

A Critical Analysis of Policy Paper 25-7: Towards an Environmental and Climate Impact Assessment (ECIA) System in Contrast with PD 1586 (Philippine Environmental Impact Statement System)

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ABSTRACT

The Philippine Environmental Impact Statement System, established by virtue of Presidential Decree No. 1586 of 1978, has served as the main regulatory framework for environmental impact assessment for over four decades. However, emergent challenges, climate change, biodiversity loss, and degradation of natural capital have rendered the existing framework unsuitable for modern environmental governance. As pointed out in UNEP (2022) and IPCC (2023). Policy Paper 25-7 proposes the Environmental and Climate Impact Assessment Act of 2025, which institutionalizes climate metrics, carbon governance, and ecosystem valuation into the core elements of decision making. This research compares PD 1586 to the proposed ECIA Act of 2025 to test, through critical evaluation, how far the policy modernization has gone. The results show that PD 1586 does not provide for cumulative impact assessment, carbon accounting, and climate-risk screening, while under the ECIA are Carbon Footprint Assessments, Carbon Offset Plans, Strategic Environmental and Climate Assessments, and carbon land governance instruments. Generally, this means that the ECIA represents a huge stride toward a climate-responsive and natural capital-based approach to environmental regulation in the Philippines.

Keywords: *Environmental Impact Assessment; Climate Governance; Carbon Accounting; Natural Capital; ECIA*

INTRODUCTION

Environmental Impact Assessment (EIA) is largely used as a threshold mechanism in both policy development and ecosystem protection. This occurs through the forecast of potential ecological damage and the mitigation strategies recommended in advance of project execution. The tool is internationally recognized as a central part of environmental governance, assisting in facilitating transparency, public accountability, and evidence-based decision-making (Morgan, 2022). In the Philippines, EIA practice has been primarily driven by the EIS System instituted under PD No. 1586 of 1978. Being among the very first frameworks in Southeast Asia, PD 1586 institutionalized formal environmental review procedures when environmental regulation was still in its infancy globally (Rola & Francisco, 2019).

Despite its landmark status, scholars and policy thinkers argue with increasing frequency that PD 1586 is obsolete and cannot address the complex socio-environmental and climate-related concerns of today (Lasco, Pulhin, & Cruz, 2020). To be sure, for example, the decree predates the institutionalization of climate science, international greenhouse gas accounting frameworks, biodiversity valuation, and ecosystem-based development approaches (Climate Change Commission, 2023). In similar regard, the current EIS System has no express requirement to account for climate risks, carbon emissions accounting, determination of cumulative impacts, or natural capital valuation in project assessment processes (Cruz et al., 2021). This deficiency is felt more deeply in the Philippines, as climate-induced disasters, biodiversity losses, and land degradation continue to rise. Paper 25-7 argues that the Philippine EIA system needs to transition into a modern conception of environmental governance,

sustainability economics, and international climate commitments. The study proposes the enactment of the ECIA Act of 2025 as a legislatively crafted reform aimed at rescaling the current EIA system to install climate accountability, natural capital accounting, and adaptive governance measures at its core. Correspondingly, under the framework of the proposed ECIA, Carbon Footprint Assessments, Strategic Environmental and Climate Assessments, and ecosystem valuation instruments would likewise be core environmental review devices. These provisions foreshadow a paradigmatic shift from project-based analyses toward systemic, climate-responsive, and sustainability-framed approaches. For this reason, the article reviews the proposed ECIA Act of 2025 and juxtaposes such a proposal against the regulatory limitations of PD 1586. Such a discussion analyzes structural, methodological, and conceptual differences between the two regimes to determine if the proposal is a valid modernization of environmental governance in the Philippines. The analysis adds to the current policy debates about environmental reform and converges with the larger global trend toward climate-integrated environmental impact assessment systems.

LITERATURE REVIEW

Scholarly writings point out the importance of the early generation of environmental impact assessment systems, including PD 1586, which were project-centered and did not link with climate science, ecosystem values, or the study of the cumulative impacts of projects. Present studies call for climate-responsive approaches to environmental impact assessment which link greenhouse gas accounting, resilience measures, or natural capital values into decision-making.

Evolution of Environmental Impact Assessment Frameworks

Generally, the early generation of EIA systems of which PD 1586 was a part focused on specific localized biophysical impacts of a project, with little thought to cumulative, regional, or long-term impacts (Glasson, Therivel, & Chadwick, 2019). In fact, despite being able to prevent environmental damage at a specific site, such systems have been blamed for their inability to address complex socioenvironmental interactions and climate-related risks (Morgan, 2022).

Contemporary scholarship shows a worldwide movement toward next-generation environmental impact assessment frameworks incorporating strategic assessment, climate resilience, and metrics of sustainability. SEA systems, along with the climate-integrated approaches to EIA, are increasingly applied to address impacts at policy and program levels that reach beyond single projects.

Climate Change and Carbon Accounting in Environmental Governance

The integration of climate change considerations into EIA has come to the fore as a policy priority, especially in the context of the recent Paris Agreement and the adoption of NDCs. Carbon accounting, GHG inventories, and climate-risk vulnerability assessments are considered increasingly important elements of good environmental governance.

In the Philippine context, the absence of compulsory carbon accounting in the EIS System has been recognized as one of the critical governance gaps. Scholarly work has demonstrated that environmental assessments that do not have explicit climate metrics tend to fall short in considering the long-term trajectory of emissions and climate resilience outcomes.

