COMMENTARY

Foresight or failure: The cost of short-termism in Philippine research and innovation systems

Rey Y. Capangpangan*[1,2], Arnold C. Alguno[1,3], and Rosemarie Cruz-Español[1]

[1]Graduate School of Business, University of the Visayas, Cebu City, 6000, Philippines
[2]Mindanao State University at Naawan, Poblacion, Naawan, 9023, Philippines
[3]Mindanao State University-Iligan Institute of Technology, Iligan City, 9200, Philippines

ABSTRACT

The Philippines faces a critical challenge in aligning research and development (R&D) governance with an increasingly complex and uncertain global environment. Despite gains in research productivity and investment, current systems remain constrained by short-term planning cycles, fragmented agenda-setting, and output-driven performance metrics that limit their capacity to address long-term and systemic challenges. This commentary argues that such structural short-termism undermines innovation outcomes and impact and weakens national resilience, particularly in the context of climate vulnerability and accelerating technological change. Drawing on the concept of anticipatory governance, the paper highlights the need to shift from reactive, project-based approaches toward integrated, portfolio-driven investment systems that are programmatic, strategically coordinated, and impact-oriented. It outlines key governance transformations and proposes policy directions for embedding strategic foresight within national institutions. Strengthening foresight capabilities is presented as a pathway to enhance coordination, improve policy relevance, and improve future-readiness of innovation systems. The paper concludes that the transition from short-termism to anticipatory governance is essential for sustaining the long-term competitiveness and resilience in the Philippines.

The Philippines stands at a critical inflection point in its research and innovation trajectory. Climate risks are intensifying, technological disruptions are accelerating, and geopolitical dynamics continue to shift rapidly. In this context, the demand for responsive and future-oriented research and innovation systems has never been greater. Yet, despite notable gains in research productivity and expanding public investment, the country's research and development (R&D) governance remains largely anchored to short-term planning cycles, fragmented agenda-setting and compliance-driven performance metrics. This structural short-termism risks rendering the Philippine innovation system reactive rather than strategic—responding to crises only after their impacts are felt rather than anticipating and shaping future challenges (Guston, 2014; OECD, 2019).

At the core of this issue is a persistent misalignment between the time horizons of emerging risks and the planning horizons of R&D institutions. Climate change impacts unfold over decades, technological disruptions evolve exponentially, and global value chains shift unpredictably. The Philippines, which is consistently ranked among the most climate-vulnerable countries globally, faces heightened exposure to these long-term risks (Eckstein et al., 2021). In contrast, many R&D programs operate within annual or triennial cycles, often shaped by budget constraints and compliance requirements rather than strategic national priorities (National Economic and Development Authority (NEDA), 2023). This mismatch constrains the ability of research institutions to invest in high-impact, anticipatory research and limits innovation pathways that require sustained, multi-year commitment.

The Architecture of Short-Termism

Short-termism in Philippine R&D governance is not merely a procedural limitation but a structural condition shaped by institutional design, funding logics, and evaluation systems. Within innovation systems theory, these patterns are associated with weak coordination mechanisms and misaligned incentives that constrain long—term knowledge accumulation and systemic impact (Lundvall, 2007). In the Philippine context, these dynamics are further compounded by resource constraints, bureaucratic fragmentation, and the prioritization of near—term deliverables over strategic continuity.

First, research agenda-setting remains predominantly project—centric rather than portfolio-driven, reflecting funding structures

*Corresponding author
Email Address: **rey.capangpangan@msunaawan.edu.ph**
Date received: 16 April 2026
Date revised:
Date accepted: 05 May 2026
DOI: https://doi.org/10.54645/2026191AWH-86

KEYWORDS

Strategic foresight, Short-termism, Futures thinking processing

embedded in national R&D programming. Although the Department of Science and Technology (DOST) has articulated strategic priorities through the Harmonized National R&D Agenda (HNRDA), implementation often translates these priorities into discrete, short-duration projects with limited integration across thematic areas (DOST, 2022). This approach constrains the development of sustained research trajectories and reduces opportunities for cumulative knowledge generation. From a policy perspective, the absence of portfolio-based investment limits the ability of the R&D system to address complex, multi-dimensional challenges. These include issues such as energy transition, food security, and environmental sustainability, which require coordinated and long-term interventions (Kuhlmann & Rip, 2018).

