PROCEEDINGS 2026-29

Critical Futures Program

Strategic Foresight

A Three-day Seminar-Workshop

15-17 September 2025

Camp Aguinaldo

UNIVERSITY OF THE PHILIPPINES
CENTER FOR INTEGRATIVE AND DEVELOPMENT STUDIES

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"Judges - Colonel Raquel Vichez, Professor Victor Andres “Dindo” Manhit of Statbase Group, Captain Norman A. Mutia, giving feedback to presenters."

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A Roundtable Discussion (RTD) on Self-Reliant Defense Posture (SRDP) Revitalization

30 June 2025
University Hotel, University of the Philippines - Diliman
Allan Benedict C. Solacito

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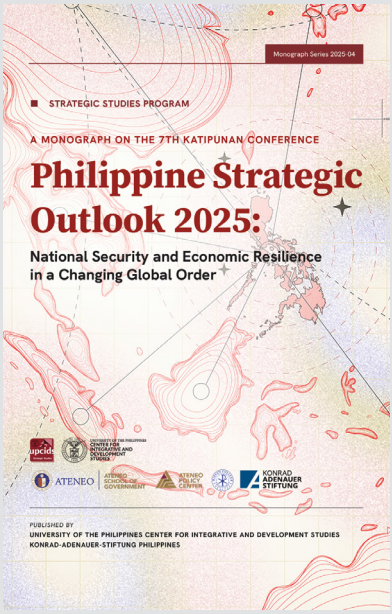
PROCEEDINGS

Roundtable Discussion (RTD) on Self-Reliant Defense Posture (SRDP) Revitalization



MONOGRAPH

A Monograph on the 7th Katipunan Conference Philippine Strategic Outlook 2025: National Security and Economic Resilience in a Changing Global Order

About the Proceedings

The last decades have been marked by a volatile geopolitical, economic, technological, social, and environmental landscape that has positioned the country at a precarious state. In navigating this world, the Armed Forces of the Philippines must be capable of anticipating, adapting, and innovating in the face of internal and external national threats by incorporating futures thinking—specifically strategic foresight—to aid in decision-making and national security planning.

The University of the Philippines Center for Integrative and Development Studies (UP CIDS) Critical Futures Program has partnered with the Armed Forces of the Philippines Office for Strategic Studies and Strategy Management (OSSSM) with the goal of reviving and strengthening the office's foresight capabilities. Led by CFP convenor Dr. Emmanuel C. Lallana, a three-day seminar-workshop was conducted at Camp Aguinaldo from September 15-17, 2025 and featured a mix of lectures and workshops on Strategic Foresight. The object of the seminar workshop is to foresee the Philippines Self-Reliant Defense Posture by 2050.

The three-day workshop invited review panelists namely Dr. Gary Ador Dionisio, Dean, School of Diplomacy and Governance, DLS-College of St. Benilde, Prof. Joseph Herman Kraft, and Dr. Jalton Taguibao of the Department of Political Science, UP Diliman. On the last day, the consolidated presentations were then judged by Colonel Raquel Vichez, Professor Victor Andres "Dindo" Manhit of Statbase Group, and Captain Norman A. Mutia.

Strategic Foresight

A Three-day Seminar-Workshop

Futures Studies

To kick off the three-day workshop, the morning of the first day held a lecture by Dr. Emmanuel C. Lallana on Future Studies—a multidisciplinary field that systematically examines possible, probable, and preferable futures. This discipline seeks to understand how social, technological, environmental, and political trends may influence how people live, work, and organize societies. Anticipating the future is closely tied to shaping it; individuals and institutions reflect on the future precisely because they seek to achieve or influence particular outcomes. Dr. Lallana emphasized that the future is not predetermined—rather, it remains open and subject to human decisions and actions.

Dr. Lallana introduced the Futures Cone, a conceptual model that maps different types of alternative futures. The cone visually represents the widening range of possibilities as time moves forward. While earlier frameworks often referred to three main categories—possible, probable, and preferable futures—the expanded model now identifies eight categories: Potential, Preposterous, Possible, Plausible, Probable, Preferable, Projected, and Predicted.[1]

The Futures Cone portrays alternative futures drawing from Henchey's (1978) taxonomy of futures. These categories reflect subjective judgments about the future, acknowledging that what people consider realistic or unrealistic may evolve over time as knowledge, technology, and circumstances change.

1. The Potential category refers to the broadest scope of futures.
2. The Preposterous category refers to futures that people currently dismiss as absurd or impossible.
3. The Possible category includes futures that could occur based on discoveries or breakthroughs that have not yet happened, but may emerge in the future.

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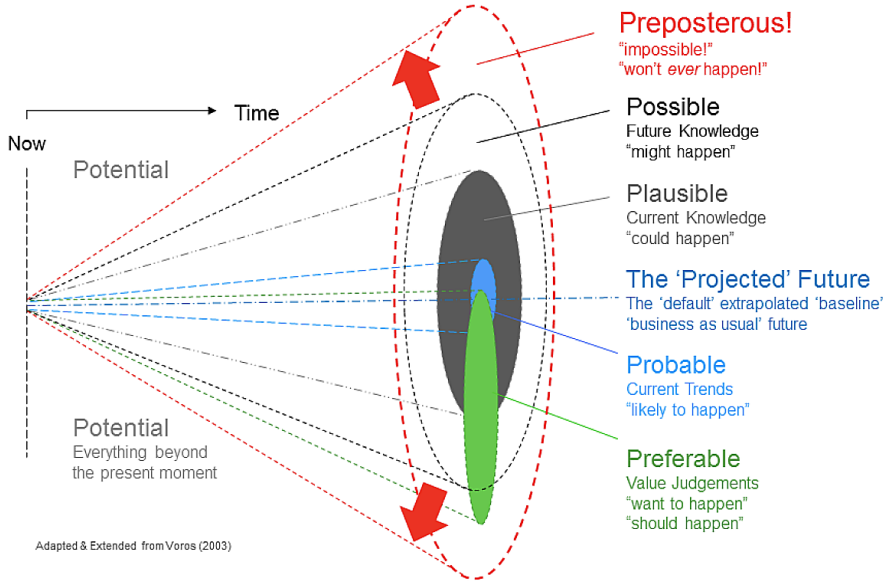
1 Joseph Voros, "The Futures Cone, Use and History," The Voroscope (blog), 24 February 2017, https://thevoroscope.com/2017/02/24/the-futures-cone-use-and-history/.



