

Design Features of the 2023 BBNJ (High Seas) Treaty

Introduction

The **Agreement on Marine Biodiversity Beyond National Jurisdiction (BBNJ)** – often called the *High Seas Treaty* – was adopted in 2023 after nearly two decades of negotiations[1] [2]

[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Concerning%20the%20biological%20diversity%20of,EIAs%253B%20Part] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Part%20V,of%20the%20measures%20and%20actions]. It is a landmark multilateral treaty under the UN Convention on the Law of the Sea (UNCLOS) aimed at the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (ABNJ). Covering **76 articles and 2 annexes**, the treaty addresses four main themes: **Marine Genetic Resources (MGRs)** (Part II), **Area-Based Management Tools (ABMTs)** including Marine Protected Areas (MPAs) (Part III), **Environmental Impact Assessments (EIAs)** (Part IV), and **Capacity-Building and Transfer of Marine Technology (CB&TT)** (Part V)[3] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=specifically%20to%20the%20conservation%20and,%20sustainable%20use%20actions%20for].

In addition, it establishes a comprehensive **institutional framework** (Part VI) to implement these provisions, including a Conference of the Parties, various committees and a **Clearing-House Mechanism (CHM)**[4] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=19,and%20equality%20as%20one%20of] [5]

[https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20CHM%20will%20primarily%20consist,support%20available%20and%20facilitate%20cooperation].

The treaty's objective is "to ensure the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, for the present and in the long term, through effective implementation of the relevant provisions of [UNCLOS] and further international cooperation and coordination"[6] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=%E2%80%9C,%E2%80%9Cfurther%20international%20cooperation%20and%20coordination%E2%80%9D].

What follows is a detailed overview of the treaty's major components and institutional design, with particular emphasis on the Clearing-House Mechanism. All references to specific treaty articles are based on the final text as adopted in 2023.

Marine Genetic Resources (MGRs) and Benefit-Sharing

Marine Genetic Resources in ABNJ are a central pillar of the BBNJ Treaty. The treaty affirms that all states may conduct activities with respect to MGRs in the high seas, regardless of geographical location, and no state may claim sovereignty or sovereign rights over these resources[7]

[https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=,this%20end%252C%20parties%20shall%20endeavor] [8] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=,use%20of%20marine%20biological%20diversity].

Key features of the MGR regime include:

- **Open Access with Notification:** Parties have freedom to collect MGRs in situ in ABNJ, but must do so with *due regard* for the rights and interests of coastal states in adjacent exclusive economic zones and for other states' interests in the high seas[9] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=ABNJ%253B%20,or%20sovereign%20rights%20over%20MGRs]. Crucially, any planned in situ collection of MGRs must be **notified in advance to the Clearing-House Mechanism (CHM)**[10] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Notification%20on%20activities%20with%20respect,to%20notification%20to%20the%20CHM]. The notification must include information such as the nature and objectives of the research, the MGRs targeted, the geographic area, methods and vessels to be used, etc.[11] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Final%20Agreement%253A%20In%20the%20final,ABNJ%252C%20including%20on%252C%20inter%20alia]. Upon such notification, the CHM automatically generates a standardized batch identifier for the collection, supporting traceability of samples[12] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=methods%20employed%253B%20and%20,contributions%20to%20proposed%20major%20programmes] [13] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=content%252Fuploads%252F2022%252F06%252Fpolicy_brief_benefit_sharing_01_2022,the%20proc]. This notification requirement creates transparency around high seas bioprospecting and helps track genetic material from collection to utilization.
- **Traditional Knowledge:** The treaty recognizes *traditional knowledge (TK) of Indigenous Peoples and local communities* related to high seas genetic resources. Parties must ensure that TK associated with MGRs in ABNJ is accessed only with the free, prior, and informed consent of the holders of such knowledge, and on mutually agreed terms[14] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Traditional%20knowledge%20of%20Indigenous%20Peoples,%E2%80%9D]. The CHM may facilitate access to and recording of such traditional knowledge, ensuring that indigenous contributions are respected and shared appropriately.