Second, performance evaluation systems continue to emphasize quantifiable outputs—including publication counts, completed projects, and fund utilization—over long-term outcomes such as policy influence, technological adoption, and societal transformation. This reflects a broader global trend in research governance where bibliometric indicators dominate assessment frameworks, often at the expense of societal relevance (Hicks et al., 2015). In the Philippine setting, such output-driven metrics reinforce risk-averse behaviour among researchers and institutions, incentivizing incremental research rather than interdisciplinary and transformative initiatives. Consequently, alignment between research outputs and national development priorities remains weak, limiting the translation of scientific knowledge into socio-economic benefits.

Third, institutional coordination across agencies remains uneven, undermining the coherence of the national innovation system. While overarching frameworks such as the Philippine Development Plan (PDP) 2023–2028 articulate broad priorities for science, technology, and innovation, their operationalization across universities, government agencies, and industry actors is unevenly implemented (National Economic and Development Authority (NEDA), 2023). Innovation systems literature highlights that effective coordination among actors is critical for enhancing knowledge flows, reducing duplication, and maximizing resource efficiency (Lundvall, 2007). However, in the Philippines, institutional silos and limited mechanisms for cross-agency collaboration lead to overlapping initiatives and underutilized synergies, thereby weakening the overall impact of R&D investments.

These interrelated dimensions–project-based funding structures, output-driven evaluation systems, and fragmented institutional arrangements - collectively constitute the core architecture of short-termism in Philippine R&D governance. Their interaction reinforces a self-perpetuating cycle that prioritizes immediate outputs over long-term outcomes and strategic coherence.

Short-term planning structures can contribute to systemic underperformance in innovation, as fragmented research efforts and risk-averse approaches weaken policy translation and industry uptake of research outputs, ultimately reducing national resilience (Figure 1). This causal chain reflects broader governance challenges identified in strategic foresight and innovation policy literature, where short-termism is linked to reduced adaptability and diminished capacity to respond to complex, future-oriented challenges (OECD, 2019). For a country such as the Philippines - characterized by high climate vulnerability and increasing exposure to global technological and economic shifts - the persistence of such governance patterns poses significant risks to long-term competitiveness and sustainable development.

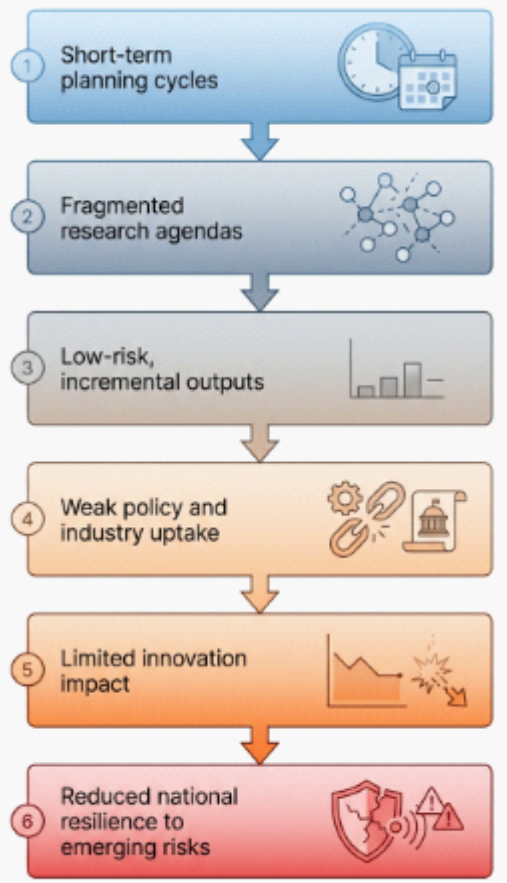

Figure 1: Causal pathways illustrating how short-term planning cycles lead to systemic underperformance in innovation outcomes

Polycrisis and the Limits of Reactive Governance

The limitations of short-termism become particularly evident in the context of a global "polycrisis," characterized by interacting and compounding disruptions across climate, economic, technological, and geopolitical domains (Tooze, 2022). Climate change intensifies disaster risks, which in turn disrupt economic systems and exacerbate social inequalities. Simultaneously, rapid advances in artificial intelligence and digital technologies are reshaping labor markets and redefining global competitiveness.

