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## The Environmental Impact Assessment Regime under the BBNJ Agreement: Constitutive Logic, Operational Procedures, Practical Challenges, and Implementation Pathways

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**Abstract:** Within the BBNJ Agreement, environmental impact assessment (EIA) functions as a key procedural mechanism for managing activities with potential effects on marine biodiversity in areas beyond national jurisdiction. By operationalizing the general obligations of UNCLOS, the regime establishes a staged governance framework that combines differentiated preliminary screening, science-based impact assessment, and adaptive post-authorization monitoring. Nevertheless, its effective operation is hindered by overlapping institutional mandates, persistent North–South disparities in scientific and technological capacity, conceptual indeterminacy, and the delicate balance between state authority and international soft oversight. To enhance the regime’s effectiveness, the BBNJ Agreement should promote inter-institutional coordination, expand practical avenues for capacity-building and marine technology transfer, clarify the legal meaning of key concepts and principles, and reinforce transparency and stakeholder participation throughout the assessment process. Such improvements would contribute to a more equitable and inclusive architecture of global ocean governance and strengthen the long-term protection of marine biodiversity beyond national jurisdiction.

**Keywords:** United Nations Convention on the Law of the Sea (UNCLOS); BBNJ Agreement; areas beyond national jurisdiction (ABNJ); Environmental Impact Assessment regime

### 1 Introduction

Articles 204 to 206 of the United Nations Convention on the Law of the Sea (UNCLOS) provide the basic legal basis for monitoring the marine environment and conducting environmental impact assessment, thereby offering the normative starting point for the development of marine EIA rules. Yet these provisions remain highly general. They do not specify, in sufficient detail, the spatial and material

scope of application, the conditions triggering an assessment, or the procedural sequence through which an EIA should be carried out. This limitation becomes particularly pronounced in areas beyond national jurisdiction (ABNJ), where the absence of more operational rules has long left important gaps in regulatory practice.

Before the adoption of a dedicated BBNJ instrument, EIA-related requirements for ABNJ were scattered across separate governance arrangements, including fisheries management, deep seabed mining, maritime transport, and regional marine environmental protection. Because these regimes developed under different institutional mandates, they have not adopted uniform approaches to assessment criteria, public participation, or information disclosure. As a result, the governance of marine environmental impacts in ABNJ has been marked by institutional fragmentation, uneven regulatory standards, and weak implementation. In response to these deficiencies, the United Nations initiated a working group process in 2004 to address the conservation and sustainable use of marine biological diversity beyond national jurisdiction. After years of preparatory work and intergovernmental negotiations, the BBNJ Agreement was adopted on 19 June 2023.

Environmental impact assessment is identified in the BBNJ Agreement as one of its four major substantive pillars. The Agreement brings together a series of procedural requirements, including screening, scoping, reporting, notification, and consultation, and in doing so moves the EIA rules for ABNJ beyond broad treaty obligations toward a more structured procedural framework. Even so, the Agreement does not eliminate all uncertainties. Questions remain regarding the precise reach of its application, the operation of exclusion clauses, the standards for screening and triggering assessment, and the legal function of strategic environmental assessment. It is therefore necessary to examine both the normative design and the practical constraints of the EIA regime under the BBNJ Agreement, so as to provide analytical support for China's participation in global ocean governance and for the further improvement of China's domestic marine EIA system.

## **2 The Constitutive Logic of the Environmental Impact Assessment Regime under the BBNJ Agreement**

The EIA regime under the BBNJ Agreement rests on three interrelated logics: normative refinement, governance restraint, and systemic coordination. Normatively, it builds on Part XII of UNCLOS and turns the Convention's general environmental obligations into more operational rules for initiating, conducting, monitoring, and reviewing EIAs in areas beyond national jurisdiction. In governance terms, the Agreement preserves a state-centred decision-making model, while subjecting national EIA practices to procedural constraints and international soft oversight through information disclosure, consultation, and the Scientific and Technical Body. Systemically, it seeks to align the BBNJ EIA framework with existing

legal instruments, frameworks, and global, regional, subregional, and sectoral bodies, including through rules on the equivalence of prior assessments. In this way, the Agreement aims to mitigate institutional fragmentation and promote a more coherent order of global ocean governance.