Natural Capital and Ecosystem Valuation

Natural capital accounting provides the crucial tool for attempting to integrate ecosystem services into economic analysis and policy development. International frameworks, most particularly the System of Environmental-Economic Accounting, provide standardized methodologies for valuing ecosystem services and biodiversity. The passage of the Philippine Ecosystem and Natural Capital Accounting

System (PENCAS) Act further promotes policy relevance for ecosystem valuation within national development planning (Republic Act No. 11995, 2024).

MATERIALS & METHODS

The current study uses a qualitative policy analysis and comparative legal research design. It identifies the following as primary policy instruments: PD 1586, its implementing rules and regulations, and Policy Paper 25-7, which has introduced the framework for Ecological Capital, Infrastructure, and Institutional Arrangement (ECIA). These are evaluated against the standards of international environmental assessment practices, embracing such guidelines as UNEP guidance and OECD policy frameworks.

These will involve secondary data sources such as peer-reviewed journal articles, institutional reports, and multilateral policy documents related to climate governance, EIA reform, and natural capital accounting. The analysis will focus on the structural differences, governance mechanisms, and accountability provisions of PD 1586 and the proposed ECIA system.

RESULTS AND DISCUSSION

Limitations of PD 1586

Since 1978, PD 1586 provided the basis for the Philippine Environmental Impact Statement System, which has always been the foundational document for the country's environmental impact assessment. While considered progressive during the time of its creation, broad scholarly and policy reviews have shown that, through time, conceptually and institutionally, the decree has strayed from the demands generated by contemporary environmental imperatives such as climate change, ecosystem resilience, and sustainable development (Rola & Francisco, 2019; Contreras, 2025).

At its core, the policy orientation of PD 1586 is historically bounded. This decree reflects an environmental governance paradigm more characteristic of the 1970s, centering around pollution abatement, site-specific ecological impacts, and post-hoc mitigation measures rather than preventive, adaptive, and systems-based environmental management (Morgan, 2022). By definition, EIA under PD 1586 is predominantly project-centric, focused on discrete developments and not exactly meant to address the cumulative, synergistic, and transboundary effects of several projects operating in the same ecological and socioeconomic landscape. Moreover, there is no specific indication in PD 1586 that climate change considerations are to be built into the EIA process. Climate risk assessment, accounting for greenhouse gases, and climate adaptation planning are not embedded as demanded analytical components of the EIS System, despite the very high vulnerability of the Philippines to climate-induced hazards of sea-level rise, extreme weather events, and ecosystem degradation (Rola & Francisco, 2019). This will necessarily limit the capability of the EIS System to act as an active instrument of climate governance and reduce its relevance in those periods in which environmental decision-making ought to be foresighted and oriented toward resilience.

The second structural deficiency is a lack of explicit provisions for natural capital and ecosystem service valuation. In contrast, modern environmental governance strives to present the economic, social, and ecological values of ecosystems in development plans (Morgan, 2022). PD 1586 focuses mainly on how to describe biophysical impacts and undertake compliance-based mitigation but does not show how to evaluate environmental trade-offs in terms of long-term sustainability goals.

Moreover, the decree is criticized for being crafted to be unamendable. Guidelines and administrative issuances may promote best EIA practices to a degree, but they do not amount to an overall updating

of the law. Therefore, these instruments produce fragmentary regulations and result in unequal application of the statute (Contreras, 2025). Using lower-level regulations to correct an outdated law erodes legal certainty and undermines policy coherence across sectors, particularly with regard to land-use planning, disaster risk reduction, and climate action. The implications of all these limitations taken together are that, although PD 1586 remains legally in effect, its continued primacy as the main environmental assessment statute poses significant challenges to effective environmental governance. If not substantively reformed, this decree risks acting like a procedural compliance mechanism rather than a strategic instrument for sustainable and climate-responsive development.

Outdated and project-based scope

The Presidential Decree No. 1586 institutionalized an individually project-centered and biophysically oriented environmental impact assessment framework. The decree necessitates the appraisal of environmental impacts at the project scale and, thus, focuses on localized, site-specific concerns related to land conversion, emissions of pollutants, and direct ecological disruption (Presidential Decree No. 1586, 1978). While this orientation responded to priorities in environmental management relevant at the time of enactment, the philosophy underlying such orientation has increasingly been demonstrated as inadequate to capture the complexity and magnitude of many contemporary environmental challenges.

A key limitation of the project-based focus is that it cannot capture broader sustainability concerns which often operate at levels well beyond individual projects. Contemporary development impacts often appear as nodes of infrastructure, industrial, and urban developments whose cumulative impacts transcend the landscape or watershed and administrative levels. However, PD 1586 has limited systems for analyzing cumulative impacts, transboundary ecological impacts, and long-term socio-ecological changes that result from multiple and often interacting developments in the region (Glasson, Therivel, & Chadwick, 2019). This precludes the EIA system from foreseeing systemic environmental damages such as watershed overload, habitat fragmentation, and regional loss of biodiversity.

Contreras, 2025, describes this narrow scope as generating “regulatory blind spots,” especially in the context of ecologically connected systems where environmental impacts are non-reducible at the project scale. Watershed-scale impacts include hydrological processes and land-use changes that cross political and project boundaries, yet PD 1586 does not require an integrated basin-wide assessment. In the same way, the cumulative effects of piecemeal land development yield the regional effects of ecosystem fragmentation and climate vulnerability-impacts which remain largely invisible under a strictly project-based EIA.

PD 1586 set up a framework that constrains the scope of EIA within higher-order policy, plan, or program decisions. Environmental considerations are integrated into the principal policy, plan, or program decisions in such a way that much of the EIA process becomes a downstream activity for compliance rather than a strategic planning mechanism. Such sequencing substantially weakens the preventive and anticipatory function of environmental assessment because alternatives that are significantly environmentally superior may no longer be feasible at the project level when review occurs later on (Morgan, 2022).