4. Plausible futures are those that align with our current understanding of how the world works.

5. Probable futures refer to outcomes considered likely to occur based on observable trends and current trajectories.

6. The Preferable future represents the outcomes that people or institutions believe should happen.

7. The Projected future describes the baseline scenario in which existing trends and systems simply continue.

8. Predicted futures refer to specific claims about what will happen. Unlike other categories that explore possibilities, predictions represent more definitive assertions about the future.

Dr. Lallana also referenced a quote from Vinod Khosla: "The future is not an extrapolation of the past." Linear projections of current trends cannot fully capture the effects of transformative innovations, disruptions, or unforeseen events. Ultimately, the future is shaped by decisions and actions taken in the present.

Strategic Foresight

Following the introduction to futures studies, Dr. Lallana begins his discussion on Strategic Foresight by defining this as a field that explores the future to anticipate changes, develop transition pathways, and withstand shocks to "help us act in the present to shape the future we want."[2] It is used to identify possibilities, based on important trends, emerging issues, and potential risks and is used to analyze plausible futures. He explains that Strategic Foresight is a subset of futures studies which incorporates practical application and action-oriented planning.

Dr. Lallana emphasizes that this must not be confused with forecasting, as forecasting implies that historical situations define future outcomes; nor must this be confused with strategic planning as strategic foresight has an explicit approach to ambiguity and uncertainty that planning does not have.

Dr. Lallana lists the uses of Strategic Foresight:

1. **Anticipating or Preparing for Change**
    a. Identifying early signals
    b. Exploring multiple futures
    c. Reducing risk

2. **Enhancing Decision-Making**
    a. Informed choices
    b. Resource Allocation
    c. Policy Formulation

3. **Building Resilience and Flexibility**
    a. Agile Strategies
    b. Shared Understanding
    c. Long-term thinking

---

2 United Nations Development Programme, "UNDP RBAP Foresight Playbook," UNDP, 22 July 2022, https://www.undp.org/asia-pacific/publications/undp-rbap-foresight-playbook.

To illustrate strategic foresight, Dr. Lallana discussed three foresight cases by international and national publications namely (1) the Atlantic Global Council Foresight 2025, (2) NATO Strategic Foresight Analysis, and (3) Pagtanaw 2050: The Philippine Foresight on Science, Technology, and Innovation.

The Atlantic Global Council Foresight provides both positive and negative insights to see the consequences of what the envisioned change might look like for the world. These insights consist of findings from a survey of 357 leading geostrategists and foresight practitioners. The second component of the Global Foresight 2025 discusses six "snow leopards," which are "under-the-radar" phenomena that come off as unimposing at the moment, but may pose critical impacts from 2025 onwards. The third component of the document enumerates three written narrative-style scenarios about what the world might look like in 2035.[3]

Dr. Lallana then discuss the "snow leopards" by the Global Foresight 2025:

- The terrorist threat that could sever global connections.
- The low-carbon energy source that could power nearly half of the US homes.
- The yellow powder that cleans carbon dioxide out of the air.
- The return of wild land.
- The coming quantum leap in energy storage.
- The very online generation's susceptibility to misinformation.

Apart from the six "snow leopards", Dr. Lallana also discussed the third component in the Atlantic Council Global Foresight 2025 – the Three Worlds in 2035 scenario. These are:

- The reluctant international order. Despite the increased complications in global governance, the governance landscape has proven that it is capable of containing them to an extent. Though we are not experiencing the halcyon days of revitalized multilateralism, we are also not inhabiting a total war nihilistic hellscape.

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3 Atlantic Council, Global Foresight 2025 (Washington, DC: Atlantic Council, 2025), https://www.atlanticcouncil.org/wp-content/uploads/2025/06/Global-Foresight-2025-Final-PDF.pdf.

- China ascendant. China now has more influence on world affairs than any other country, including the United States. It is ascendant on every metric of power – diplomatic, military, economic, and technological. That power has enabled Beijing to begin remaking the world to its liking.

- Climate of fear. By 2035, the Earth's climate is hotter and less stable than it has ever been in human history. The instability is causing people to turn on one another, and politics to become more abrasive than it was a decade ago.

Another foresight case presented was the NATO Strategic Foresight Analysis 2023. The NATO Strategic Foresight Analysis 2023 states that competition and adversarial intent among major state actors and terrorist non-state actors are likely to persist despite ongoing global disruptions. These actors are expected to seek opportunities to shape and contest the Alliance while simultaneously challenging the rules-based international order (RBIO). In pursuit of these objectives, they will continue to attempt accumulating power and expand their influence by exploiting instabilities and leveraging alternative digital, socio-economic, and hybrid means.