- **Fair and Equitable Benefit-Sharing:** The BBNJ Agreement establishes that benefits from MGRs in ABNJ must be shared in a **fair and equitable manner** and used to promote conservation and sustainable use of ocean biodiversity[15] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=First%252C%20gathering%20economic%20benefits%20from,Article]. The treaty provides for both **non-monetary and monetary benefit-sharing**:
- **Non-Monetary Benefits:** Parties agree to share a range of non-monetary benefits **for the common good of humanity**. These include, *inter alia*, access to collected samples, access to digital sequence information (DSI) on MGRs, open-access publication of data in line with FAIR principles (Findable, Accessible, Interoperable, Reusable), and transfer of marine technology and knowledge[16] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Final%20Agreement%253A%20In%20the%20final,and%20transfer%20of%20marine%20technology][17] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=benefits%20shall%20be%20shared%20in,and%20transfer%20of%20marine%20technology]. By mandating open-access scientific data and sample sharing, the treaty seeks to ensure that developing countries and the global scientific community can benefit from research in ABNJ.
- **Monetary Benefits:** The treaty also mandates sharing of monetary benefits arising from the utilization of MGRs (including from DSI and commercialization of products) **through a financial mechanism** established under the treaty[18] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=,the%20budget%20adopted%20by%20COP]. Developed States Parties are required, after the treaty's entry into force, to make annual contributions to a *Special Fund* (Article 52) as an interim monetary benefit-sharing measure; the initial rate is set at 50% of a state's assessed contribution to the treaty's general budget, subject to adjustment by the Conference of the Parties (COP)[19] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=financial%20mechanism%20established%20under%20article,the%20budget%20adopted%20by%20COP][20] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=,the%20budget%20adopted%20by%20COP]. The COP is tasked at its first meeting with determining detailed *modalities for monetary benefit-sharing*, taking into account recommendations from an Access and Benefit-Sharing (ABS) Committee. These modalities may include milestone payments, payments or royalties based on product sales, and tiered fees paid periodically for products developed from MGRs[21] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=shall%20be%2050,the%20budget%20adopted%20by%20COP]. If consensus on benefit-sharing modalities cannot be reached, the treaty allows adoption of decisions by a **three-fourths majority** vote of Parties present[22] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=The%20COP%20shall%20decide%20the,paid%20on%20a%20periodic%20basis] – an unusual voting provision underscoring the importance of implementing benefit-sharing even absent full consensus.
- **ABS Committee:** To guide and review the MGR benefit-sharing system, an **Access and Benefit-Sharing Committee** is established (Article 11 bis). This committee will *advise and make recommendations* to the COP on issues such as codes of conduct for MGR activities, specific rates and mechanisms for monetary benefit-sharing, the interface between the MGR regime and the CHM, and use of the financial mechanism for MGR benefits[23] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Final%20Agreement%253A%20In%20the%20final,COP%20on%20matters%20including%20on][24] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=,relation%20to%20the%20financial%20mechanism]. The ABS Committee is composed of experts (with equitable geographic representation, and attention to developing states and gender balance) and serves to ensure transparency and fairness in how MGR benefits are distributed. Notably, the treaty does **not** include a specific provision on intellectual property rights (e.g. patent disclosure of origin)[25] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Intellectual%20property%20rights%20,disclose%20the%20origin%20of%20MGRs] – a topic that was heavily debated but ultimately left to other fora, with the focus instead on the ABS mechanism to achieve fairness.

In sum, the BBNJ's MGR provisions create a framework akin to the Nagoya Protocol's principles but applied to the global commons: allowing open research while requiring information-sharing, respecting indigenous knowledge, and instituting a benefit-sharing mechanism (monetary and non-monetary) to ensure benefits *accrue to humanity as a whole*, especially developing countries[26] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=any%20claim%20to%20any%20part,use%20of%20marine%20biological%20diversity][27] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=MGRs%20in%20areas%20of%20the,Article%2011bis].