## **2.1 Normative Logic**

Article 206 of UNCLOS requires States, where there is a reasonable basis to anticipate that activities under their jurisdiction or control may cause substantial pollution or significant harmful changes to the marine environment, to assess their potential effects as far as practicable and to make the relevant reports public in accordance with Article 205. While this provision supplies the basic legal foundation for marine EIA, it does not elaborate on the applicable scope, triggering thresholds, report content, or post-assessment monitoring. This lack of operational detail has contributed to uncertainty in rule application, uneven procedural standards, and weak implementation in areas beyond national jurisdiction (ABNJ).

Part IV of the BBNJ Agreement further develops this general obligation. Article 27 identifies the implementation of UNCLOS-related EIA obligations as a central objective; Article 28 requires Parties to assess planned activities under their jurisdiction or control that may affect the marine environment in ABNJ; Articles 30 and 31 set out screening criteria and procedures; and Articles 33 to 36 regulate EIA reports, decision-making, monitoring, and reporting. Together, these provisions recast EIA from a broadly framed duty of due diligence into a continuous procedural chain covering screening, scoping, report preparation, public consultation, reasoned decision-making, and ex post oversight.

Viewed from its normative logic, the BBNJ Agreement's main contribution lies in translating UNCLOS's abstract environmental obligations into procedural duties that can be identified, monitored, and evaluated. It neither removes states' discretion in authorizing ABNJ activities nor relies solely on voluntary compliance. Instead, it strengthens the transparency and accountability of national decision-making through public reporting, scientific review, and continuing monitoring. In this sense, the BBNJ EIA regime inherits, supplements, and develops the existing normative framework of UNCLOS.

## **2.2 Governance Logic**

The governance logic of the EIA regime under the BBNJ Agreement lies in balancing state leadership with international procedural oversight. Institutionally, the Agreement follows the UNCLOS-based model in which implementation rests primarily with States. The Party exercising jurisdiction or control over a planned activity determines whether an EIA is required, decides whether the activity may proceed, and assumes follow-up duties relating to monitoring, reporting, and review. This design preserves the central role of States in managing activities in areas beyond national jurisdiction (ABNJ), while allowing

the BBNJ Agreement to operate within the existing law-of-the-sea framework without unduly disturbing established jurisdictional arrangements.

Yet the Agreement does not leave national discretion unchecked. To prevent EIA procedures from becoming purely formal, it introduces a form of international soft oversight grounded in procedural constraint. This oversight does not create a supranational approval authority, nor does it give international institutions a direct veto over national decisions. Rather, through information disclosure, notification and consultation, scientific review, report publication, monitoring, review, and responses to comments, the Scientific and Technical Body, the clearing-house mechanism, other Parties, international organizations, the scientific community, stakeholders, and the public may subject national EIA practices to external scrutiny. In this sense, international soft oversight operates as an indirect mechanism of procedural discipline, supported by transparency, scientific assessment, and plural participation.

Such oversight remains distinct from compulsory international authorization. Relevant bodies cannot replace the final judgment of the State, nor can they automatically invalidate a State's decision to authorize a planned activity. Nevertheless, disclosure, scientific review, and public participation bring national decisions under broader international attention and may encourage more cautious compliance through reputational pressure, procedural accountability, and technical evaluation. The BBNJ EIA regime therefore does not dilute state responsibility. Instead, it constrains the exercise of state discretion while continuing to recognize States as the primary actors in EIA decision-making.

### **2.3 Systemic Logic**

The EIA regime under the BBNJ Agreement is not designed to function in isolation from the existing ocean governance architecture. Rather, it seeks to coordinate with relevant legal instruments, frameworks, and global, regional, subregional, and sectoral bodies while respecting their established mandates. In ABNJ governance, institutions such as the International Maritime Organization, the International Seabed Authority, and regional fisheries management organizations already exercise specialized authority over shipping, seabed resource development, and fisheries management. Without effective linkage to these mechanisms, the BBNJ EIA regime could generate rule conflicts, procedural overlap, and uncertainty over responsibility.

Article 5(2) of the BBNJ Agreement addresses this concern through the “not undermine” principle, requiring the Agreement to be interpreted and applied in a manner that preserves the legal status of existing instruments, frameworks, and bodies while promoting coherence and coordination across regimes. Article 29 further develops this approach by encouraging Parties and relevant bodies to cooperate through information exchange, standard alignment, and the formulation of guidelines. The purpose is not to replace existing EIA procedures, but to build a complementary relationship between the BBNJ

framework and sectoral or regional mechanisms.