Dr. Lallana proceeds to discuss the analysis' Four Worlds Model, which presents four archetypical scenarios.[4]

- Fragmenting World (Low disruption, low cooperation). This scenario is considered unlikely with the increased probability of disruptions driven by climate breakdown and technological change. In this environment, strategic competition may intensify around the securitization of resources and economic systems, as well as access to and control of global commons, with adversarial actors exploiting emerging instabilities.

- Pervasive Competition (High Disruption, Low Cooperation). In this scenario, there are increasing structural disruptions, strategic shocks, and cascading effects that impact states, societies, and armed forces. Major drivers of change—particularly climate change, technological advancement, and socio-economic pressures—generate challenges that require global cooperation. However, responses remain constrained by

4 NATO Allied Command Transformation, Strategic Foresight Analysis 2023 (Norfolk, VA: NATO Allied Command Transformation, 2024), https://www.act.nato.int/wp-content/uploads/2024/05/SFA2023_rev2.pdf.

strategic competition among major powers. As a result, adversarial state and non-state actors continue to challenge the rules-based international order.

- Global Cooperation (High disruption, high cooperation). This scenario assumes a significant shift in the attitudes of strategic competitors toward greater cooperation in addressing global disruptions. Cooperation would likely begin through collective responses to major shocks and crises and may eventually extend to long-term efforts to adapt the RBIO to evolving global conditions.

- Better Angels of Our Nature (Low Disruption, High Cooperation). This scenario envisions a relatively stable global environment characterized by limited disruptions and strong international cooperation. However, it was ultimately discarded during initial testing as highly improbable. Current trends indicate an increasing likelihood of systemic disruptions, while there are few indicators suggesting that strategic competitors are moving toward more cooperative behavior.

Dr. Lallana used the Table below to summarize the four scenarios

BETTER ANGELS OF OUR NATURE Low Disruption High Cooperation	**GLOBAL COOPERATION** High Disruption High Cooperation
FRAGMENTING WORLD Low Disruption Low Cooperation	**PERVASIVE COMPETITION** High Disruption Low Cooperation

As the final foresight case, Dr. Lallana discusses Pagtanaw 2050: The Philippine Foresight on Science, Technology, and Innovation. This is a DOST-funded inter-disciplinary and trans-disciplinary project on Philippine-focused STI Foresight and Strategic Plan that will impact on the aspirations of the Filipino people by the year 2050. It compiles STI megatrends, global and national societal goals, transdisciplinary, and interdisciplinary operational areas, and current and emerging technologies relevant to the nation's development. The document envisions harnessing the talent and tools in science and technology to innovate towards a prosperous, archipelagic, maritime nation by 2050.[5]

5 National Academy of Science and Technology Philippines, "A Preview – PAGTANAW 2050: The Philippine Science, Technology, and Innovation Foresight," Transactions NAST PHL 43, no. 2 (2021), https://transactions.nast.ph/?p=1792.

The paper has 12 key operational areas:

- Blue Economy
- Governance
- Business and trade
- DX and ICT
- Science Education and Talent Retention
- Food Security and Nutrition
- Health Systems
- Energy
- Water
- Environment and Climate Change
- Shelter, Transportation, and Other Infrastructure
- Space Exploration

Dr. Lallana offers insights into the document stating that this lacks national security, defense and demography, and policy reformation.

SRDP 2050: A National Defense Industry

The workshop's focus is the Self-Reliant Defense Posture of the Philippines by 2050. The highlight of Dr. Lallana's presentation is discussed below.

It was noted that the Philippines has been pursuing a self-reliant defense posture (SRDP) since the 1970s. An important component of SRDP is the development of a national defense industry that not only provides defense equipment, but also enhances economic growth through technological development and job creation, and fostering strategic autonomy by reducing reliance on foreign suppliers.

It was noted that the development of a national defense industry comes with challenges such as (1) securing resilient supply chains, (2) keeping pace with rapid technological advancements, and (3) overcoming budget constraints and outdated bureaucratic processes. Other hurdles must be considered, such as balancing the need for national strategic autonomy with internal cooperation, addressing geopolitical instability and evolving threats, and managing increasing

demands for digital transformation, cybersecurity, and sustainable practices within the defense sector.

The latest policy document on the SRDP is the Republic Act No. 12024, or the Self-Reliant Defense Posture Act. This law declares that:

> The state shall undertake to develop the defense industry and its capability to locally produce advanced weaponry and equipment for its armed forces through technology transfer, partnerships with, and incentives to, the private sector.

It also stated that the national Defense Industry shall be developed in accordance with the following principles:

> (a) The foreign support for defense requirements shall be subject to the provisions of this act and the policies approved by the president;
>
> (b) To develop the defense capability of the country, the state shall:
>
> (1) Rely primarily on and give preference to in-country enterprises, allocate substantial resources and manpower to defense research and development, technology development and innovation, and provide relevant technical and financial assistance to the private sector;
>
> (2) Utilize, in a sustainable manner, the country's natural resources as the source of the country's defense needs, and rely on material readily available, produced, manufactured, or otherwise created locally; and
>
> (3) Use materiel from foreign sources only when such materiel cannot be locally produced, manufactured, or created: Provided, that importation from such foreign sources shall be for the ultimate objective of acquiring technology for the production of unavailable material.
>
> (c) To support the economic and employment generation thrusts of the country, all manpower needs of the industry requiring the engagement or hiring of civilian labor shall be sourced locally and, as far as practicable, be Filipino.

The law states that the SRDP programs shall include materiel, capital equipment, spare parts and accessories essential to and designed to effectively

counter and address chemical, biological, radiological, nuclear, and cyberattacks or incidents.[6]

The law also directs the DND to develop programs and projects on emerging and evolving technologies necessary for national defense and security wherever located which shall include, but not be limited to, artificial intelligence, military robotics and autonomous systems, cyber warfare, immersive technologies, additive manufacturing, big data and analytics, and blockchain.