In such an environment, linear planning models based on historical trends are no longer sufficient. Reactive governance—characterized by delayed responses and ad hoc policy adjustments—cannot keep pace with nonlinear and compounding risks. The COVID-19 pandemic showed that even systems with scientific capacity struggled to anticipate cascading impacts across sectors. For the Philippines, where exposure to climate hazards intersects with development constraints, the cost of delayed response is particularly high (Eckstein et al., 2021). Without anticipatory mechanisms, R&D investments risk becoming misaligned with emerging national needs, undermining both resilience and long-term competitiveness.

Strategic Foresight as Governance Infrastructure

Addressing the structural limitations of short-termism requires a fundamental shift from reactive to anticipatory governance, with strategic foresight embedded as a core function of R&D systems. Anticipatory governance, as conceptualized by Guston (2014), emphasizes the capacity of institutions to systematically explore multiple plausible futures, integrate diverse knowledge inputs, and align decision-making processes with long-term societal goals (Guston, 2014). In parallel, strategic foresight has been advanced as a critical policy tool for managing uncertainty, enabling

governments to move beyond linear planning and toward adaptive, forward-looking governance systems (OECD, 2019).

In the Philippine context, where R&D systems operate within constrained resources, fragmented institutional arrangements, and high exposure to climate and economic shocks, the integration of foresight is necessary to strengthen strategic responsiveness and long-term resilience. The country's vulnerability to climate risks, coupled with its ambition to transition to a knowledge-based, innovation-driven economy, underscores the need for governance approaches that anticipate rather than react to emerging disruptions (Eckstein et al., 2021). Embedding foresight within R&D governance can therefore serve as a strategic mechanism for aligning scientific investments with long-term national development priorities articulated in frameworks such as the Philippine Development Plan and the Harmonized National R&D Agenda.

Integrating foresight into R&D governance entails several key transformations:

1. From Projects to Portfolios

   Traditional project-based funding structures often produce fragmented, short-lived research outputs. Transitioning toward portfolio-based investment enables the strategic bundling of related projects under long-term thematic priorities, fostering coherence, cumulative knowledge generation, and sustained impact. This approach aligns with innovation systems theory, which emphasizes the importance of coordinated and mission-oriented investments in addressing complex societal challenges (Kuhlmann & Rip, 2018).

2. From Outputs to Outcomes and Impact

   Current evaluation systems in Philippine R&D remain heavily oriented toward measurable outputs such as publications and project completion rates. However, global critiques of research assessment frameworks highlight the limitations of output-driven metrics in capturing societal impact (Hicks et al., 2015). A shift toward outcome- and impact-based evaluation—encompassing policy influence, technology adoption, and resilience outcomes—can better align research performance with national development goals.

3. From Fragmentation to Coordination

   Fragmentation across institutions and agencies continues to hinder the effectiveness of the Philippine innovation system. Strengthening cross-agency coordination mechanisms is essential to ensure that research agendas are mutually reinforcing and strategically aligned. National innovation systems literature underscores that effective coordination among actors—government, academia, and industry—is critical for enhancing innovation performance and reducing systemic inefficiencies (Lundvall, 2007).

4. From Prediction to Preparedness

   Strategic foresight shifts the focus from predicting a single future to preparing for multiple plausible scenarios. This approach enhances institutional flexibility and robustness, enabling R&D systems to remain responsive in the face of deep uncertainty. Rather than relying on deterministic forecasts, foresight-informed governance emphasizes adaptive strategies, iterative learning, and resilience-building (OECD, 2019).

A comparison between reactive and anticipatory governance models in R&D systems highlights a transition from short-term, fragmented, and output-driven approaches toward more integrated, forward-looking, and impact-oriented governance structures. This transformation underscores the role of anticipatory governance in strengthening system resilience, improving policy coherence, and enhancing strategic alignment in the face of uncertainty (Guston, 2014). For the Philippines, embedding such approaches within R&D governance frameworks represents a critical step toward future-proofing its innovation system and ensuring that scientific investments contribute meaningfully to sustainable and inclusive development.