Article 29(4) gives this coordination logic more concrete form through an equivalence arrangement. Where a planned activity has already been assessed under another relevant legal instrument, framework, or body, and the assessment has effects equivalent to those required under Part IV of the BBNJ Agreement, the Agreement's full EIA procedure generally need not be repeated. This design shows that the BBNJ EIA regime is intended to supplement and coordinate, rather than override, existing mechanisms. Its value lies not only in reducing duplicative assessments and procedural costs, but also in encouraging gradual convergence among different regimes through common standards, information disclosure, and technical guidance on EIA thresholds, procedural requirements, and oversight practices.

### **3 The Operational Procedures of the Environmental Impact Assessment Regime under the BBNJ Agreement**

The EIA regime under the BBNJ Agreement goes beyond a pre-activity reporting requirement. It creates a risk-oriented procedural chain for activities in areas beyond national jurisdiction, linking preliminary determination, scientific assessment, participatory decision-making, and post-authorization supervision. Operationally, this chain identifies whether a planned activity triggers EIA, informs authorization through scientific evaluation and public input, and monitors its subsequent environmental effects through reporting and review mechanisms.

#### **3.1 The Initiation of the EIA Procedure**

The EIA procedure under the BBNJ Agreement is triggered, first, by whether an activity falls within the jurisdiction or control of a Party and whether it may affect the marine environment in areas beyond national jurisdiction (ABNJ). A State therefore cannot avoid responsibility for managing environmental risks merely because the activity occurs on the high seas or in the Area. By tying the EIA obligation to national authorization, regulation, and control, the Agreement clarifies responsibility for ABNJ activities and lays the basis for subsequent procedural steps.

Once the responsible Party is identified, the process moves to screening. Screening is not a full EIA; rather, it serves to determine whether a proposed activity should undergo more detailed assessment. Under Article 30, screening is required where an activity may exceed the “minor or transitory” threshold, or where its potential effects remain unknown or insufficiently understood. If there are reasonable grounds to believe that the activity may cause substantial pollution or significant and harmful changes to the marine environment, a full EIA must then be conducted. This threshold design reflects a precautionary orientation: scientific uncertainty cannot be used to exclude the assessment obligation.

Screening must take into account the nature, purpose, location, duration, scale, and intensity of the

activity, as well as the marine components that may be affected. Where appropriate, cumulative impacts, alternatives, and transboundary effects should also be considered. Given the openness, connectivity, and vulnerability of ABNJ ecosystems, even activities with seemingly limited immediate effects may produce complex ecological consequences when combined with other pressures over time. Screening thus functions as the gatekeeping stage of the BBNJ EIA regime. It determines not only whether an activity proceeds to a full assessment, but also whether later mechanisms of risk identification, public participation, scientific review, monitoring, reporting, and review can operate effectively as part of a continuous procedural chain.

### **3.2 The Conduct of the EIA Procedure**

When screening shows that a proposed activity requires a full EIA, the process moves to substantive assessment. This stage begins with scoping, which identifies the impacts to be examined and defines the spatial and temporal boundaries of the assessment. Scoping is not a mere preparatory exercise; it shapes the depth and reliability of the entire EIA. Its central task is not to decide whether assessment is needed, but to determine what should be assessed and by what methods. If the scope is drawn too narrowly, indirect, long-term, or cumulative impacts may be excluded, thereby weakening the regime's preventive function.

On this basis, Parties should assess potential environmental impacts by relying on the best available scientific information and, where relevant, traditional knowledge. The assessment should cover not only direct effects on marine ecosystems, biodiversity, species habitats, and ecological processes, but also cumulative impacts arising from multiple activities and stressors over time and across different spaces. This is especially important in areas beyond national jurisdiction (ABNJ), where shipping, fisheries, resource exploration, marine scientific research, and possible deep-sea development may interact and produce compounded ecological pressures.

Impact assessment must also be linked to risk management. Parties should not simply describe possible environmental harm; they should identify concrete measures to avoid, reduce, or control adverse effects. These may include adjusting the site of the activity, limiting its scale, improving technical methods, restricting its timing, strengthening monitoring, or preparing an environmental management plan. In this sense, EIA is not a formal endorsement of a pre-set project, but a procedure capable of reshaping the activity before authorization.

Public notification and consultation are also essential at this stage. Since ABNJ is beyond the jurisdiction of any single State and involves shared ecological interests, assessment cannot be left solely to the State exercising jurisdiction or control over the activity. Through the clearing-house mechanism, information on the activity and its EIA report should be made available to other States, international

organizations, the scientific community, civil society, and potentially affected stakeholders. The EIA report then serves as the consolidated output of the process, bringing together the activity's basic features, environmental baseline, potential and cumulative impacts, mitigation measures, uncertainties, consultation outcomes, alternatives, and follow-up monitoring arrangements. It thereby provides a basis for national authorization and international procedural oversight.