An important feature of the law is Sec. 19 Prohibition on the sale of material to private entities. Materiel in the form of weapons, ammunition, explosives, and weapons systems, and other similar materiel, produced under the SRDP shall solely be for the use of the state's uniformed services and other law enforcement agencies.

Dr. Lallana notes that achieving a Self-Reliant Defense Posture would require addressing the following challenges:

1. **Economic and Resource Challenges**
    a. Budget constraints
    b. Cost of technology
    c. Talent shortages

2. **Technological and Innovation Challenges**
    a. Rapid technological evolution
    b. Digital transformation
    c. Emerging domains

3. **Geopolitical and Strategic Challenge**
    a. Supply chain vulnerabilities
    b. Strategic autonomy vs. cooperation
    c. Evolving threats

6 Republic Act No. 12024, "Self-Reliant Defense Posture Revitalization Act," 8 October 2024, https://elibrary.judiciary.gov.ph/thebookshelf/showdocs/2/97883.

4. **Organizational and regulatory challenges**
    a. Outdated business processes
    b. Regulatory hurdles
    c. Balancing security and sustainability

To illustrate the Philippines' progress on creating a defense industry, he compared the Philippine effort with South Korea's.

The comparison of the two countries' efforts is summarized in the table below.

Philippines	South Korea
1971 - The first Small Arms and Ammunitions (SAA) cartridge rolled out of the Government Arsenal.	1971 - South Korea announced a goal to establish an autonomous defense posture and indigenize basic weapons within its third economic development five-year plan. Early production focused on uniforms, small arms rifles, machine guns, grenades, mortars, and mines.
1972 - The Philippine Navy, with NSDB (now DOST), launched Project Santa Barbara - to develop several types of rockets for the AFP.	
1974 - Presidential Decree No. 415 formally established the objective of achieving "a self-reliant defense posture".	
1980 - Project Santa Barbara was shelved, with none of its products adopted into service. PADC Defiant 300 and 500 aircraft, and Hummingbird utility helicopter projects started. The Defiant 300 prototype flew twice, the first in February 1987.	1980s - Major goal was the indigenization of precision weapons such as tanks, guided missiles, and aircraft.
1990 - PADC Defiant 300 and 500 were canceled due to lack of government support.	1990 - Transitioned from licensed production to indigenous design and development of weapon systems, building one of the developing world's most impressive industrial bases by the mid-1990s.

Philippines	South Korea
1995 - Republic Act (RA) 7898 AFP Modernization Law of 1995.	
1997 - Then Pres Fidel V Ramos authorized spending for the development of PADC Hummingbird light utility helicopter.	
2000 - Hummingbird project cancelled. Among the factors was that the Hummingbird was an unlicensed copy of the Eurocopter.	2000 - Transitioned from meeting domestic needs to an export-oriented, technology-driven model, driven by government initiatives like the Defense Industrial Promotion Fund and efforts to promote civil-military synergies.
2010 - NSP 2017-2022 and NSS 2018-19 identified several strategic industries which were considered "vital for national security and economic development."	2010 - Daewoo Shipbuilding got contract to build support tankers for the British Royal Navy.
	2013 - Established record $3.4B weapon exports driven by strong sales of locally built aircraft and naval ships.
2019 - Philippine Defense Industry Development Act (PDIDA) of 2019.	
2020 - The AFP, with PEZA sought to open defense industrial zones.	2020s - South Korea became a major player in the global arms market, ranking among the world's top 10 arms exporters.
	2023 - The ROK acquired a contract to producte Australian Redback IFVs.
2024 - Republic Act 12024 Self-Reliant Defense Posture Revitalization Act	

He noted that while South Korea developed into a global supplier of defense equipment, most of the Philippine initiatives did not go past pilot stage.

Horizon Scanning

Horizon Scanning is a method used to identify and evaluate early indications of potentially significant developments, emerging technologies, trends, or societal shifts that may influence policy and decision-making. It is a structured approach designed to detect possible sources of uncertainty, enabling institutions to

prepare for future changes, take advantage of opportunities, and effectively respond to potential risks.

A key focus on horizon scanning is the early identification of weak signals as indicators of potential change. It is a piece of information that, while seemingly insignificant on its own, might point towards a larger trend, disruption, or opportunity that could become significant. These early, subtle indicators may explore novel and unexpected issues, as well as persistent problems or trends.

Examples of these weak signals could be new technologies in their infancy, social changes, economic, indicators, and political events.

To conduct horizon scanning effectively, several steps are typically followed:

1. Identify Scope: Define the area of interest.
2. Data Collection: Gather information from various sources.
3. Signal Analysis: Identify and analyze early signals of change.
4. Prioritization: Determine which signals are most important to address.

Horizon Scanning is not just about identifying context, but also understanding the enablers and the obstacles of change. Dr. Lallana discusses the duality of structures and agency, and how structures provide frameworks and boundaries that, while potentially limiting some actions, also create opportunities for others. Identifying driving forces is also essential, as these underlying influences can indirectly shape decisions and future outcomes. Understanding these factors helps place emerging signals within their broader context, strengthens foresight efforts, and supports the development of proactive strategies.

As part of Horizon Scanning, Dr. Lallana also introduced PESTLE Analysis, a framework used to examine the broader environment affecting an organization. The PESTLE Analysis evaluates six factors—Political, Economic, Social, Technological, Legal, and Environmental—in order to better understand the external forces that may influence an organization, industry, or policy landscape.