Area-Based Management Tools (ABMTs), Including Marine Protected Areas (MPAs)

The treaty's Part III deals with the establishment of **Area-Based Management Tools (ABMTs)** in ABNJ, with a particular focus on creating **marine protected areas** on the high seas. This is a groundbreaking development, as it enables the international community to designate protected areas beyond national jurisdiction for the first time. Key design features of the ABMT/MPA regime include:

- Ability to Propose ABMTs:** Any Party may propose an area in ABNJ to be designated as an MPA or other ABMT, in order to *protect, preserve, restore or maintain biodiversity and ecosystems in that area*[28] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=hand%20with%20the%20obligation%20to,in%20ABNJ%20that%20might%20potentially]. Proposals must contain scientific information about the area (such as ecological significance, vulnerabilities, and conservation objectives) and may incorporate *traditional knowledge of Indigenous Peoples and local communities* where available[29] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=match%20at%20L863%20,Indigenous%20Peoples%20and%20local%20communities]. Proposals should also list any existing measures or relevant management bodies in that area. The treaty envisions establishing a “*comprehensive system of ABMTs, including representative and connected networks of MPAs*” on the high seas[30] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=the%20establishment%20of%20a%20comprehensive,among%20states%20and%20relevant%20IFBs], reflecting modern conservation science goals.
- Scientific Review and Consultation:** Upon receiving a proposal, the process involves rigorous **scientific and technical review** and consultations. The treaty creates a **Scientific and Technical Body (STB)** to evaluate the scientific merits of proposed ABMTs/MPAs and provide recommendations to the COP[31] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20STB%20is%20an%20advisory,into%20account%20the%20need%20for][32] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=and%20technical%20advice%252C%20including%20in,balance%20and%20equitable%20geographical%20representation]. The Secretariat facilitates *inclusive, open and transparent consultations* on proposals, including engagement with adjacent coastal states and relevant global or regional bodies[33] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=reviewed%20by%20the%20Scientific%20and,consultations%252C%20including%20with%20adjacent%20States]. This ensures that proposals are vetted and refined in light of the best available science and stakeholder input before a decision is made. The STB members serve in their expert capacity (not as state delegates) and are to be drawn from diverse disciplines, with equitable geographic and gender balance[34] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20STB%20will%20be%20composed,selection%20process%20and%20terms%20of].
- COP Decision-Making on MPAs:** The **Conference of the Parties (COP)** is empowered to decide whether to establish the proposed ABMT/MPA and what conservation measures to apply (Article 19)[35] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=Conference%20of%20the%20Parties%20will,they%20are%20not%20empty%20promises]. Importantly, the treaty specifies that the COP “*shall respect the competences of, and not undermine, relevant international frameworks and bodies*” (often abbreviated as IFBs) when making decisions on ABMTs[36] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=The%20final%20Agreement%20includes%20a,undermine%20the%20effectiveness%20of%20measures]. This non-derogation clause was included to ensure the BBNJ measures complement, rather than conflict with, existing regimes (for example, measures taken by Regional Fisheries Management Organizations, the International Maritime Organization, or sectoral treaties). Any COP-adopted MPA measures cannot undermine the effectiveness of measures established by such bodies[36] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=The%20final%20Agreement%20includes%20a,undermine%20the%20effectiveness%20of%20measures]. To promote coordination, relevant organizations are to be **invited to report to the COP** on how their own measures contribute to the MPA’s objectives[37] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=match%20at%20L979%20implementation%20of,measures%252C%20shall%20be%20monitored%20and]. If an area protected under the BBNJ Agreement later comes under a newly established or expanded competent body, the COP is required to review its measures and, in cooperation with that body, decide whether to maintain, adjust, or terminate the BBNJ measures[38] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Delegates%20also%20reached%20an%20agreement,appropriate%20%E2%80%9Cin%20close%20cooperation%20and][39] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=competencies%252C%20that%20the%20BBNJ%20COP,appropriate%20%E2%80%9Cin%20close%20cooperation%20and]. This mechanism avoids duplication in the evolving ocean governance landscape.
- Decision Modalities:** While the treaty emphasizes consensus in COP decisions, it also provides a voting mechanism if needed. In the context of ABMTs, states agreed that the COP *should first seek consensus* on establishing an MPA, but if all efforts at consensus fail, decisions can be taken by vote (with a specified majority)[40] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=ovation,that%20another%20party%20could%20register]. A notable outcome of negotiations is that one delegation entered a reservation regarding the use of voting for MPA decisions[40] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=ovation,that%20another%20party%20could%20register], reflecting that consensus is strongly preferred in such sensitive matters. Nonetheless, the possibility of voting ensures that a single hold-out cannot block the designation of a high seas MPA if an overwhelming majority of countries support it.

