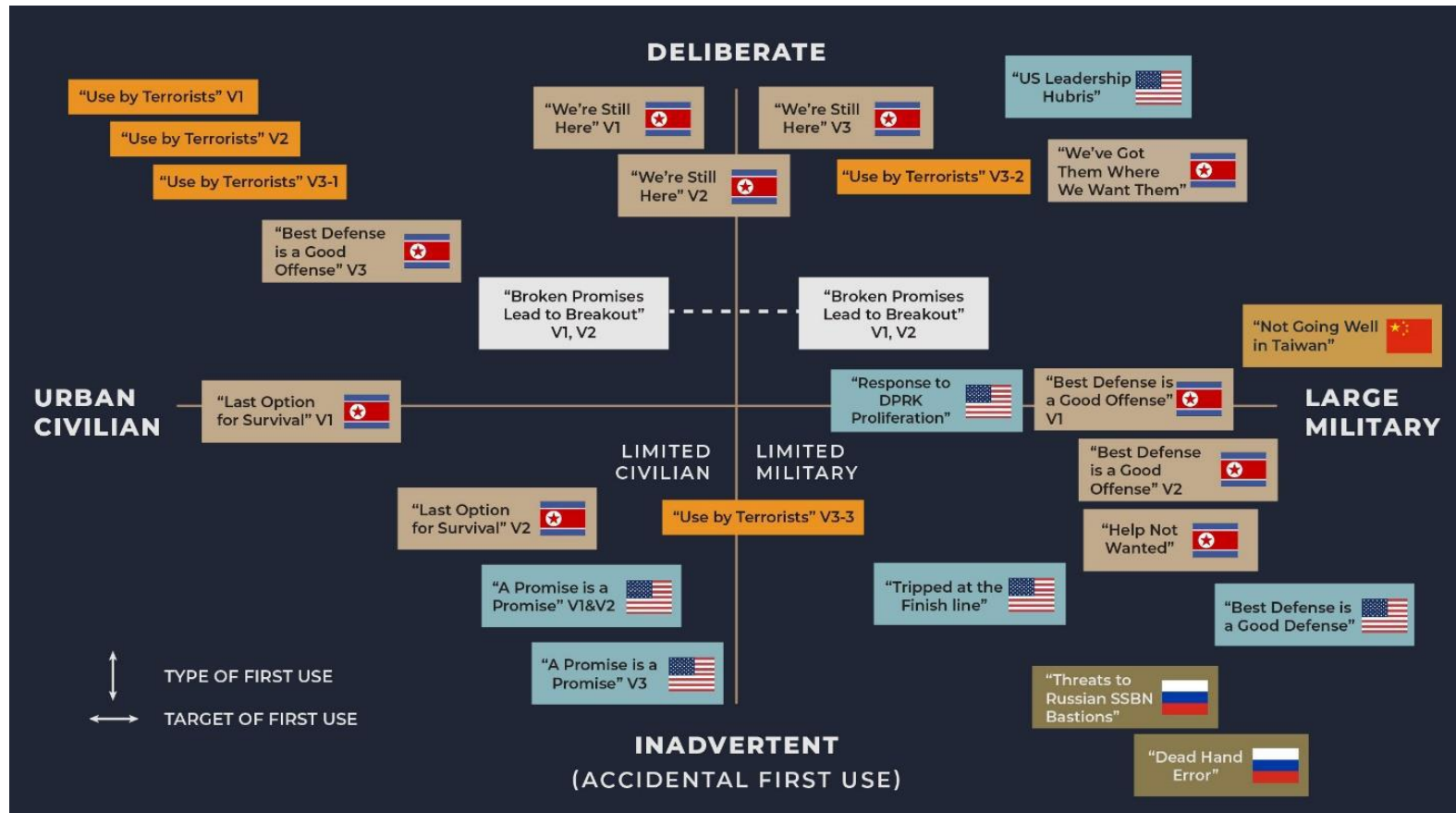


Developed 25 (later 30) cases of Nuclear Weapons Use in NE Asia)