Dr. Lallana explained each component of the PESTLE framework. Political factors include general political issues, regime change or leadership changes, social movements, and maturity of institutions. Economic factors include inflation, exchange rates, economic growth, unemployment level, and trade

wars. In the social category, this would include lifestyle trends, education levels, age distributions, general attitudes. Technological factors include the rise of artificial intelligence (AI), big data and computing, cybersecurity threats, supply chain automation, clean energy, and alternative transport systems. Legal factors consist of labor laws, consumer laws, regulatory environment, and health and safety laws. Lastly, environmental factors include sustainability, climate change, waste management, and urbanization.

He discussed the UN horizon scanning report entitled Shaping the Trends of Our Time: A Report of the UN Economist Network for the UN 75th Anniversary, that aims to detect early signals of change, emerging trends, and potential disruptions but on a larger scale. The report examines several global megatrends influencing contemporary society and explains how these developments—combined with shortcomings in public policy—have contributed to the limited progress in achieving the Sustainable Development Goals (SDGs). It highlights five major megatrends shaping the global landscape: climate change, demographic transformations (especially population ageing), urbanization, the rapid rise of digital technologies, and growing inequalities.[7]

Dr. Lallana also discussed the book entitled 21 Lessons for the 21st Century, where Yuval Noah Harari explores the major political, technological, and social challenges shaping the modern world. He provides 21 lessons that examine technological change and political instability. The 21 lessons are on disillusionment, work, liberty, equality, community, civilization, nationalism, religion, immigration, terrorism, war, humility, god, secularism, ignorance, injustice, post-truth, science fiction, education, meaning, and meditation.[8]

After the lecture, Dr. Lallana instructs the participants to undertake horizon scanning that will affect the development of SRDP using PESTLE analysis.

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7 United Nations Department of Economic and Social Affairs, Shaping the Trends of Our Time: Report of the UN Economist Network for the UN 75th Anniversary (New York: United Nations, 2020), https://www.unep.org/resources/report/Shaping-Trends-Our-Time-Report.

8 Yuval Noah Harari, 21 Lessons for the 21st Century (New York: Spiegel & Grau, 2018).

The horizon scanning output developed by the AFP OSSSM participants are presented in the table below.

Group 1		
	Constraint	**Strategic Impact**
Political	Policy and Governance Instability	The Philippines remains a "perpetual importer" for high-end systems.
Economic	Financial Vulnerabilities	By 2050, the Philippines risks being a market, not a maker, for defense technologies.
Social	Human Capital Gaps	Philippines will continue to suffer a deficit in skilled manpower, which constrains the development and advancement of indigenous research & development centers
Technological	Cyber & Digital Lag	Philippine systems would be exposed to unsafe networks and prone to hackings
Legal	Procurement Rigidity	Philippines would be compelled to rely on outdated or older defense systems/equipment in a longer term
Environmental	Climate & Disaster Risks	Vital defense locations and assets may suffer from damages caused by natural disasters

Group 2	
Political	Civil-Society Engagement (Active participation of NGOs, advocacy groups and other relevant organizations) thru MOA/MOU, lobbying grants/donations Inter-agency engagement (DND, DOST, DTI, TESDA, DBM, DOF, DEPDEV)
Economic	Public-Private Partnership (Leveraging private sector expertise and capital for defense infrastructure and defense projects, co-sharing and efficiency such as joint ventures, build-operate-transfer, concessions agreement, and research consortia)

Group 2	
Social	Media and Information Environment (Responsible media coverage that promotes accurate information for defense matters combatting misinformation and propaganda that can destabilize society)
Technological	Technological Innovation and R&D (Investment in R&D to create advanced technologies; Collaboration with academe, tech firms and international partners)
Legal	Enactment and implementation of the SpeDEZ Act (The Special Defense Economic Zone "SpeDEZ" in Camp General Antonio Luna, Limay, Bataan shall be established for investments in defense, military, law enforcement, and defense-related advanced technologies, information and communications technology, research and development and their support industries)
Environmental	Environmental Intelligence and Surveillance Initiatives (PhilSA; DENR) DENR AO No. 2023-01 (Promote the utilization of satellite, remote sensing, machine learning, AI, and geographic system for policy planning and decision making

Group 1 identified the structural constraints that may hinder the Philippines from achieving a Self-Reliant Defense Posture by 2050, while group 2 highlighted the enabling factors that could support the development of the SDRP.

Politically, policy and governance instability proves as a bad track record for the country which in turn may lead to dependency on importation for high end systems. Economically, the group discusses how we may risk being a consumer as opposed to a producer of defense technologies. Lack of manpower may also pose a risk on a social level, constraining the development of our local research and development (R&D) institutions while technologically, lag could expose network vulnerabilities. Legally, the group discusses rigid procurement processes and how this may slow modernization. Environmentally, they indicate climate change as a threat to defense infrastructure.

Meanwhile, group 2 highlights the strategic opportunities that could support the development of SRDP. The group mentions having various government agencies participate to strengthen policy support and considers public-private partnerships to stimulate economic growth and leverage expertise in the private sector. Socially, they encourage responsible media coverage to combat misinformation, while technologically, the group says that sustained investment in R&D could accelerate innovation in defense capabilities. Legally, the enactment of policies such as the Special Defense Economic Zone (SeDEZ) Act could attract investments, and environmentally, they use environmental

intelligence to strengthen policy planning related to environmental and security challenges.

Following the presentations, Dr. Lallana discussed that to do horizon scanning well, one must spot signals that might grow into trends, such as specific emerging developments, weak signals, and early indicators. The groups mostly listed structural issues and were reminded that horizon scanning must involve a scan of emerging change.

Scenario Planning

The second day of the seminar workshop began with a lecture on Scenario Planning.