- **Emergency Measures:** The treaty allows the COP to adopt *emergency ABMT measures* when an activity poses a serious and imminent threat to marine biodiversity in ABNJ[41] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=suitability%20of%20solving%20an%20emergency,through%20the%20creation%20of%20ABMTs]. Such measures can be put in place on an expedited basis (e.g. closing an area to certain activities temporarily) pending more thorough consideration. This provision acknowledges the need for agility in the face of events like an ecological disaster or a sudden mass exploitation threat on the high seas.
- **Implementation and Monitoring:** Once an MPA or other ABMT is established by the COP, all Parties are obliged to comply with the conservation measures (e.g. restrictions on fishing, seabed activity, shipping practices, etc.) in that area. The treaty stresses that implementing ABMTs should not impose a disproportionate burden on developing countries, in particular Least Developed Countries (LDCs) and Small Island Developing States (SIDS)[42] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=adopted%20to%20support%20ABMTs%252C%20including,without%20the%20inclusion%20of%20LDCs]. The effectiveness of each ABMT/MPA must be **monitored and periodically reviewed** by the COP with input from the STB[43] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=implementation%20of%20ABMTs%252C%20including%20MPAs%253B,measures%252C%20shall%20be%20monitored%20and]. Parties are expected to report on their compliance and on the state of the MPA, and the COP can adjust measures over time based on scientific assessments. This adaptive management approach is crucial for ensuring MPAs achieve their conservation goals in the long term[44] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Establishing%20ABMTs%252C%20including%20MPAs%252C%20is,need%20not%20to%20undermine%20IFBs].
- **Role of the CHM:** The **Clearing-House Mechanism** plays a supportive role in ABMTs. It will serve as a public repository of information on proposals and established MPAs, including maps, scientific data, and management measures. It will also host data on existing area-based measures by other bodies (to inform proposals) and likely facilitate the sharing of *traditional knowledge and scientific input* relevant to proposed areas[29] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=match%20at%20L863%20,Indigenous%20Peoples%20and%20local%20communities]. During consultations, the CHM can provide a platform for stakeholders to access draft proposals and submit comments or data. After adoption, the CHM will contain the text of COP decisions on MPAs and any reports on their implementation[37] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=match%20at%20L979%20implementation%20of,measures%252C%20shall%20be%20monitored%20and]. In short, it acts as a transparency and coordination tool, linking the BBNJ MPA network with the broader context of ocean management.

By establishing a clear process for creating high seas MPAs, the treaty fills a major legal gap in ocean governance. The ABMT provisions reflect a balance between enabling **ambitious conservation action** on the high seas and **respecting existing authorities**, with scientific advice and transparency (via the CHM) built into the procedure at every step[45] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=,Indigenous%20Peoples%20and%20local%20communities][36] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=The%20final%20Agreement%20includes%20a,undermine%20the%20effectiveness%20of%20measures].