### **3.3 The Continuation of the EIA Procedure**

After the EIA report has been completed and public consultation conducted, the procedure moves to the authorization stage. Under the BBNJ Agreement, the final decision on whether a proposed activity may proceed remains with the Party exercising jurisdiction or control over that activity. The Agreement therefore does not create a supranational approval body, nor does it remove States' authority to authorize activities within their jurisdiction or control. This authority, however, is not unfettered. In making its decision, the Party must take into account the EIA report, public comments, scientific and technical advice, and proposed mitigation and management measures. Authorization should be granted only where there is a reasonable basis for concluding that the activity can be carried out without causing significant adverse effects.

Authorization is not confined to a binary choice between approval and rejection. It may be subject to conditions, including the implementation of an environmental management plan, periodic submission of monitoring data, adoption of specified mitigation measures, or suspension of the activity where abnormal impacts occur. In this respect, the BBNJ Agreement extends the EIA obligation beyond the point of authorization and into the operational phase of the activity.

Once an activity is approved, the Party concerned remains responsible for monitoring, reporting, and review. Monitoring is intended to track the actual environmental effects of the authorized activity and compare them with the impacts predicted during the assessment process. If actual impacts exceed the original assessment, or if unforeseen significant adverse effects emerge, the Party should review the authorization decision and require additional measures to prevent, mitigate, or manage those effects. Where necessary, the activity may also be suspended. Reporting further requires Parties to disclose monitoring results and information on environmental effects, allowing other Parties and the wider international community to follow the risks associated with the activity.

The BBNJ EIA regime must also be coordinated with existing legal instruments and sectoral management mechanisms. Where an activity has already undergone an environmental impact assessment of equivalent effect under another relevant mechanism, the Agreement allows duplicative assessment to be avoided, while still requiring disclosure of the relevant information through the clearing-house mechanism. This design respects existing institutional arrangements and, at the same time, promotes

transparency and coordination across different governance regimes.

## **4 The Practical Challenges Facing the Environmental Impact Assessment Regime under the BBNJ Agreement**

The existing provisions of the BBNJ Agreement suggest that the implementation of its EIA regime may face four major challenges. First, under the “not undermine” requirement and the continued operation of global, regional, subregional, and sectoral bodies, overlapping mandates and fragmented governance remain difficult to avoid. Second, many developing countries still face constraints in marine scientific research, technical infrastructure, and institutional participation, which may weaken their ability to carry out effective environmental impact assessments. Third, several key rules, including screening and triggering thresholds as well as the assessment of equivalence, retain a degree of conceptual and operational ambiguity. Fourth, because the regime remains grounded in state-led decision-making, international oversight depends largely on procedural soft mechanisms, such as information disclosure and review by the Scientific and Technical Body. The actual constraining force of these mechanisms has yet to be tested in practice.

### **4.1 The Dilemma of Jurisdictional Overlap and Governance Fragmentation**

A key objective of the BBNJ EIA regime is to promote a more coherent assessment framework for activities in areas beyond national jurisdiction (ABNJ). Yet this objective must be pursued within an already complex governance landscape. Global, regional, subregional, and sectoral bodies—such as the International Maritime Organization, the International Seabed Authority, and regional fisheries management organizations—have developed their own relatively autonomous rules and procedures. The implementation of the BBNJ EIA regime may therefore continue to face problems of overlapping mandates and fragmented governance.

Although the Agreement seeks to limit institutional overlap through the “not undermine” requirement and rules on procedural articulation, the boundaries between the BBNJ framework and existing mechanisms remain uncertain. Article 5(2) requires the Agreement to be interpreted and applied without undermining relevant legal instruments, frameworks, or bodies, while Article 29 encourages cooperation, information exchange, and the coordination of standards between BBNJ EIA procedures and other regimes. In practice, however, it remains unclear which prior assessments should be regarded as equivalent, how standards across different mechanisms should be compared, and whether lower-standard sectoral procedures could be used to avoid more demanding BBNJ obligations. Where the Agreement sets higher requirements for screening, information disclosure, or public participation, States may prefer existing pathways with lower procedural costs and weaker constraints, thereby weakening the

Agreement's role as a coordinating norm.