In contrast, international best practice regards Strategic Environmental Assessment (SEA) as a complement to project-level EIA. SEA focuses on policies, plans, and programs; thus, it can help governments analyze cumulative, indirect, and long-term impacts and integrate environmental considerations at the outset of decision-making (Glasson et al., 2019; Morgan, 2022). The fact that PD 1586 does not have a formal mandate for SEA provides very limited scope and gives further substance to the observation that project-level EIA is insufficient to cope with the emerging trajectory of environmental governance under rapid environmental change and multi-tier development. Overall, the

continued application under PD 1586 of a narrowly defined, project-based assessment framework constrains the Philippine Environmental Impact Assessment System's capacity to address regional sustainability challenges. Without any institutional mechanism for assessing landscape-scale, cumulative, and strategic impacts, environmental assessment risk perpetuating fragmented decision-making and reactive environmental management, which is contrary to contemporary principles of sustainable development and integrated governance.

Absence of climate and carbon accounting

Among the limitations that were identified in Policy Paper 25-7 is the fact that there is no clearly specified climate-related mandate within the EIA process, as required by PD 1586. Specifically, the decree did not particularly contain provisions on greenhouse gas inventories, computation of carbon sequestration loss, and climate-risk vulnerability assessments. This neglect of these basic needs constitutes a formidable cause for concern on the part of the Philippines, an extremely vulnerable country to climate-induced hazards such as tropical cyclones, sea-level rise, and precipitation extremes (Climate Change Commission, 2023). The Philippines, being situated in the tropics and bounded by the tropical cyclone belt and the Pacific Ring of Fire, holds great risks to infrastructure and ecosystems, aside from socio-economic stability, due to its climate and natural disasters. This is according to the United Nations Economic and Social Commission for Asia and the Pacific (2025). Governance instruments related to carbon emissions and risks thus remain an important feature of any comprehensive environmental assessment process leading toward long-term sustainability.

Specifically, the EIA process under PD 1586 does not require the inclusion of GHG inventories or assessments of climate risk in project evaluation. In general, its framework deals with traditional environmental parameters: air, water, soil, biodiversity, and noise. In contrast, various international instruments include climate concerns in EIAs. For instance, EU directives identify climate-related factors among the aspects that should be considered as constituting the environment; this seems to showcase a trend for including climate impacts within the legal framework abroad (European Commission, n.d.; Mayembe et al., 2023). Without a statutory requirement for carbon accounting and climate vulnerability assessment, EIAs under PD 1586 may fail to capture the full environmental trade-offs that the proposed developments pose, especially as far as climate impacts of a cumulative or long-term nature are concerned.

This is evident from the increasing application of climate metrics in the evaluation process through EIA procedures in various parts of the world. Specifically, EU's EIA Directive necessitates the consideration of a myriad of climate factors by Member States while assessing impacts on greenhouse gas emissions and adoption of mitigation strategies related to climate change. Canadian federal impact assessments under the Impact Assessment Act include climate change impacts within environmental assessments as part of a broader integration into decision-making. New Zealand's environmental regulatory framework emphasizes an increasing focus on climate considerations in planning and reporting, with respect to both climate risk and emissions profiling. Academic reviews highlight a growing global trend toward embedding considerations of climate change within EIA systems; however, significant variation in implementation continues between jurisdictions and the area continues to evolve.

The Philippines currently carries out national GHG inventories through the Philippine Greenhouse Gas Inventory Management and Reporting System, which is coordinated by the Climate Change Commission and mandated by Executive Order No. 174. This system institutionalizes the preparation and monitoring of emissions and removals (Climate Change Commission, n.d.; UNFCCC, 2025). However, these parallel inventories to the EIA regulatory process under PD 1586 mean a missed opportunity to streamline mitigation and adaptation targets at both policy and project levels. Since the

Philippines has already submitted national GHG inventories to the UNFCCC, for which it is committed under the Paris Agreement, the absence of effective carbon governance mechanisms within PD 1586 installs a misfit with international sustainability standards and weakens the integration of national climate targets within sectoral regulatory mechanisms (UNFCCC, 2025). The absence of explicit climate-related mandates in the framework for EIA makes the Philippines at risk for overlooking critical vulnerabilities and emissions pathways at the project level. This acts as a barrier to achieving national climate commitments of GHG emission reductions and increased resilience at the heart of the Philippines' Nationally Determined Contribution. PD 1586 should be strengthened in terms of carbon accounting and climate risk requirements to ensure that national practices comply with international standards, enhance scientific rigor, and bring about policy coherence in environmental decision-making toward the twin goals of sustainable development and climate resilience.

Weak enforcement and outdated penalties

One persistent constraint to the successful operation of PD 1586 is the inadequacy of the enforcement structure, wherein the specified penalties for violations are outdated. All the aforementioned inadequacies undermine the legitimacy and effectiveness of the Philippines Environmental Impact Statement System. While PD 1586 does provide procedures related to environmental compliance, very few statutory guidelines have been afforded on effective enforcement mechanisms, with considerable reliance on administrative discretion and post-approval monitoring procedures that cannot keep up with prevailing standards of regulation.

One of the major challenges to enforcement stems from the self-reporting nature of the EIS System. Indeed, the compliance monitoring relies on periodic submissions, such as the Compliance Monitoring Reports and Environmental Monitoring Reports, which are predominantly manual, document-based, and episodic. Contreras (2025) observes that an approach of this kind constrains the regulator from independently verifying environmental performance; information asymmetries are therefore created, weakening regulatory oversight. International best practices rely increasingly on automated, MRV systems enabled through digital platforms, remote sensing, and real-time environmental monitoring that enhance the level of transparency and the reliability of enforcement.