Scenario Planning is a method used to enhance strategic decision-making and manage uncertainty. It helps organizations address short-term disruptions, explore long-term developments, and help test the overall robustness of different strategies against multiple possible futures. By using this tool under futures studies, decision-makers can explore multiple possible futures and assess varied combinations of assumptions and events.

Dr. Lallana proceeds to list the uses of scenario planning:

1. Call attention to the larger range of possibilities that must be considered in the analysis of the future.

2. Dramatize and illustrate the possibilities they focus on in a very useful way.

3. Force the analyst to deal with details and dynamics that they might easily avoid treating if they restricted themselves to abstract considerations.

4. Help to illuminate the interaction of psychological, social, economic, cultural, political, and military factors.

5. Forcefully illustrate certain principles, issues, or questions that might be ignored or lost if one insisted on taking examples only from the complex and controversial real world.

6. Consider alternative possible outcomes of certain real past and present events,

7. Used as artificial "case histories" and "historical anecdotes" to make up to some degree for the paucity of actual examples.

Dr. Lallana identified the 11 characteristics of good scenarios:

1. Plausibility
2. Differentiation
3. Internal Inconsistency
4. Relevance and Challenge
5. Focus on Critical Uncertainties
6. Actionable Insights
7. Believable Context
8. Meaningful Decision Points
9. Plausible Choices and Consequences
10. Feedback and Reflections
11. Limited Number of Scenarios

Dr. Lallana then proceeds to give examples of scenarios.

The first one discussed is the US National Intelligence Council Global Trends 2040. The Global Trends assesses key trends and uncertainties that will shape the strategic environment for the United States.[9] The report discussed the following scenarios:

- Renaissance of Democracies. In this scenario, the United States is leading in a resurgence of democracies and at the forefront of leadership in transforming the global economy, raising incomes, and improving the quality of life for millions around the globe; that this is fueled by the rapid technological advancements fostered by public-private partnerships in the United States and other democratic societies.

9 National Intelligence Council, "Scenarios for 2040," in Global Trends 2040: A More Contested World (Office of the Director of National Intelligence, March 2021), https://www.dni.gov/index.php/gt2040-home/scenarios-for-2040.

- A World Adrift. In this scenario, by 2040 the international system is fragmented, chaotic, and volatile as global rules and institutions are largely disregarded by major powers such as China, regional players, and nonstate actors. Countries within the Organization for Economic Cooperation and Development (OECD) countries are plagued by slower economic growth, widening societal divisions, and political paralysis.

- Competitive Coexistence, in this scenario the United States and China prioritize economic growth and peace relations. Competitive Coexistence projects major players, namely the United States and China, to restore their robust trading relationship while letting competition over political influence, governance models, technological dominance, and strategic advantage coexist with this economic interdependence. In this scenario, the risk of major war is low and international cooperation makes global problems manageable, but other longer term climate challenges may remain.

- Separate Silos. It imagines that in 2040 the world is fragmented into multiple economic and security blocs of varying influence and capacity, anchored by powers such as the United States, China, the European Union, Russia, and other regional actors. These blocs prioritize self-reliance, resilience, and defense. Information flows within separate cyber-sovereign enclaves, supply chains are reoriented, and international trade is disrupted. On the other hand, developing countries are vulnerable and caught between competing powers, with some on the cusp of being a failed state. Global problems, notably climate change, are spottily addressed, if at all.

After the lecture, Dr. Lallana instructed the participants to develop their SRDP 2050 scenarios in three categories: Low Tech, High Private; High Tech, Low Private; High Tech, High Private.

The Scenario Planning output developed by the AFP OSSSM participants are presented below.

1. Group 1: Low Tech, High Private

   By 2050, the Philippines may find itself in a condition where private sector participation in defense production is vigorous but technologically shallow. Small and medium enterprises, diaspora-backed start-ups, and local contractors actively contribute to assembly, maintenance, repair,

and overhaul (MRO), alongside incremental innovations in small arms, patrol craft, and unmanned systems. Yet, the overall technological base remains weak, with limited adoption of advanced manufacturing, artificial intelligence, and systems integration.

2. Group 2: High Tech, Low Private

   By 2050, the Philippines will be able to operate its own Unmanned Combat Aerial Vehicles (UCAVs) that are capable of high-speed maneuver precision effects and cooperative tactics, but with limited partnership with countries (with UCAV development capabilities).

3. Group 3: High Tech, High Private

   By 2050, the Philippines will become one of Southeast Asia's leading defense tech hubs, exporting advanced military systems, drones, cybersecurity platforms, and AI-powered surveillance equipment through strategic public-private partnerships.

- Technology Status
  - Local firms develop indigenous UCAVs, naval systems, and AI-based battlefield monitoring tools
  - Smart weapons and autonomous systems are co-developed with local tech startups
  - Local satellites for communications and surveillance
  - Quantum encryption used by AFP for secure transmissions
  - AI-assisted assembly lines, drone swarms, and 3D-printed weapons
  - Integrated real-time data command centers using edge computing
  - Real-time, AI-managed maritime domain awareness using thousands of drones
  - Automated early warning systems linked to community-based apps

- Private Sector Role
  - Defense conglomerates partner with foreign and local R&D centers

- Tech giants like PLDT, Globe, and Ayala form defense subsidiaries to support SRDP
- Partnerships with cybersecurity firms like Kaspersky Asia, local AI labs
- Telecom companies develop secure 6G military-grade networks
- Manufacturing giants in Cavite, Clark, and Cebu build joint ventures with DND
- Local SMEs become part of a domestic defense supply chain