Environmental Impact Assessments (EIAs)

Part IV of the BBNJ Agreement creates a framework for conducting **Environmental Impact Assessments** for activities that may affect the marine environment of ABNJ. These provisions operationalize the obligation (rooted in UNCLOS and general international law) to assess and prevent significant harm to the environment from human activities. The treaty's EIA regime includes the following features:

- **Scope of Activities:** States Parties must ensure EIAs are carried out for **planned activities in ABNJ under their jurisdiction or control that may cause significant adverse impacts on the marine environment**[46] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L551%20provisions%20on,a%20central%20role%20in%20operationalising]. Notably, the treaty also addresses *transboundary impacts*: if an activity is planned within a nation's jurisdiction (e.g. on the high seas adjacent continental shelf or in EEZ) but might have effects beyond national jurisdiction, it may also require an EIA under the BBNJ rules[47] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=sharing%253B%20establishing%20area,have%20negative%20impacts%20in%20ABNJ]. This extension closes a loophole by covering, for example, pollution or noise that crosses into the high seas from national waters.
- **EIA Process and Thresholds:** The agreement sets out a stepwise EIA process, including **screening, assessment, evaluation, and review**[46] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L551%20provisions%20on,a%20central%20role%20in%20operationalising] [48] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Under%20the%20Agreement%252C%20States%20Parties,also%20to%20ensure%20that%20E2%80%9Crelevant]. Each Party must **screen** proposed activities to determine whether an EIA is needed, based on criteria/thresholds (the treaty provides that thresholds for significance and guidelines will be developed to ensure a common standard[49] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=provisions%20on%20EIAs%20is%20to,a%20central%20role%20in%20operationalising]). If a Party decides an EIA is *not* required (i.e. that the activity is unlikely to cause more than a minor or transitory impact), it must **publish the reasoning and relevant information** on the

- CHM to show there are reasonable grounds for that determination[50] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L589%20screening%20to,activity%20will%20not%20cause%20substantial] [51] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=screening%20to%20determine%20whether%20an,activity%20will%20not%20cause%20substantial]. This transparency allows for international scrutiny of screening decisions and ensures that states cannot exempt activities from assessment without justification.
- **Conducting the EIA:** For activities where an EIA is required, the state responsible must prepare an **EIA report** evaluating the potential environmental impacts and proposing mitigation measures (akin to domestic EIA procedures). The treaty underscores that EIA obligations are **State-led** – each State is responsible for assessing activities under its jurisdiction/control[40] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=ovation,that%20another%20party%20could%20register]. However, the process has international elements to ensure rigor and transparency:
 - The Party must issue a **public notification** of the planned activity and the intent to conduct an EIA, including via the CHM[52] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Under%20the%20BBNJ%20Agreement's%20EIA,Beyond%20a%20simple%20notification%20of]. This enables other States and stakeholders to be aware of the project early on.
 - The Party is obliged to carry out **public consultation** and include *potentially affected States and relevant experts* in the EIA process. Draft EIA reports must be published on the CHM for comment and input[53] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L619%20public%20consultation,Subsequently%252C%20the%20Secretariat%20will%20notify] [54] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=public%20consultation%20stage%252C%20the%20Party,Subsequently%252C%20the%20Secretariat%20will%20notify]. The treaty requires that the **Scientific and Technical Body (STB)** also review draft EIA reports and provide its evaluation or recommendations[55] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Tanaka%252C%202024).Beyond%20a%20simple%20notification%20of]. This independent scientific peer-review is a novel feature that adds credibility and consistency to high seas EIAs.
 - After considering feedback, the final EIA report (along with any decision to proceed with the activity and conditions imposed) must be made **available through the CHM**[56] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=,associated%20relevant%20information] [57] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=public%20consultation%20stage%252C%20the%20Party,Subsequently%252C%20the%20Secretariat%20will%20notify]. Even if an EIA was conducted under another international framework (for instance, by the International Maritime Organization or the International Seabed Authority), the State must upload the report to the BBNJ CHM so that all Parties have access to it[58] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L578%20if%20an,Notably%252C%20this%20presents%20potential]. This ensures **cross-sectoral information sharing**, avoiding silos between regimes[59] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=if%20an%20EIA%20for%20a,Notably%252C%20this%20presents%20potential].
 - **Decision and Monitoring:** The State conducting the EIA ultimately decides whether the activity should proceed and under what mitigation conditions (the treaty does not create an international veto, respecting state sovereignty in decision-making). However, **monitoring and reporting** are mandated. Once an activity proceeds, the State must monitor its impacts and periodically report findings. The agreement innovates by providing that **other States can register concerns** if there are substantial new impacts or if the activity deviates from what was assessed[60] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=that%20were%20either%20not%20foreseen,this%20process%20is%20that%20registered]. For example, if unexpected environmental harm is observed, a State Party can lodge a “concern” via the CHM. Such concerns are referred to the STB, which can review the situation and make **recommendations** to the Party responsible for the activity on corrective measures[61] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=that%20were%20either%20not%20foreseen,this%20process%20is%20that%20registered]. All these interactions – concerns raised, and any STB recommendations – are documented and shared through the CHM for transparency[62] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=the%20Scientific%20and%20Technical%20Body%252C,this%20process%20is%20that%20registered]. This creates an oversight loop: while enforcement remains non-punitive, peer review and moral pressure can be exerted to ensure compliance with EIA obligations and adaptive management of impacts.
 - **Integration with Other Regimes:** In line with the treaty’s “not undermining” principle, the EIA part recognizes assessments done under other bodies. The BBNJ EIA process is meant to complement frameworks like the Environmental Management Plan of the International Seabed Authority or Environmental Impact studies under regional agreements. By funneling information from all sources into the CHM, the treaty fosters an integrated view of human impacts on ABNJ[58] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L578%20if%20an,Notably%252C%20this%20presents%20potential]. It also encourages the development of **international guidelines and standards for high seas EIAs** so that all states adhere to similar benchmarks when judging significance and conducting assessments[46] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L551%20provisions%20on,a%20central%20role%20in%20operationalising] [49] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=provisions%20on%20EIAs%20is%20to,a%20central%20role%20in%20operationalising].