The penalty in PD 1586 cannot be improved in terms of enhancing deterrent value. Sanctions for non-compliance often remain relatively modest and seldom scaled appropriately to the extent of environmental damages or the financial capacity of project proponents. As Rola and Rocamora (2022) aver, such penalties are often internalized as operational costs and hardly work as a deterrent to actual violations of environmental laws. Due to this, the reasons to comply with regulations become weak, especially in large-scale infrastructure, mining, and industrial projects with extensive financial resources.

Besides, institutional and structural constraints further strengthen the weaknesses in enforcement. Under PD 1586, there is considerable fragmentation of environmental regulation, as evidenced by overlapping mandates among national agencies, LGUs, and sectoral regulators. Cruz et al. (2021) argue that the limited technical capacity, shortage of personnel, and disparity in regional law enforcement capability are some of the significant causes that impede regulatory agencies from periodically inspecting, auditing, or acting upon non-compliances. Most of these deficiencies occur in the post-development phases, where it is observed that monitoring usually becomes reduced after project approval and attainment of major construction milestones.

The general lack of systematic post-project environmental auditing and independent compliance verification further reduces accountability across the operational life of a project. These enforcement actions are largely reactive—that is, driven by complaints or major environmental events—rather than proactive and risk-based. As a result, such dynamics create a reactive culture of enforcement that

erodes public confidence in the EIS and reinforces perceptions that environmental compliance tends to be an exercise in procedure more than substance. Taken together, inadequate mechanisms for enforcement, outdated penalties, and institutional capacity gaps significantly reduce the effectiveness of PD 1586 as a driver of environmental governance. This is how the EIS can stay in a state of low compliance equilibrium, where environmental violations are subjected to merely nominal sanctions in the absence of stronger statutory provisions for enforcement, elements of modern penalty systems, and integration of digital MRV systems within its framework. Responding to these shortcomings is at the core of environmental impact assessment performance not only as a permitting tool but also as a strong regulatory mechanism for protection and sustainable development.

No natural capital valuation

Absence of valuation within the EIA framework represents a key structural failing in PD 1586. Adequate valuation of natural capital as conventionally realized through accounting for ecosystem services such as water regulation, biodiversity maintenance, soil fertility, and carbon sequestration has become a core preoccupation of both current environmental economics and sustainable development planning. PD 1586, however, remains steeped in a biophysical impact assessment paradigm based on qualitative descriptions and mitigation measures without mandating any quantification of ecosystem service losses or gains in economic terms or at least in decision-relevant terms.

This absence creates a significant disjunction between environmental permitting under the EIS System and the advanced economic valuation paradigms embraced in national and international policy. In the absence of natural capital valuation, environmental impacts are more apt to be perceived as externalities rather than as natural capital assets contributing to sustained economic productivity and human well-being in the long term. As a result, decision-makers are deprived of a robust foundation for balancing development gains against environmental costs; this may lead to approvals that seem economically efficient in the short but longer-term are environmentally and fiscally unsustainable (Dasgupta, 2021).

Recent legislative developments in the Philippines further put into question the sufficiency of PD 1586. The PENCAS Act, Republic Act No. 11995, 2024, institutionalizes the integration of ecosystem valuation into national planning, budgeting, and policy formulation. It calls for government agencies to include accounting for ecosystem services in decision-making within development endeavors, ushering in a paradigm shift wherein nature is considered an economic asset, not a bottomless resource. Yet, despite such progress, PD 1586 functions in a manner that is independent of the PENCAS framework and does not have explicit mechanisms that would align EIA findings with ecosystem accounts or natural capital indicators.

This policy fragmentation is a constraint on the capability of environmental assessment to add value to strategic economic and development decisions. Typically, ecological impacts are assessed under PD 1586 in isolation from broader economic systems. This leaves out critical information on how project-induced ecosystem degradation may affect water security, disaster risk, agricultural productivity, and climate resilience. In effect, the EIA process under PD 1586 does not fully support evidence-based trade-off analyses necessary for sustainable development governance. Besides, the lack of natural capital valuation undermines accountability and transparency in environmental decision-making.

Moreover, failure to value natural capital leads to a lack of accountability and transparency in environmental decision-making. The absence of quantification and monetization of ecosystem services allows environmental losses to be easily discounted or minimized during approval processes, especially for large-scale infrastructure and extractive ventures. This dynamic reinforces a regulatory inclination toward development approvals, even within ecologically sensitive areas, and limits the government's capacity to justify environmental safeguards in economic terms (Dasgupta, 2021).

The ECIA Act Proposal in Policy Paper 25-7

The ECIA proposal outlined in Policy Paper 25-7 represents a comprehensive reform of the Philippine environmental regulatory government. In contrast to the project-based, episodic operation typical of the EIS System under PD 1586, the proposed ECIA introduces a systems-oriented framework that clearly embeds climate considerations within governance structures. Thus, this regime is more in step with recent developments in sustainability science and with international trends in climate regulation (Morgan, 2022; United Nations Environment Programme [UNEP], 2023). This framework transforms environmental regulation from its current compliance-centric, post-event responsive paradigm toward proactive climate adaptation and accountability for natural capital stewardship. Contreras (2025) identifies five pillars of reform that, taken together, establish a framework for climate governance through the integration of climate concerns, revised institutional arrangements, carbon governance mechanisms, strategic evaluation, and enhanced enforcement.