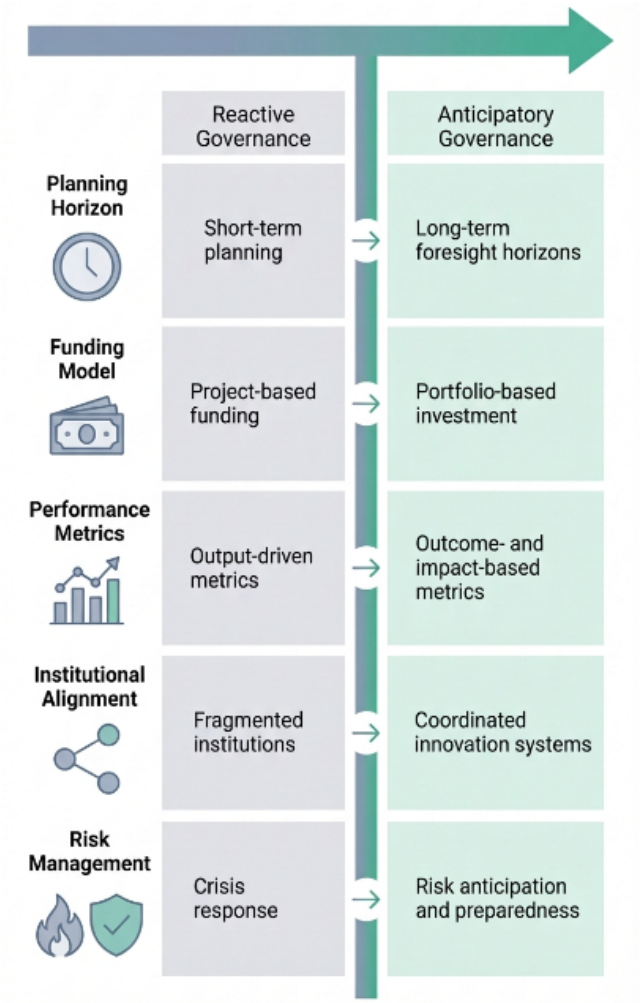

Figure 2: Transition from reactive to anticipatory governance in R&D systems

Policy Imperatives for Embedding Strategic Foresight in Philippine R&D Governance

Embedding strategic foresight within Philippine R&D governance requires moving beyond ad hoc initiatives toward structured, system-wide integration across institutions. Establishing dedicated foresight units within key agencies such as the Department of Science and Technology (DOST) and the Commission on Higher Education (CHED) can provide an institutional anchor for scenario development, horizon scanning, and long-term strategic planning. Such units function as knowledge integrators, linking scientific expertise with policy processes and enabling anticipatory decision-making under uncertainty (Guston, 2014; OECD, 2019).

From a theoretical standpoint, anticipatory governance emphasizes the co-evolution of knowledge, policy, and societal needs through mechanisms that enable early identification of emerging risks and opportunities (Guston, 2014). Similarly, innovation systems theory

underscores the importance of coordination among actors and institutions in shaping innovation outcomes (Lundvall, 2007).

In the Philippine context, where institutional fragmentation and resource constraints persist, embedding foresight capabilities can enhance coherence across agencies and align R&D investments with long-term national priorities articulated in the Philippine Development Plan and the Harmonized National R&D Agenda.

To operationalize this transition, several interrelated policy actions are necessary:

1. ***Establish Foresight Functions Across R&D Institutions***

   Dedicated foresight functions should be developed within national agencies (e.g., DOST, CHED, NEDA) and leading universities to support continuous horizon scanning, scenario development, and strategic intelligence. These units should operate as part of a coordinated national foresight network that facilitates knowledge sharing and joint planning. Evidence from science policy studies indicates that embedding such functions enhances the responsiveness and adaptability of governance systems (Kuhlmann & Rip, 2018).

2. ***Integrate Foresight into National R&D Agenda-Setting***

   Foresight processes must be built into the design and periodic updating of national R&D priorities. This ensures that funding allocations are informed not only by current needs but also by emerging technological, environmental, and socio-economic trends. Integrating foresight into agenda-setting can reduce policy lag and improve alignment between research investments and future national challenges (OECD, 2019).