Overall, the EIA provisions of the treaty strengthen the duty to prevent environmental harm by introducing a *transparent, multilateral dimension* to environmental assessments in the high seas. The heavy use of the **Clearing-House Mechanism in the EIA process (mentioned in 8 different articles of Part IV)** highlights the CHM's central role as an information hub for notifications, data sharing, and even post-project monitoring[49] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=provisions%20on%20EIAs%20is%20to,a%20central%20role%20in%20operationalising] [56] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=,associated%20relevant%20information]. This EIA regime is expected to improve accountability and environmental protection for activities ranging from marine scientific research to potentially extractive industries in ABNJ, while still being managed through state-led procedures.

Capacity-Building and Transfer of Marine Technology (CB&TT)

Recognizing the **disparities in ocean science and governance capacity** between developed and developing countries, Part V of the treaty is devoted to **Capacity-Building and the Transfer of Marine Technology**. These provisions aim to ensure that all States – especially developing nations, Least Developed Countries, Land-Locked Developing Countries, and Small Island Developing States – can effectively participate in and benefit from the BBNJ regime. Key features include:

- **General Obligation:** Parties “shall cooperate to build and develop the capacity” of developing States Parties to implement the treaty, and *shall* facilitate the transfer of marine technology[63] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=Third%252C%20accessing%20genetic%20resources%20in,exhaustive%20list%20of%20CBTMT] [64] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=includes%20a%20section%20on%20CBTMT,which%20will%20identify%20the]. The use of mandatory language (“shall”) throughout Part V underscores that capacity-building is not discretionary but a legal duty for Parties, particularly those with more resources[64] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=includes%20a%20section%20on%20CBTMT,which%20will%20identify%20the]. The objective is to enable equitable participation in high seas research, conservation, and sustainable use activities.
- **Types of Capacity-Building and Technology Transfer:** The agreement provides a **non-exhaustive list** (in Article 46 and an annex, Annex II) of capacity-building and marine technology transfer measures[65] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=and%20equitable%20manner%252C%20and%20it,enhance%20their%20implementation%20of%20the] [66] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=monitoring%20and%20review%20of%20a,featured%20in%20other%20environmental%20treaties]. These include:
 - Training of personnel and institutional capacity development in marine science.
 - Sharing of knowledge, research results, and data (including open access scientific databases).
 - Development of infrastructure for marine research (e.g. laboratory facilities, research vessels, observation systems).
 - Transfer of marine technology on favorable terms (such as scientific equipment, software, technical methodologies), including **concessional and preferential terms** for developing countries.
 - **Scientific cooperation programs** and joint research projects.
 - Scholarships, traineeships, and exchange of experts.
 - In situ placement of researchers from developing states on research cruises or in deep-sea expeditions.