Climate integration and carbon accountability

A core element of the proposed ECIA Act is the requirement for project proponents to perform carbon footprint assessments and to submit plans of progress with their applications for approval as part of the permitting process. Contreras (2025) says this reform operationalizes carbon accountability, including quantification of emissions and defining verifiable pathways towards carbon neutrality or sequestration-based compensation. Various climate-inclusive environmental assessment frameworks have been adopted internationally, including those in the European Union under Regulation (EU) and Canada's Impact Assessment Act of 2019, reflecting evolving global norms for climate governance in development planning (Morgan, 2022; Government of Canada, 2020). The introduction of carbon metrics into regulatory planning signals a move from traditional environmental assessments to climate-centered frameworks of evaluation underpinned by the science of mitigation and adaptation.

Creation of the Environmental and Climate Assessment Authority (ECAA)

Policy Paper 25-7 recommended creating a separate and independent regulatory agency, the ECAA, responsible for assuming all key responsibilities currently fragmented within the Environmental Management Bureau. These include serving as the site of formal review and approval for Environmental Compliance and Impact Assessments; keeping the national carbon registry; and providing integrated monitoring, reporting, and verification systems for both greenhouse gas emission sources and carbon sequestration activities (Contreras, 2025). This clearly means that institutional capacity beyond what the traditional environmental permit procedure established under PD No. 1586 presumes is already needed due to the increasingly technical, data-intensive, and cross-sectoral nature of such functions.

The proposed ECAA is in line with developed international practice in the area of environmental and climate governance, where regulatory efficiency is enhanced through autonomous, specialized entities. International comparative experience, such as Germany and South Korea, suggests that an independent climate authority will tend to have a well-defined legal mandate, technical autonomy, and protection against unjustified political interference, increasing its effectiveness in providing policy coherence, regulatory predictability, and transparency within climate governance. According to UNEP (2023), these authorities have the capacity to harmonize accounting methodologies of emissions reporting, supervise sector-specific emissions standards, and align national climate action with internationally accepted reporting requirements grounded in initiatives such as the Paris Agreement.

The proposed institutional reform directly relates to criticisms of the fragmented governance structure under PD 1586 through Policy Paper 25-7. It has been noted in scholarly analyses that distributing environmental regulatory functions across multiple agencies under PD 1586 yields overlapping mandates, weak enforcement, and limited accountability mechanisms that undermine the effectiveness

of environmental impact assessment as a regulatory instrument. For its part, the ECAA model consolidates climate-related regulatory functions under a single, technically competent authority to enhance institutional accountability and coherence, improve data integrity, and strengthen the state's capacity for coherence and transparency in dealing with climate risks.

Carbon land governance innovations

Among the main institutional innovations proposed under the framework of ECIA are carbon governance instruments: Carbon Landscape Thresholds (CLTs), Local Carbon Exchange Platforms (LCEPs), and Carbon Offset Units (COUs). These instruments taken together represent an emergent trajectory in the integration of market mechanism territorial climate governance, in which mitigation targets are combined with locally oriented environmental management systems (Contreras, 2025). By incorporating economic valuation and regulatory functions into ecological planning procedures, these instruments enact climate action beyond mere compliance-based regulation into a performance-based mode of environmental governance. CLTs are tailored to map and protect those ecologically critical landscapes that offer key carbon sequestration functions, such as forests, wetlands, and coastal ecosystems. Anchoring formal recognition in biophysical thresholds and ecosystem-carrying capacities, the CLT provides a science-based method of restricting land-use change in those areas most crucial to the maintenance of national carbon sinks. Running parallel to these works is the LCEP, which is a framework that allows subnational governments and local stakeholders to be involved with the various spatially explicit and context-sensitive carbon trading arrangements. These mechanisms allow the local government units and their respective communities to create, trade, or store verified carbon units, thereby stimulating more local climate action while contributing to national-level emission reduction targets.

Complementary to these, COUs are standardized instruments for quantifying, verifying, and trading emission reductions and removals. Independent third-party verification and full transparency of accounting rules enhance the credibility and environmental integrity of carbon markets. Similar institutional arrangements are noticeable in several international climate governance frameworks, such as under the United Nations mechanism of REDD+, which incorporates performance-based payments within forest carbon accounting and safeguards systems (FAO 2022). Similar models are evident even in the voluntary carbon markets of countries like New Zealand and Costa Rica, where carbon units are embedded in a national regulatory architecture supported by robust MRV systems. Taken together, these instruments represent a fundamental transition to internalize ecological value into regulatory decision-making. Incorporating principles of ecological economics like natural capital valuation, accounting for ecosystem services, and incentive-based regulations into environmental governance, the proposed framework of ECIA advances climate mitigation to be more integrative and resilient. This institutional design enhances not only regulatory coherence but also strengthens the credibility and transparency of national climate action and the ability to scale it up.

Strategic Environmental and Climate Assessment (SECA)

Strategic Environmental and Climate Assessment will represent a fundamental reorientation of environmental governance, shifting from the traditional project-level focus of environmental impact assessment to a more integrated upstream evaluation of policies, plans, and programs. Unlike conventional project-based assessments under Presidential Decree No. 1586, which usually review proposed environmental impacts after strategic decisions have been made, SECA allows the systematic integration of environmental and climate concerns at the earliest possible stages of decision-making (Contreras, 2025). This paradigm shift faces critiques head-on that have long argued project-level assessments are bound by their very nature to be inadequately positioned to consider cumulative,

synergistic, and long-term environmental impacts, particularly those emanating from sector-wide development trajectories and spatial planning decisions (Glasson, Therivel, & Chadwick, 2019).

The absence of the formal strategic assessment mechanism under PD 1586 has caused the fragmentation of environmental oversight, with project approvals oftentimes being done without adequate consideration of their overall cumulative and cascading effects on ecosystems, resource systems, and climate resilience. In this vein, Cruz et al. (2021) note that SECA incorporates climate risk screening, cumulative impact analysis, and sustainability appraisal into the policy formulation process. This promotes better anticipatory governance and allows decision-makers to evaluate various alternative development pathways before a point of irreversible commitment is reached.