A further difficulty arises from the mismatch between ecological connectivity and institutional segmentation. Marine ecosystems are fluid, interconnected, and functionally integrated, whereas existing governance arrangements often divide authority by maritime zones, resource categories, or sectoral functions. This structure can separate the management of water-column ecosystems, seabed minerals, fisheries resources, and marine biodiversity. By incorporating cumulative impacts into the EIA process, the BBNJ Agreement attempts to move beyond the limits of sectoral governance. Whether existing mechanisms can meet this requirement remains uncertain. Deep-sea fisheries illustrate this problem. A comparative study of nine deep-sea fishery impact assessments found weaknesses in ecosystem description, baseline data, risk assessment, and consideration of indirect effects, with many assessments only partially satisfying—or failing to satisfy—the relevant guideline requirements. This suggests that the BBNJ Agreement may place pressure on sectoral regimes to upgrade their procedures. Without effective coordination, however, it may also intensify the coexistence of divergent rules, uneven standards, and dispersed responsibility.

#### **4.2 The North–South Technological Divide and the Imbalance in Capacity-Building**

The effective functioning of the BBNJ EIA regime requires advanced marine scientific knowledge, reliable access to environmental data, and technical capacity for impact assessment. Yet such capacities remain unevenly distributed across countries and regions. The Global Ocean Science Report 2020 notes persistent geographical disparities in marine science and technology, which affect not only States' participation in marine scientific research but also their ability to implement the Sustainable Development Goals. In the context of the BBNJ Agreement, this imbalance may translate into procedural inequality in EIA implementation.

EIA in areas beyond national jurisdiction (ABNJ) often depends on deep-sea research platforms, long-term observation systems, ecological baseline data, and specialized expertise. Many developing countries, constrained by limited funding, inadequate equipment, and shortages of trained personnel, may struggle to collect first-hand environmental data or to produce assessment reports that meet demanding standards. More importantly, without the capacity to independently evaluate third-party EIA reports, their participation in public consultation, scientific review, and decision-making oversight may remain largely formal, with limited influence on actual assessment outcomes.

Part V of the BBNJ Agreement addresses this problem by providing for capacity-building and the transfer of marine technology as a key pillar for supporting developing countries. Its provisions cover needs assessment, information sharing, personnel training, infrastructure development, financial assistance, and monitoring and review. Whether these commitments can generate real capacity, however,

will depend on subsequent institutional design and sustained resource input. Existing studies suggest that effective implementation requires country-driven needs assessment, stable funding, transparent information-sharing, and quality-control mechanisms. If these conditions are not met, developing countries' technological disadvantages in EIA procedures will persist, while technologically advanced States may retain greater influence over standard-setting, report preparation, and scientific review. Thus, although the BBNJ Agreement affirms equitable participation at the textual level, its implementation may still reveal a gap between procedural equality and substantive equity.

### **4.3 The Ambiguity of Threshold-Setting and the Determination of Equivalence**

Although the BBNJ Agreement develops the EIA procedure for areas beyond national jurisdiction (ABNJ) beyond the general obligation contained in Article 206 of UNCLOS, several core rules still leave substantial room for interpretation. Ambiguities remain in relation to screening thresholds, EIA-triggering criteria, and the assessment of equivalence. Such flexibility may accommodate the diversity of marine activities, but it may also produce divergent applications among States and weaken the consistency and predictability of the Agreement's implementation.

The first uncertainty concerns the thresholds for screening and full EIA. Article 30 requires screening where a planned activity may exceed the "minor or transitory" threshold, or where its effects are unknown or insufficiently understood. A full EIA is required where screening indicates reasonable grounds to believe that the activity may cause substantial pollution or significant and harmful changes to the marine environment. This design reflects a precautionary approach, yet terms such as "minor or transitory," "unknown effects," "substantial pollution," and "significant and harmful changes" remain largely qualitative and lack clear quantitative benchmarks. In the *Pulp Mills* case, the International Court of Justice recognized EIA as a requirement under general international law for activities likely to cause significant adverse transboundary harm, but it did not prescribe a uniform scope or content for such assessments. As a result, in emerging fields such as deep-sea mining, ocean fertilization, and deep-sea bioprospecting, States may reach different screening outcomes for similar activities depending on their risk preferences, technical capacities, and regulatory approaches. This may undermine the uniform application of the BBNJ EIA regime.