- Outcomes
  - Exporting defense tech to ASEAN
  - High-skilled job creation and STEM research boom
  - Philippines joins global cyber defense coalitions

- Enablers
  - Enactment of relevant laws and national policies
  - Tax incentives for defense R&D
  - Government-backed venture capital
  - Strengthening Affiliated Reserve Unit Program

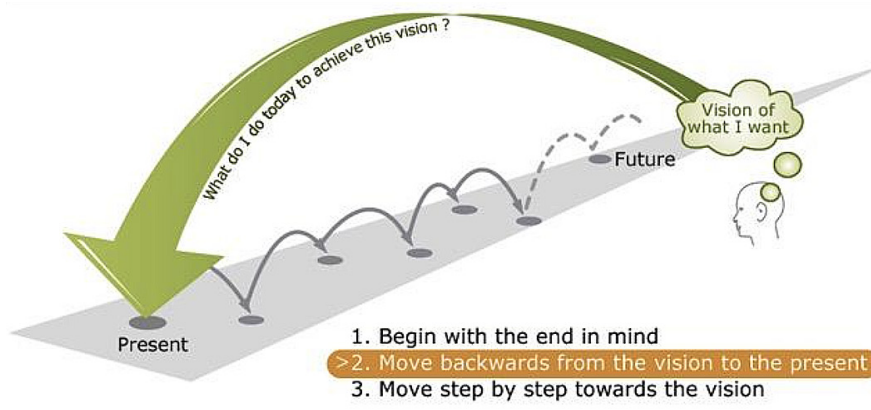
Group 1 presented a Low Tech, High Private 2050, where the Philippines has active private sector involvement, but remains relatively limited technologically. In this scenario, they indicate how local SMEs may contribute to production and maintenance, but may still leave a country lacking a good foundation in defense capabilities. On the other hand, group 2 depicted a high tech, low private scenario by envisioning independent manning of indigenous unmanned combat aerial vehicles all the while having limited participation from the private sector. This group discusses how this creates a relatively narrow defense system due to the dominant state control, limiting economic opportunities. Lastly, the high tech, high private scenario imagined by the third group envisions a strong future for our defense sector, with the Philippines becoming a regional defense technology hub through effective public-private partnership, investment in R&D, and partnerships with local and international firms.

Following the presentations, comments on how to create a good scenario were discussed. Though the presentations followed the structure of scenario planning, suggestions were raised on how this could have been improved by incorporating the underlying drivers of the outcomes mentioned to justify how the scenario came to be. The scenarios merely focused on describing the condition of the defense sector as opposed to having a full, well-fleshed scenario that dictates the driving factors that led to the outcome.

Backcasting

In the afternoon of the second day, Dr. Lallana discusses the third tool for strategic foresight—backcasting. Backcasting is used to design and achieve preferred future outcomes. This begins by imagining a future in which desired goals have already been realized, and then working backwards to identify the actions and milestones required to reach that point. This approach connects long-term objectives with carefully planned measures taken to help achieve those goals.

Backasting serves as a foundation for prioritizing actions and allocating investments as this defines the steps, conditions, and events needed to achieve the organization's goals. Akin to a puzzle, this involves taking individual pieces and arranging them with the intent of achieving one's goal to win.



A variation of this method is participatory backcasting, which focuses on collaboratively developing a shared vision of the future by co-creating the pathways needed to get there. By encouraging stakeholders to shape the

strategies needed to achieve the scenario, there is increased engagement and ownership, enhanced understanding, improved consensus and collaboration, and more robust and effective planning.

The backcasting lecture concluded the second day and the presentations were held the following morning.

The backcasting output developed by the AFP OSSSM participants is presented in the table below.

Group 1				
	Low Tech	**High Tech**	**High Private**	**Low Private**
Political	Legitimacy: SRDP becomes a symbolic pronouncement only (no actions will be taken) but cannot be dismissed to cause Alliances: heavy reliance on allied partners to reduce bargaining power Some local shipyards and SMEs assemble patrol craft, but advanced systems are still imported. Politicians celebrate "Made in the Philippines" projects, but critics point out they are mostly bolt-together kits.	Reforms: promoting/ prioritizing defense modernization Prestige of nation-building narrative (national pride) AFP can field indigenous drones, smart munitions, or coastal defense ships, leaders can show real sovereignty gains, winning both domestic legitimacy and stronger negotiating power in ASEAN	National project: more inclusive; High job generation rate and expanded stakeholders' collaboration for political legitimacy If SMEs co-develop high-tech systems with AFP support, politicians can tie SRDP to visible job creation and exports. Political legitimacy becomes resilient because benefits are broadly distributed.	Bad governance High risk in program failures Criticisms from exclusion If the SRDP relies heavily on GOCCs running factories, politicians may score points, but taxpayers will eventually demand results when costs escalate without visible jobs or exports.

Group 2				
	Low Tech	**High Tech**	**High Private**	**Low Private**
Economic	Offer incentives for skilled defense workers (assembly, repair & maintenance) Expand low-cost local production for uniforms, small arms, vehicles Increase R&D for lower tech items	Attach technology transfer & local assembly clauses to major purchases. Increase foreign investors for high tech defense industry (manufacturing and production) Build investor confidence through transparent bidding Create a small defense hub start generating local jobs	Establish international joint ventures for co-developing advanced tech Accepting grants or donations Increased availability of high skilled jobs in defense industry through PPP Provide high tax incentives	Multi-year budget appropriations Government loans Dependence on foreign aid Multi-year procurement contract
Group 3				
	Low Tech	**High Tech**	**High Private**	**Low Private**
Sustainable	Address legacy system pollution Revisit the use of outdated, pollutive tech (obsolete and pollutive equipment) Regulate emissions or waste standards	Regulate mass production that leads to high carbon emissions Establish R&D to increase accessibility to sustainable raw materials Manage lifecycle of advanced systems	Institutionalize eco-defense policies Strengthen local green supply chains Fund dual-use green tech (e.g. solar-powered systems)	Strict enforcement of green practices for the government Invest in energy-efficient systems Invest in R&D regarding renewable energy resources