At the international level, SECA stands in harmony with established policy instruments like the SEA Directive of the European Union (Directive 2001/42/EC), legally requiring that environmental and climate considerations be integrated into plans and programs in sectors like energy, transport, land-use planning, and water management. The EU experience illustrates that strategic-level assessments enhance policy coherence and tighten inter-agency coordination while lessening potential conflicts and delays at the project level downstream (European Commission, 2020). By anchoring the SECA within the ECIA framework, the proposed reforms ensure the alignment of domestic environmental governance with established best practices and enhance the potential of a state to guide development to take low-carbon, climate-resilient, and sustainable paths.

Modernized penalties and MRV systems

One of the core components of the proposed ECIA framework is modernizing sanctions, in performance with MRV systems. In response to chronic enforcement gaps in the existing regulatory management, the proposed ECIA introduces novel administrative fines, carbon-based penalty structures, and outright criminal liability for offenses such as document falsification, environmental data misrepresentation, and manipulation of carbon accounting records (Contreras, 2025). The improved sanctions are proposed to properly reflect the actual environmental and social cost of non-compliance and go beyond the mere nominal fines that have always failed to act as a deterrent to environmentally damaging activities. The state-of-the-art digital MRV systems mandated by ECIA seek to deploy satellite-based remote sensing, integrate such technology with automated emissions monitoring technologies, and use blockchain-enabled data management platforms. These are expected to facilitate near real-time, tamper-proof tracking of emissions, mitigation measures, and compliance obligations of regulated entities. While there may be some discretionary scope in reporting in MRV digital systems, correspondingly, the scope for data manipulation remains systematically restricted, substantially improving the credibility and effectiveness of the enforcement mechanisms. According to empirical evidence from large-scale environmental governance reforms embarked on around the world, it would appear that digital monitoring frameworks facilitate high levels of transparency while reducing corruption risks and reinforcing institutional accountability, especially in contexts where there has traditionally been a weakness in regulatory enforcement capacities (World Bank, 2022).

The following reforms had been proposed in response to a number of critiques of the Philippine EIS System under Presidential Decree No. 1586, including its reliance on self-reported information, paper-based documentation with limited post-approval verification, among other concerns (Rola & Francisco, 2019). In light of the above, the inclusion of automated verification, data interoperability, and real-time compliance oversight in the proposed regulatory framework moves environmental governance closer to the best international practices in climate accountability and digital regulation.

Comparative Analysis: PD 1586 vs. ECIA

A comparative analysis of PD 1586 vis-à-vis the proposed framework for ECIA discloses a significant turn in the implementation of environmental policy in the Philippines. The PD 1586, enacted in 1978,

introduced the Environmental Impact Statement (EIS) System, which is an environmental assessment procedure that primarily evaluates the site-specific environmental impacts of a single development project. Although innovative for its time, the system nonetheless carries all the hallmarks of early environmental assessment models, including a narrow project-centered scope, limited public participation, and no integrated consideration of climate, ecosystems, and cumulative impacts (Glasson, Therivel, & Chadwick, 2019). As a result, environmental decision-making in the Philippines under PD 1586 has often become reactive, fragmented, and inadequate to handle the inherent complexity of cross-sectoral sustainability challenges.

By contrast, the ECIA framework described in Policy Paper 25-7 constitutes a major step forward in the direction of a systems-based, climate-responsive mode of governance. In the longer term, the elaboration of the ECIA analysis has shifted focus, step by step, away from discrete projects and toward policy, planning, and programs, encompassing the wide range of possibly significant cumulative effects, long-term environmental risks, and intergenerational fairness. This framework explicitly incorporates climate risk assessment and carbon accounting-including ecosystem valuation-within regulatory decision-making and aligns national environmental governance with contemporary international norms regarding sustainable development and climate accountability (Contreras 2025).

Transition also mirrors the larger trend in global environmental governance for states to increasingly replace compliance-centered regulation with more ecological sustainability systems of resilience, transparency, and adaptive management. Comparing different modalities of environmental governance suggests that recent approaches increasingly use assessment, threshold standards based on science, and institutional coherence to better manage complex socio-ecological systems. Guided by these various principles within the ECIA, the Philippines has also pursued strategic modernization of its national environmental regulatory framework to achieve increased coherence in multisector policy development and to address diverse challenges arising from climate change and environmental degradation.

Dimension	PD 1586	ECIA Act (Policy Paper 25-7)
a. Climate Integration	None	Mandatory CFA, COP, MRV
b. Natural Capital	Not included	PENCAS-integrated
c. Scope	Project-based	Projects + policies + plans (SECA)
d. Institutional Body	EMB	ECAA
e. Carbon Governance	None	COUs, CLTs, LCEPs
f. Enforcement	Weak	High penalties, MRV
g. Transparency	Limited	Digital registries, public access

a. Climate Integration

Another important limitation is that Presidential Decree No. 1586 (1978) predates climate change as a global policy issue and thus has no provisions for GHG inventories, vulnerability assessments, or carbon offsetting. In contrast, the ECIA introduces binding climate accountability mechanisms into Philippine practice, notably CFA, COP, and MRV systems, through which it also aligns Philippine practice with international climate governance frameworks like the Paris Agreement and the EU Climate Law.

b. Natural Capital Integration

PD 1586 does not incorporate economic valuation of ecosystems or biodiversity-a feature now widely recognized as important in sustainability-oriented impact assessments (Dasgupta, 2021). In contrast, the ECIA will incorporate natural capital accounting in line with the Philippine Ecosystem and Natural Capital Accounting System Act (RA 11995, 2024) to link environmental regulation with national economic planning frameworks.