3. ***Reform Funding Mechanisms Toward Flexibility and Long-Term Orientation***

   Conventional project-based funding structures in the Philippines often limit the continuity and scalability of research initiatives. Introducing flexible funding mechanisms—such as portfolio-based and mission-oriented programs—can support interdisciplinary and long-term research aligned with strategic priorities. Such approaches have been shown to enhance innovation impact by enabling sustained investment in complex problem areas (Kuhlmann & Rip, 2018).

4. ***Strengthen Science – Policy Interfaces***

   Effective anticipatory governance depends on robust mechanisms for translating scientific knowledge into policy action. Strengthening science—policy interfaces through advisory bodies, policy labs, and knowledge brokerage platforms–can facilitate real-time integration of research insights into decision-making processes. This is particularly critical in the Philippines, where the gap between research outputs and policy uptake remains a persistent challenge.

5. ***Develop National Capacity for Foresight Practice***

   Building foresight capability among researchers, policymakers, and institutional leaders is essential for sustaining anticipatory governance. Training programs, collaborative platforms, and integration of foresight methodologies into higher education curricula can enhance institutional readiness. Studies on research evaluation and governance highlight that capacity-building is a key enabler of systemic transformation in innovation systems (Hicks et al., 2015).

These policy actions do not require a complete overhaul of existing institutional structures. Rather, they require a strategic reorientation of governance logic—from compliance-driven processes toward adaptive, forward-looking systems. For the Philippines, embedding foresight into R&D governance represents a pragmatic, scalable pathway to enhance coordination, improve policy relevance, and future-proof the national innovation system in an era of increasing uncertainty.

CONCLUSION: The Cost of Inaction

The choice confronting Philippine R&D governance is not simply between incremental improvement and systemic reform; it is a choice between foresight and failure. Continued reliance on short-term, reactive approaches risks entrenching inefficiencies, constraining the impact of innovation, and leaving the nation increasingly vulnerable to rapidly evolving global challenges.

By contrast, embedding strategic foresight within R&D systems provides a pathway toward more resilient, adaptive, and impactful innovation. It enables institutions to move beyond merely responding to change and instead actively shape future trajectories, aligning scientific capabilities with national development priorities in an increasingly uncertain and complex environment.

In this context, the capacity to anticipate and prepare is no longer optional—it is a strategic imperative. Moving forward, research should focus on identifying and operationalizing institutional mechanisms for integrating foresight into R&D governance, particularly in developing country settings where resource constraints and policy fragmentation continue to pose significant challenges.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

DOST. (2022). *Harmonized National R&D Agenda 2022-2028*.

Eckstein, D., Künzel, V., & Schäfer, L. (2021). *Global Climate Risk Index 2021: Who suffers most from extreme weather events? Weather-related Loss Events in 2019 and 2000-2019*. Germanwatch e.V. Available at: https://www.germanwatch.org/en/19777

Guston, D. H. (2014). Understanding 'anticipatory governance.' *Social Studies of Science*, *44*(2), 218–242. https://doi.org/10.1177/0306312713508669

Hicks, D., Wouters, P., Waltman, L., De Rijcke, S., & Rafols, I. (2015). Bibliometrics: The Leiden Manifesto for research metrics. *Nature*, *520*(7548), 429–431. https://doi.org/10.1038/520429a

Kuhlmann, S., & Rip, A. (2018). Next-Generation Innovation Policy and Grand Challenges. *Science and Public Policy*, *45*(4), 448–454. https://doi.org/10.1093/scipol/scy011

Lundvall, B. (2007). National Innovation Systems—Analytical Concept and Development Tool. *Industry & Innovation*, *14*(1), 95–119. https://doi.org/10.1080/13662710601130863

National Economic and Development Authority (NEDA). (2023). *Philippine Development Plan 2023-2028*.

OECD. (2019). *Strategic Foresight for Better Policies*.OECD Publishing

Tooze, A. (2022). Welcome to the world of the polycrisis. *Financial Times*. Available at: https://www.ft.com/content/498398e7-11b1-494b-9cd3-6d669dc3de33