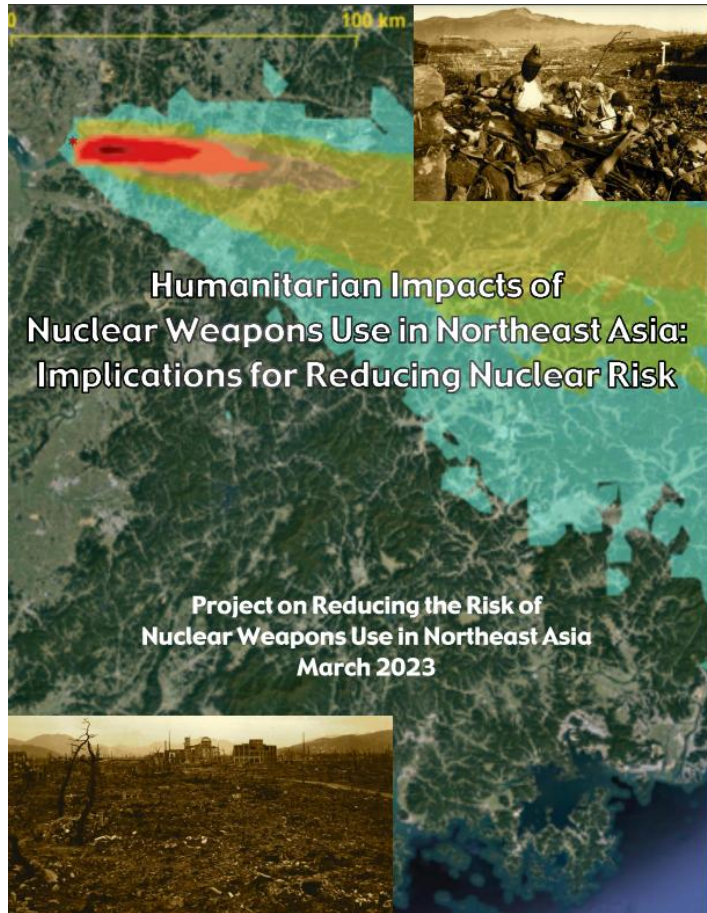
- **Think Unthinkable:** Do not consider “likelihood” or “probability”
 - **Based on factual evidence :** Should be “plausible cases” based on reliable evidence
 - **Draw Policy Implications :** Cases should be useful to draw policy implications
- Held a closed on-line workshop (with Chatham House Rule) inviting about 30 experts on nuclear strategy, security policies, political science, regional politics etc., from US, ROK, Japan, Russia, Australia, China, etc. And commissioned 10 research papers.

25 Cases: Who and Targets

-Half of the cases involve accidental First Use-



Humanitarian Impacts of Nuclear Weapons Use in Northeast Asia (2nd year) (2023/03)



- 5 cases were chosen out of 30 cases (25 plus 5 new cases after the Ukraine War) for quantification of the impacts.
- Quantify only physical impacts (short term and long term deaths, radioactive cloud and possible radiation dose) of nuclear weapons use.
- Draw possible lessons from the humanitarian impacts of nuclear weapons use in the region for policy recommendations (to be published in the 3rd year).

5 Selected Cases

Evaluated Use Case	First User	Responding User(s)	Weapon Sizes	Total Detonations
#1: "We're Still Here" Variant 1	DPRK	United States	10 kT (fission), 8 kT (2-stage H-bombs)	3
#2: "US Leadership Hubris"	United States	DPRK, China	20 and 10 kT (fission), 8, 50, 200, and 300 kT (2-stage H-bombs)	18
#3: "Terrorist" Variant 1	Terrorist	[None]	10 kT (fission)	1
#4: "Conflict from Ukraine Spreads East"	Russia	United States	2-stage H-bombs, 150, 200 kT, and 8 kT	8
#5: "Not Going Well in Taiwan"	China	United States, China	8, 50, 250, and 300 kT (2-stage H-bombs)	24

Summary of estimated casualties of all cases

Estimated Likely Deaths	Prompt (days to weeks)	Short-Term (weeks to months)	Additional Impact: Firestorms	Total Fatalities within 0.5 psi Zone (Total Population, % Lethality)	High Radiation Dose (Fallout) (short-term deaths)	Radiation-induced Cancer (long-term deaths)
Use Case 1 Airburst: 1, Surface-burst: 2	5,500	5,600	Firestorm Unlikely	11,000 (41,000, 27%)	Low Fallout	16,000 - 36,000
Use Case 2 Airburst: 11, Surface-burst: 7	1,100,000	810,000	170,000	2,100,000 (6,200,000, 33%)	11,000 - 1,200,000	480,000 - 920,000
Use Case 3 Surface-burst: 1	82,000	140,000	Small Centralized Firestorm	220,000 (890,000, 25%)	0 - 1,600,000	410,000 - 560,000
Use Case 4 Airburst: 8	170,000	100,000	15,000	290,000 (800,000, 36%)	Low Fallout	14,000 - 85,000
Use Case 5 Airburst: 16, Surface-burst: 8	1,500,000	930,000	190,000	2,600,000 (7,600,000, 35%)	400 - 19,000	96,000 - 830,000