c. Scope of Assessment

The current EIA system has discrete projects assessed while their larger-scale regional or policy-level environmental impacts are not taken into account, resulting in regulatory fragmentation and disregard of cumulative impacts. As Cruz et al. (2021) have shown, the ECIA overcomes this shortcoming by providing SECA, which covers the protection of public programs, policies, and land-use plans. This is actually in line with the EU Strategic Environmental Assessment Directive, under Directive 2001/42/EC, whereby environmental and climate concerns are considered at the systems-planning level, as Glasson et al. (2019) have discussed.

d. Institutional and Governance Structure

The EMB, through Presidential Decree 1586, implements permitting and compliance activities. Some criticisms of this setup are capacity constraints, unclear mandates, and limited accessibility to technical capacity for climate science (Rola & Rocamora, 2022). As recommended in Policy Paper 25-7, there should be the creation of the Environmental and Climate Assessment Authority or ECAA, a specialized agency invested with regulatory powers over climate modeling, carbon inventories, a digital MRV system, and compliance auditing.

e. Carbon Governance Mechanisms

PD 1586 does not contain any provisions related to carbon valuation, sequestration governance, and offsets. To note, the ECIA introduces several novelties in the form of Carbon Offset Units (COUs), Carbon Land Trusts (CLTs), and the Local Carbon Exchange Platforms (LCEPs). These are modeled upon the REDD+ carbon-finance mechanisms and voluntary carbon markets (FAO, 2022). These instruments link climate governance to environmental compliance and provide economic incentives for low-carbon development.

f. Enforcement and Compliance

The enforcement structure of PD 1586 has been described as weak, containing outdated penalties, manual reporting requirements, and very limited capacity for post-approval monitoring. In contrast, the ECIA consolidates enforcement modernization based on higher penalties, climate-related sanctions, and automated monitoring, using digital MRV platforms and national carbon registries for support.

g. Transparency and Public Accountability

The continued opacity of PD 1586 may be linked to continued reliance on paper-based documentation, limited public access, and non-disclosure practices. In contrast, the ECIA brings digital environmental registries, open carbon data sources, and open governance tools that are, therefore, more in line with open-data standards under environmental rule-of-law systems.

This comparative analysis suggests that the ECIA denotes something more than a procedural reform; it represents structural changes in environmental governance. Specifically, the regulatory paradigm shifts from pollution-control-focused environmental mitigation toward climate-responsive, natural-capital-anchored, and digitally governed sustainability regulation.

Implications for Environmental Governance

The proposed ECIA framework represents a paradigm shift in public environmental administration, tying environmental regulation with climate governance and natural capital valuation, along with carbon accountability. The subsequent implications depict how the ECIA reconstitutes systems of environmental planning, regulation, and compliance.

Transition to climate-responsive development

Including carbon accounting, climate metrics, and the assessment of climate-related risks into development consent procedures reshapes environmental regulation from a paradigm of pollution mitigation to one of climate governance. In the proposed framework for ECIA, developers would be obliged to undertake Carbon Footprint Assessments (CFA) and provide Carbon Offset Plans (COP), making contributions that are traceable and enforceable towards national climate goals (Contreras, 2025). This is consistent with international trends where EIA systems currently are being redesigned to incorporate climate mitigation and adaptation criteria (Glasson et al., 2020; OECD, 2023).

The ECIA embeds GHG accounting and offset strategies into permitting processes, placing the regulatory frameworks as active tools for the delivery of the Paris Agreement and national climate pledges; therefore, it fully expresses the notion of "regulatory climate mainstreaming" identified by Sovacool and Scarpaci (2021).

Strengthened local governance

Under the ECIA, LGUs assume more substantive strategic and operational roles through instruments such as CLTs, LCEPs, and carbon zoning, which solidify climate stewardship and territorial carbon management at the local level. Decentralized governance has been associated with better compliance, higher ability, and greater legitimacy in terms of environmental policy (Agrawal & Ribot, 2019). Thus, the ECIA also promotes a shift from the centralized compliance model. A model from which PD 1586 is representative to a multi-scalar governance ecosystem wherein national standards interact with local implementation and community-based monitoring.

Integration with natural capital accounting

The alignment of the ECIA with the Philippine Ecological and Natural Capital Accounting System (PENCAS) marks a major conceptual evolution in environmental assessment. Instead of assessing impacts solely in terms of physical environmental compliance, development authorizations under the ECIA would incorporate valuation of ecosystem services, biodiversity, and climate regulation functions. In particular, this approach is congruent with the UN-SEEA framework, which calls for monetization and formal recognition of natural ecosystem benefits as part of public decision-making processes (United Nations, 2021).

Incorporation of natural capital benefits evolving ecological economics knowledge, which posits that environmental governance should approach ecosystems not just as resources but as assets that contribute to climate stabilization. It is with regard to this that Costanza et al. (2014) argue.

Administrative and capacity challenges

Compliance with the ECIA involves significant investments in increasing technical capacity, rearranging institutional structures, and harmonizing activities among several agencies. MRV systems, digital carbon registries, and market-linked governance instruments in the COU need new competencies in carbon science, data governance, and environmental economics. Experience from similar transitions in national EIA reforms is that capacity building, clarity in institutional roles, and proper development of relevant digital infrastructure are the most critical parameters for success in achieving full compliance with the ECIA (UNEP, 2022).

Without such capacity building, there could be governance gaps, inconsistencies in regulation, or delays in implementation that may reduce the transformative potential of the ECIA.