The second uncertainty lies in the determination of equivalence. Under Article 29(4), where a planned activity has already been assessed under another relevant legal instrument, framework, or global, regional, subregional, or sectoral body, the BBNJ screening or full EIA procedure need not be repeated if that assessment is equivalent to the requirements of Part IV. The same applies where the applicable rules and standards under another mechanism are sufficient to keep potential effects below the Agreement's EIA-triggering threshold. This arrangement can reduce duplicative assessment and avoid

institutional conflict. However, the Agreement does not clearly define who should determine equivalence, through what procedure, or by reference to which substantive standards. Given the fragmented structure of global ocean governance, existing mechanisms differ considerably in assessing authority, disclosure requirements, public participation, treatment of cumulative impacts, scientific review, and post-approval monitoring. Without a transparent and rigorous equivalence review process, States may rely on lower-standard sectoral mechanisms to claim that assessment obligations have already been fulfilled, creating a risk of regulatory circumvention. Existing studies on high-seas marine protected area mechanisms similarly show that EIA standards, actors, and procedures remain fragmented, further complicating equivalence determinations under the BBNJ Agreement.

#### **4.4 The Tension between State-Led Decision-Making and International “Soft Oversight”**

During the negotiation and drafting of the BBNJ Agreement, States remained divided over whether EIA should remain primarily state-led or be subject to stronger internationalization. The final text adopts the former approach. It does not empower an international body to decide directly whether a proposed activity may proceed. Instead, the Party exercising jurisdiction or control over the activity remains responsible for screening, assessment, authorization, monitoring, and review. While this design preserves state sovereignty and enhances the political acceptability of the regime, it also confines international oversight largely to procedural mechanisms, such as information disclosure, consultation, and public participation. Its practical effectiveness may therefore be limited.

The first concern is the breadth of state discretion. Article 34 of the BBNJ Agreement leaves the final authorization decision to the Party exercising jurisdiction or control, while requiring it to take into account the EIA findings and relevant mitigation and management measures. This means that EIA outcomes may guide and constrain national decision-making, but they do not automatically amount to a veto. If a State is inclined to approve a high-risk activity for economic, industrial, or strategic reasons, the Agreement relies mainly on indirect constraints, including the duty to conduct EIA, disclosure requirements, responses to comments, monitoring and review, and general rules of state responsibility. It does not provide a compulsory mechanism through which an international body can directly block the authorization.

The second concern lies in the uncertain effectiveness of international soft oversight. The BBNJ Agreement improves procedural transparency through the clearing-house mechanism, public notification and consultation, disclosure of EIA reports, submission of monitoring reports, and review by the Scientific and Technical Body. Yet the views of that body remain advisory in nature and cannot replace the final judgment of the Party concerned. In practice, if a Party discloses information selectively, submits overly general EIA reports, or responds only formally to comments from other Parties or the Scientific

and Technical Body, it remains uncertain whether the regime can correct such deficiencies in time. This separation between decision-making authority and oversight authority may allow short-term economic interests to prevail over long-term ecological risks, thereby weakening the substantive capacity of the BBNJ EIA regime to protect marine biodiversity in areas beyond national jurisdiction.

## **5 Implementation Pathways for the Environmental Impact Assessment Regime under the BBNJ Agreement**

To ensure the effective operation of the BBNJ EIA regime, future efforts should focus on institutional coordination, capacity-building, rule clarification, and procedural oversight. Under the “not undermine” requirement, cooperation among relevant international bodies should be strengthened to reduce fragmentation and improve regime coherence. Capacity-building and the transfer of marine technology should be implemented through concrete mechanisms that enable developing countries to participate meaningfully in EIA processes. Key concepts, including screening thresholds and equivalence determinations, require further clarification to enhance legal certainty and consistency in application. At the same time, information disclosure, stakeholder participation, and scientific review should be reinforced to improve the transparency and constraining force of the EIA procedure. These measures would help strengthen the long-term conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction.

### **5.1 Constructing a Mechanism for Collaborative Governance among the Relevant Institutions**

The BBNJ EIA regime is embedded in the existing architecture of global ocean governance rather than operating apart from it. Institutions such as the International Maritime Organization, the International Seabed Authority, and regional fisheries management organizations have already developed specialized rules for shipping, seabed resource development, and fisheries management. While the “not undermine” requirement recognizes the role of existing legal instruments, frameworks, and bodies, it also requires the BBNJ Agreement to address overlapping mandates, procedural divergence, and inconsistent standards across regimes. The effectiveness of the EIA regime therefore depends on building stable channels of institutional coordination that respect existing competences while improving overall regulatory coherence.