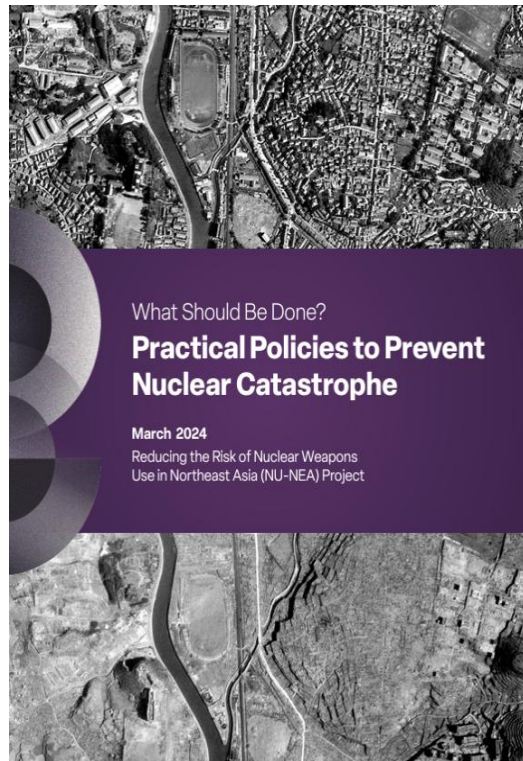
1. About 25% of population will be a victim of smaller yield of nuclear weapons and surface-burst. But, it will increase to 35% for larger yield and air-burst bomb
2. Consequences could be much more severe when/where fire storms happen.
3. Even with smaller yield nuclear weapons, casualties increase dramatically when consider long-term radiation effects.
4. It is impossible to forecast how many bombs will be actually used. These are just references for future discussion.

Preliminary Conclusions (2nd year)

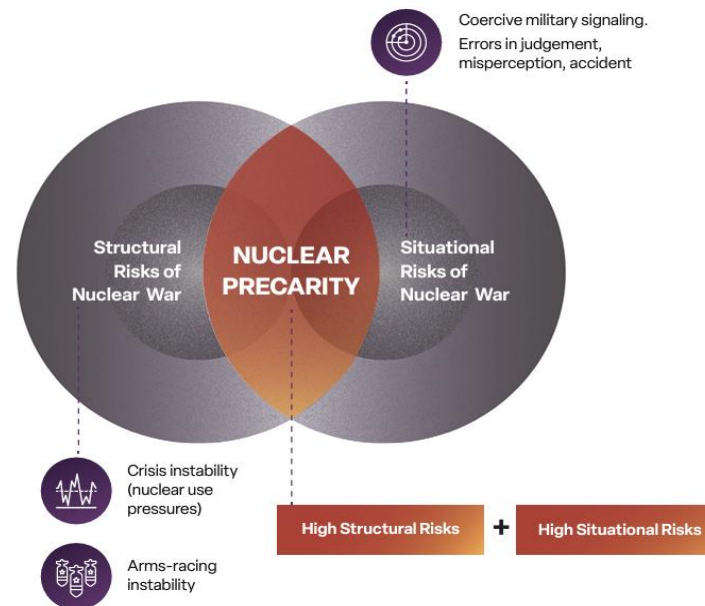
1. Use of Nuclear Weapons could result in unparallel humanitarian consequence compared with other weapons both in quantity and quality
 - Even an attack against remote military facilities, it could result in thousands of casualties.
 - It is now clear that radioactive fallout could diffuse widely, affecting the regions outside the conflict area. Those areas might include nuclear weapon-free zones or countries who are no longer dependent on nuclear weapons.
2. Once Nuclear Weapons are used, there is always a possibility that it could lead to global nuclear war in a very short time
 - There are many pathways to leading to first use of nuclear weapons (with or without intentions). Once the nuclear weapons are used, it is hard to predict the development even for decision makers/military planners.
 - It is possible that regional conflict involving nuclear weapons could develop to larger scale of nuclear exchange within hours or days.
3. First nuclear weapons used are likely to be “tactical nuclear weapons” and the first targets are likely to be military targets in “nuclear umbrella” states.

What should be Done? – Practical Policies to Prevent Nuclear Catastrophe (3rd year, March 2024)

- NE Asia is a site of “nuclear precarity”.
- “Nuclear precarity” refers not to a likelihood or probability of nuclear war but rather to the intersectional risks of nuclear war.