		Establish risk management to mitigate overdependence on imported green tech Develop eco-standards for new tech	Train private partners in green defense manufacturing Create incentives for eco-friendly manufacturing entities	

Each of the groups worked on varied dimensions with a low tech, high tech, high private, and low private future. Group 1 focused on the political implications of the Self-Reliant Defense Posture, discussing the strategic constraints and opportunities posed by each category. In the low-tech category, the group discusses that SRDP may become symbolic without real and measurable impact. Locally made products are not up to standards and advanced systems still remain imported. In the high-tech category, the country's leaders gain stronger negotiating powers in ASEAN with the indigenous drones, smart munitions, and coastal defense ships. Low Private on the other hand may be at risk of bad governance and program failures. Moreover, heavy reliance on government-owned corporations could lead to cost overruns. For high private, the group mentions that this may pose economic opportunities by collaborating with SMEs and the private industries to generate jobs. Self-Reliant Defense Posture may also establish political legitimacy due to the visible economic benefits.

Group 2 takes on the economic dimension, examining the strategies needed to support the defense industry. For the low-tech category, the group proposes compensation to work around low technological capabilities, such as incentives for skilled defense workers and expanding R&D for lower tech items. For the high-tech category, they list suggestions for industry development by increasing foreign investment for high-tech defense manufacturing and creating a defense hub to generate local employment. In the high private category, the group suggests establishing joint ventures, being open to grants and donations, and having PPPs expand defense jobs, while the low private category proposes funding mechanisms to sustain the defense industry.

Lastly, Group 3, among other proposals, aims to address pollution from legacy defense systems, regulate emissions and waste standards, increase R&D on sustainable materials, and manage the lifecycle of advanced systems. The group also proposes initiatives to institutionalize eco-defense policies, invest in renewable energy, and fund dual-use green technologies.

The groups provided political, economic, and sustainability recommendations for the defense sector. However, Dr. Lallana noted that they were unable to follow the very structure of backcasting, which should define a clear and preferred future that presents the measures to achieve the said future by working backwards. It should identify milestones and actions needed at each step in time (e.g., the years 2035, 2030, 2025), showing the pathways that link actions towards the desired outcome. The groups showed scenario descriptions as well as a list of recommendations instead of a single preferred future scenario with a timeline working backwards.

The last day of the workshop saw the groups revising and consolidating their outputs in preparation for presenting them to the panelists, namely Colonel Raquel Vichez, Professor Victor Andres "Dindo" Manhit of Statbase Group, and Captain Norman A. Mutia.

Synthesis

The strategic foresight seminar-workshop held at the Armed Forces of the Philippines Office for Strategic Studies and Strategy Management last September 15–17, 2025 represents an important step in institutionalizing futures thinking within the Philippine defense sector. Instead of just lectures, the workshop attempted to connect strategic foresight analysis with the country's goal of achieving the Self-Reliant Defense Posture.

Primarily, the training highlights the need to capacitate our institutions to anticipate the ongoing disruptive changes that could shape the security environment in the years to come.

The horizon scanning exercise served as a starting point to enable planning that is grounded in the current context and structural conditions that have the possibility of shaping the future of the Philippine defense sector. With scenario planning, the envisioned scenarios in the exercise illustrated the futures. Backcasting is an effort to define steps needed to achieve a pre-defined future.

The workshop-seminar encourages a shift toward a more anticipatory and adaptive defense strategy—one that integrates innovation, stronger collaboration with industry and research institutions, and long-term strategic planning to ensure that the Philippine defense sector remains resilient and capable in an increasingly tense security environment.

References

Atlantic Council. 2025. *Global Foresight 2025* Washington, DC: Atlantic Council. https://www.atlanticcouncil.org/wp-content/uploads/2025/06/Global-Foresight-2025-Final-PDF.pdf.

Harari, Yuval Noah. 2018. *21 Lessons for the 21st Century*. New York: Spiegel & Grau.

National Academy of Science and Technology Philippines. 2021. "A Preview – PAGTANAW 2050: The Philippine Science, Technology, and Innovation Foresight." *Transactions* 43 (1) https://transactions.nast.ph/?p=1792.

National Intelligence Council. 2021. "Scenarios for 2040." In *Global Trends 2040: A More Contested World*. Office of the Director of National Intelligence. https://www.dni.gov/index.php/gt2040-home/scenarios-for-2040.

NATO Allied Command Transformation. 2024. *Strategic Foresight Analysis 2023*. Norfolk, VA: NATO Allied Command Transformation. https://www.act.nato.int/wp-content/uploads/2024/05/SFA2023_rev2.pdf.

Republic Act No. 12024. "Self-Reliant Defense Posture Revitalization Act." 8 October 2024, https://elibrary.judiciary.gov.ph/thebookshelf/showdocs/2/97883.

United Nations Department of Economic and Social Affairs. 2020. *Shaping the Trends of Our Time: Report of the UN Economist Network for the UN 75th Anniversary*. New York: United Nations. https://www.unep.org/resources/report/Shaping-Trends-Our-Time-Report.

United Nations Development Programme. 2022. "UNDP RBAP Foresight Playbook." UNDP, 22 July 2022. https://www.undp.org/asia-pacific/publications/undp-rbap-foresight-playbook.

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