First, formal cooperative linkages should be established between BBNJ-related institutions and relevant global, regional, subregional, and sectoral bodies. In the future, the Conference of the Parties could authorize the Secretariat or a designated working mechanism to develop cooperation agreements, memoranda of understanding, or joint work programmes with bodies such as the International Maritime Organization, the International Seabed Authority, and regional fisheries management organizations. These arrangements should clarify responsibilities in EIA information exchange, standard coordination,

expert consultation, report recognition, and dispute prevention. Rather than remaining at the level of general mutual acknowledgment, they should provide practical rules on jurisdictional articulation, procedural alignment, and conflict management. This would help the BBNJ EIA regime move from passive coexistence with existing mechanisms toward active institutional cooperation, reducing the risk of regulatory gaps and rule conflicts.

Second, a regular cross-mechanism coordination platform should be developed. A static treaty text alone cannot adequately respond to the complexity and evolving nature of activities in areas beyond national jurisdiction. Future practice could therefore rely on the Scientific and Technical Body, the clearing-house mechanism, and a working group under the Conference of the Parties to bring together representatives of relevant international organizations, regional mechanisms, and sectoral bodies. Through periodic dialogue, data sharing, technical consultation, and joint expert networks, these actors could exchange environmental baseline data, cumulative-impact assessment methods, monitoring results, and best-practice standards. Such coordination would reduce information silos and duplicative assessments, lower the costs of EIA implementation, and promote greater consistency in scientific judgment and institutional practice. It would also help ease jurisdictional tensions between the BBNJ Agreement and existing bodies, enabling EIA in ABNJ to shift from fragmented governance toward a more coordinated, continuous, and integrated institutional model.

## **5.2 Deepening the Substantive Pathways for Capacity-Building and Technical Support**

The effective implementation of the BBNJ EIA regime depends not only on the quality of its legal rules, but also on the practical capacity of developing countries to conduct environmental baseline surveys, scientific assessment, data processing, report preparation, and post-authorization monitoring. Given the vastness of areas beyond national jurisdiction (ABNJ) and the complexity of their ecosystems, EIA requires marine scientific data, deep-sea observation technologies, specialized expertise, and long-term monitoring networks. These resources remain unevenly distributed between developed and developing countries. Against this North–South technological divide, capacity-building and the transfer of marine technology under the BBNJ Agreement should move beyond general assistance commitments and be translated into practical institutional pathways through information sharing, needs matching, technical training, open data access, and sustained cooperation. Only in this way can developing countries participate substantively in EIA processes concerning ABNJ.

First, the clearing-house mechanism should evolve from a one-way disclosure platform into a two-way empowerment platform. Article 51 of the BBNJ Agreement establishes this mechanism, but its role should not be limited to publishing EIA reports, monitoring results, and related documents. It should also support data sharing, knowledge integration, the identification of capacity-building needs, and the

facilitation of technical cooperation. In future practice, the mechanism could incorporate an environmental baseline database, a repository of EIA case studies, a catalogue of available technical support, and an inventory of capacity-building needs. Through digital tagging, expert review, and demand–supply matching, it could promote the circulation of environmental baseline data, marine monitoring technologies, EIA methodologies, and best-practice standards among Parties. Such functional expansion would reduce the difficulties faced by developing countries in data collection, technology application, and compliance costs, thereby strengthening their ability to fulfil EIA obligations under the BBNJ Agreement.

Second, sustained cooperation among Parties, and between Parties and international organizations, should be reinforced to ensure that capacity-building and technical support produce tangible results. ABNJ covers roughly two-thirds of the global ocean, and its ecosystems are highly connected and dynamic. No single State can easily assess cross-regional, cross-sectoral, and cumulative environmental impacts on its own. Future implementation should therefore rely on the Capacity-Building and Transfer of Marine Technology Committee, the clearing-house mechanism, the Scientific and Technical Body, and relevant international organizations to develop regular cooperation arrangements. These may include joint surveys, coordinated monitoring, shared training, and mutual recognition of data. Through such cooperation, developing countries would not only gain access to the data, technology, and expertise needed for EIA, but also gradually improve their own capacity to conduct assessments, review EIA reports, and participate in international decision-making. Capacity-building would thus shift from external assistance toward a more equal, durable, and cooperative institutional practice.

### **5.3 Clarifying the Connotations of Key Concepts and Principles**

The effectiveness of any legal regime depends in part on the clarity of its core concepts and applicable standards. For the EIA regime under the BBNJ Agreement, the “not undermine” requirement and the equivalence arrangement are central to its relationship with existing global, regional, subregional, and sectoral mechanisms. If these concepts remain ambiguous, States and relevant bodies may interpret the Agreement’s scope differently, creating space for institutional avoidance. Future practice should therefore clarify their application through decisions of the Conference of the Parties, guidance from the Scientific and Technical Body, and cross-mechanism cooperation.