<https://www.recna.nagasaki-u.ac.jp/recna/bd/files/Year 3 NU-NEA Report E 2403.pdf>



Three stages of recommended actions

- *Warming actions*

- Warming actions are rhetorical and diplomatic gestures aimed at alleviating tension in the security environment and setting up frameworks for future confidence-building and cooperation

- *Ripening Actions*

- Ripening actions are decisions that can be undertaken unilaterally to improve the political feasibility of future cooperation

- *Reciprocal Transformations*

- Reciprocal transformations are bilateral and multilateral negotiations; initiatives that can only follow from process of mutual accommodation and compromise

23 recommendations: practical policies (most are either once considered or implemented)(1)

• Warming action(6): Rhetorical and Diplomatic Gestures

- **Rescope extended deterrence dialogues** between Japan and South Korea for risk reduction (Japan, ROK, US)
- **Declare mutual co-existence with China and North Korea**, end to the Korean War, and recognize reciprocal vulnerability between Chinese and US nuclear forces (US)
- **A nuclear no-first use dialogue** (China, US)
- **Revive the “non-offensive defense” research agenda** (Japan, US, ROK)
- **A “No Leadership Assassinations” pledge** (US, DPRK, China, ROK, Japan)
- **A US strategic dialogue with North Korea** (US, DPRK)

23 recommendations: practical policies (either once considered or implemented)(2)

- **Ripening Actions (10)-Individual Restraint**

- A “**no nuclear deployment**” in NE Asia executive order (US)
- Elevate the CTBT (Japan, US, China, ROK, DPRK)
- Checks and balances on South Korea’s “Three-Axis” deterrence policy (ROK, US)
- **End-use restrictions on missile and drone sales** (US, China, Japan, ROK)
- Codify the US moratorium on anti-satellite testing (US)
- **Support the Restricting First Use of Nuclear Weapons Act** (US, Japan, ROK, China DPRK)
- Defund the nuclear-armed SLCM-N (US)
- Pause and investigate **permanently halting development of ground-based intermediate-range missiles** (US, China, ROK, DPRK)
- A declaration of **nuclear inventory from North Korea and China** (DPRK, China)
- Rollback the US “Ground-Based Strategic Deterrent” (US)

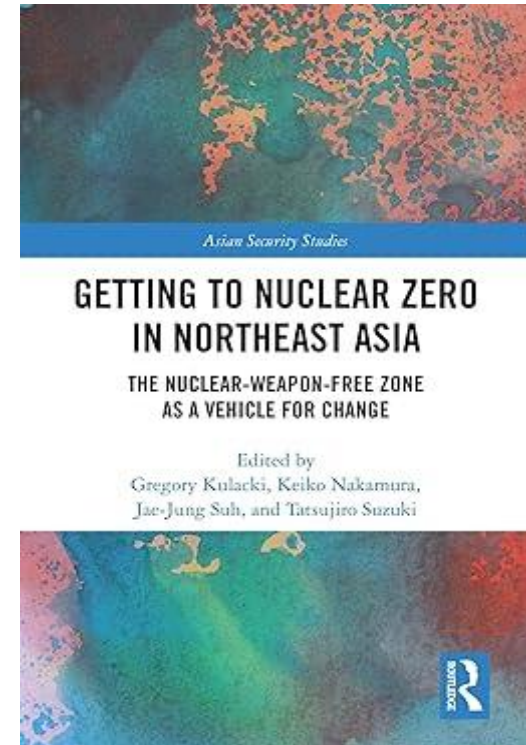
23 recommendations: practical policies (either once considered or implemented)(3)

• Reciprocal Transformations (7)- Bilateral and Multilateral Initiatives

- Multilateralize a **moratorium on anti-satellite testing** (Japan, US, China, ROK, DPRK)
- Advanced conventional arms freeze (Japan, US, China, ROK, DPRK)
- A missile-launch notification regime (Japan, US, China, ROK, DPRK)
- A “no-dead-hand” nuclear restriction (China, DPRK, US)
- **A ban on low-yield “tactical” nuclear weapons** (China, DPRK, US)
- **Support a 2% defense conversion for the US and Northeast Asia** (Japan, US, China, ROK, DPRK)
- **A “nuclear-free seas” initiative with North Korea** (DPRK, China, US, ROK)

A PROPOSAL FOR NEA-NWFZ 2.0

- **“Getting to Nuclear Zero in Northeast Asia: The Nuclear Weapons Free Zone as a Vehicle for Change”**
 - by G. Kulacki, K. Nakamura, J.J. Suh, T. Suzuki (to be published by Routledge, June 2025)
- **Propose a NWFZ 2.0 which should respond to unique conditions of NE Asia. The proposal is based on the idea of 3 C (Common Security, Cooperative Security and Comprehensive Security”.**



CONCLUSION

- Northeast Asia is barreling toward nuclear precarity. **Policies oriented toward increased, stronger, or enhanced deterrence are making the region less secure.**
- To make ambitious cooperative measures aimed at bridling the threat of nuclear weapons politically feasible, **governments must warm and ripen the regional security environment so that leaders are able to embrace a less destructive path.**
- **One possible alternative to current security policy is to aiming at Nuclear Weapon Free Zone in Northeast Asia.**
- The declaration, ***“Let Nagasaki be the Last!”*** is an ambitious demand, matched by our ambitious proposals. We call on leaders from the United States and Northeast Asia to help the world ensure that Nagasaki will indeed be the last.