CONCLUSION

In this respect, the change of the EMB for the proposed ECAA institutionalizes governance modernization, rationalizes enforcement mechanisms, and nurtures a performance-based regulatory

culture. This is in line with the more general observations made that institutional reform is key to any further development of climate-enabled environmental governance systems (Sovacool & Scarpaci, 2021). With the contemporary acceleration of climate risks, biodiversity loss, and global pressure toward carbon transitions, so does the need arise for a regulatory framework that could address systemic ecological and climate vulnerabilities (IPCC, 2023; UNEP, 2022).

These limitations are addressed by the ECIA framework, which embeds carbon governance, natural capital accounting, and institutional innovation into national development permitting and decision-making processes. The inclusion of mechanisms like CFA, COI analysis, and MRV systems under the ECIA makes environmental regulations supportive of the climate commitments of the Philippines under the Paris Agreement and its NDC. This constitutes a substantive change from what has been a largely procedural approach to one that is strategic in form, reflecting global trends in reforming environmental assessment practices.

Also, through integration with the Philippine Ecological and Natural Capital Accounting System, the natural capital accounting under the ECIA Act promotes a shift toward an evidence-based valuation approach for ecosystem services and biodiversity co-benefits in development decisions. This is consistent with international approaches that incorporate the valuation of ecosystems as a core element of sustainable development policy. For example, the United Nations System of Environmental-Economic Accounting puts the valuation of ecological resources into decision-making for sustainability (United Nations, 2021).

In this respect, the replacement of the EMB by the proposed ECAA institutionalizes a modernization of governance, a rationalization of enforcement mechanisms, and the adoption of a performance-based regulatory culture. This supports broader observations affirming that institutional reform is essential for advancing climate-enabled environmental governance i.e. systems more generally (Sovacool & Scarpaci, 2021). In sum, the ECIA is greater than a policy update; it represents a paradigm shift within Philippine environmental governance-from being reactive in mitigating environmental risks to being proactive, climate-aligned, and ecologically integrated in development regulation. Considering the worsening impacts of climate change, reforms under Policy Paper 25-7 are so designed that the Philippines will be able to implement a framework looking toward safeguarding ecosystems, carbon accountability, and increased national resilience.

Recommendations

The study, through a comparative analysis of Presidential Decree No. 1586 and the proposed ECIA framework outlined in Policy Paper 25-7, puts forward the following recommendations to further improve environmental governance and climate accountability in the Philippines:

1. Legislate the ECIA Act as a Replacement for PD 1586

The enactment of the ECIA Act should be prioritized to replace the now-outdated PD 1586 framework. Incremental administrative reforms cannot adequately respond to the structural gaps in climate governance, cumulative impact assessment, and natural capital valuation. A new statute is called for that will institute a legally coherent, forward-looking environmental assessment system consistent with international climate and sustainability standards.

2. Institutionalize Climate and Carbon Accounting in Environmental Assessment

Carbon footprint assessments, carbon offsetting programs, and climate-risk screening should be made part of the environmental approval process. These instruments should be standardized and verifiable to ensure consistency with the Philippine Greenhouse Gas Inventory Management and Reporting System and thus keep the country in step with its commitments under the Paris Agreement.

3. Operationalize Strategic Environmental and Climate Assessment (SECA)

The SECA policy, plans, and programs should be formally required, with particular emphasis on high-impact sectors such as energy, transport, land-use planning, mining, and infrastructure. The framework for upstream assessment afforded to government agencies by SECA facilitates addressing cumulative, long-term, and cross-sectoral impacts before project-level approvals would be issued.

4. Integrate Natural Capital Accounting into Decision-Making

This measure ensures that environmental assessments are integrated with the Philippines Ecosystem and Natural Capital Accounts. The latter transforms lessons regarding ecosystem services, biodiversity value, and carbon storage into clear input for development decisions. It is expected to bring in more transparency and better evidence-based trade-off analysis, so that environmental costs are included in economic planning.

5. Establish the Environmental and Climate Assessment Authority (ECAA)

Presently proposed is a plan that brings together diverse independent and specialized roles working on environmental and climate checks. The new body would run carbon registries, watch MRV systems, and enforce clear technical quality rules. It should be independent and resourced sufficiently to avoid mixed regulations and to make its work more trusted.

6. Modernize Enforcement through Digital MRV Systems

A core part of the ECIA idea is to employ digital MRV systems, including remote sensing and automated emissions monitoring. These tools fix key enforcement problems under PD 1586 by making processes clearer, reducing the need for self-reporting, and allowing proactive checks of compliance.

7. Update Penalties to Reflect Environmental and Climate Damage

Penalties must be adjusted to properly reflect environmental, social, and climate costs. They should be non-discriminatory, but at the same time, a real deterrent and proportional to the impact, especially for big projects, mining, and heavy industries.

8. Strengthen Capacity Building and Inter-Agency Coordination

There is a need to operationalize the ECIA through a clear plan that encompasses sustained funding for technical training, improvement in data systems, and coordination between national agencies and local governments. Capacity building will be required in climate science, carbon accounting, environmental economics, and digital governance.

9. Enhance Public Transparency and Participatory Governance

The principles of governance should stipulate free access to environmental and carbon-related information, require open publication of the assessment results, and establish mechanisms for multi-stakeholder engagement. It can help promote trust, accountability, and legitimacy of environmental decision-making in the eyes of the public.

10. Phase Implementation with Clear Transition Mechanisms

A transition plan is required for migrating from PD 1586 to the ECIA system. Among others, the plan should address transition rules of ongoing projects, ensuring that these are compatible with the existing relevant environmental permits, and scheduling timelines when the new assessment and monitoring requirements are to be fully implemented.

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