First, the “not undermine” requirement should be understood as a basis for active coordination rather than mere non-interference. Article 5(2) provides that the BBNJ Agreement must be interpreted and applied in a manner that does not undermine relevant legal instruments, frameworks, or bodies. This clause should not be read narrowly as preserving separate regimes in isolation, since such an approach may reproduce governance gaps within an already fragmented ocean governance system. Its deeper function

is to promote coherence, complementarity, and coordination while respecting existing mandates, so that the BBNJ EIA regime and other mechanisms reinforce rather than weaken one another.

Second, the equivalence arrangement should be supported by a substantive review standard to prevent regulatory circumvention. Under Article 29(4), where a proposed activity has already been assessed under another relevant instrument, framework, or body, and that assessment is equivalent to Part IV of the BBNJ Agreement, the Agreement's EIA procedure need not be repeated. This avoids duplicative assessment and institutional conflict. Yet without clear criteria, some States may rely on lower-standard mechanisms to claim equivalence. Equivalence should therefore refer not to formal procedural similarity, but to a comparable level of substantive regulatory stringency. The Scientific and Technical Body could assess other mechanisms against benchmarks such as scientific rigour, transparency, public participation, consideration of cumulative impacts, post-authorization monitoring, and environmental safeguards. Only mechanisms that genuinely meet or exceed the basic requirements of the BBNJ EIA regime should be treated as equivalent.

#### **5.4 Enhancing Transparency and Safeguarding the Participation of Diverse Stakeholders**

Because the BBNJ EIA regime does not contain a compulsory international veto mechanism, greater procedural transparency and meaningful stakeholder participation are essential for constraining state discretion. The Agreement leaves the final authorization decision primarily to the Party exercising jurisdiction or control over the proposed activity, rather than to an international body. Institutional improvement should therefore focus on strengthening information disclosure, scientific review, public participation, and the duty to respond, so that national decision-making remains subject to continuous procedural scrutiny.

First, a substantive feedback-and-response mechanism should be developed to prevent stakeholder participation from becoming purely formal. Article 32 of the BBNJ Agreement requires Parties to conduct timely public notification and consultation and to respond to substantive comments or explain how they have been addressed. In future practice, Parties should disclose through the clearing-house mechanism the comments received, whether they were accepted, and the reasons for non-acceptance. For submissions from Indigenous Peoples, local communities, the scientific community, and civil society, Parties should further provide the scientific and legal basis for their treatment. This would transform public participation from one-way expression into a more systematic form of procedural oversight.

Second, the complementary roles of the Scientific and Technical Body and the clearing-house mechanism should be strengthened. The Scientific and Technical Body can provide comments and recommendations on EIA reports, monitoring reports, and potential environmental risks, while the clearing-house mechanism can serve as a public platform for documents, comments, responses, and

monitoring data. Their combined operation would expose state decision-making to sustained scrutiny by the scientific community, other Parties, and the public, thereby improving the transparency, credibility, and oversight capacity of the BBNJ EIA regime.

## **6 Conclusion**

Building on the general obligations of UNCLOS, the BBNJ Agreement develops the EIA regime into a structured procedural framework covering screening, assessment, authorization, monitoring, and review. It thus provides a more operational institutional tool for governing marine environmental risks in areas beyond national jurisdiction (ABNJ). The regime's significance lies not only in strengthening ex ante risk prevention, but also in improving the transparency and accountability of state decision-making through information disclosure, scientific review, and stakeholder participation. Nevertheless, its implementation still faces challenges, including overlapping mandates, uneven capacity, uncertain thresholds, and limited oversight effectiveness. For China, active engagement in the implementation of the BBNJ EIA rules should be accompanied by further refinement of domestic marine EIA standards, stronger environmental monitoring capacity in deep-sea and distant-water areas, and closer alignment with emerging international rules. These efforts would enable China to participate more effectively in global ocean governance and contribute to the long-term conservation and sustainable use of marine biodiversity in ABNJ.

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## **Author Contributions**

Xuexiao Yu: The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

## **Availability of Data and Materials**

No new datasets were generated or analyzed in this study. All legal instruments, policy documents, and other materials used in this research are publicly available and properly cited in the article.

## Conflicts of Interest

The authors declare that they have no conflicts of interest to report regarding the present study.

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