This broad approach mirrors UNCLOS Part XIV and CBD provisions, but the BBNJ treaty goes further in detailing and obligating support. Notably, *open access to data and knowledge* is explicitly listed as a capacity-building measure, reinforcing the treaty's emphasis on information-sharing as a form of empowerment[17] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=benefits%20shall%20be%20shared%20in,and%20transfer%20of%20marine%20technology].

- **Needs Assessments and Country Requests:** The treaty emphasizes that capacity-building should be **needs-driven**. Developing States Parties are to communicate their specific capacity needs and priorities (for example, training in taxonomic identification, or technology for deep-sea sampling) through reports or the CHM. The **Clearing-House Mechanism** will be used to **match capacity-building “needs” with available “offers”** of assistance[67] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Resources%252C%20Area,envisoned%20functions%20of%20the%20CIHM] [68] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Capacity,from%20existing%20mechanisms%20and%20databases].

This “marketplace” function means, for instance, that if one country requests training in EIA procedures, and another country or institution offers an EIA workshop, the CHM can link them. It ensures coordination and avoids duplication by making all capacity efforts visible.

- **CB&TT Committee:** To oversee this pillar, the agreement establishes a **Capacity-Building and Transfer of Marine Technology Committee** (Article 47). This committee will **identify and review the needs of developing countries**, promote international cooperation for capacity-building, and monitor the implementation of Part V[65] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=and%20equitable%20manner%252C%20and%20it,enhance%20their%20implementation%20of%20the] [66] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=monitoring%20and%20review%20of%20a,featured%20in%20other%20environmental%20treaties]. It will use information from countries (possibly submitted via the CHM or national reports) to recommend priorities and evaluate whether capacity initiatives are effective. The CB&TT Committee is also tasked with advising the COP on improvements to the capacity-building framework over time. Members of this committee will be experts nominated by Parties, reflecting equitable geographic representation and gender balance, similar to other bodies. The creation of this dedicated body highlights the treaty’s ambition to make capacity-building more than aspirational – it will be an actively managed process.
- **Financial Resources and Special Fund:** Implementing capacity-building commitments will require funding. Article 52 establishes a **financial mechanism** that includes multiple funds[69] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=Open%20Questions%20The%20finance%20committee,the%20mobilization%20goal%20to%202030] [70] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=mechanism,Implementation%20and%20Compliance].
- A contribution through the **Global Environment Facility (GEF)** trust fund: The treaty designates the GEF (a global environmental fund) to serve as part of its financial mechanism, which may allocate grants to BBNJ-related projects (the GEF has been invited to support this treaty, as it does for other environmental agreements).

- A **Voluntary Trust Fund:** for contributions by states or other donors to support particular projects or assist developing country participation in meetings.

- A **Special Fund:** specifically to collect **monetary benefit-sharing payments from MGRs** and to finance capacity-building and marine technology transfer initiatives[66] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=monitoring%20and%20review%20of%20a,featured%20in%20other%20environmental%20treaties]. For example, if companies pay into benefit-sharing from commercialization of a deep-sea genetic resource, those funds would likely flow into the Special Fund and be used to fund marine technology transfer, scientific training, or conservation projects in developing states[18] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=,the%20budget%20adopted%20by%20COP]. [19] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=financial%20mechanism%20established%20under%20article,the%20budget%20adopted%20by%20COP]. The Special Fund is novel and is meant to channel the high seas “common heritage” benefits to where they are needed most.

A **Finance Committee** (separate from the financial mechanism) will be set up by the COP to monitor and advise on financial matters[71] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=6,to%20the%20COP%20on%20the]. [72] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=Open%20Questions%20The%20finance%20committee,first%20CoP%20will%20need%20to].

This committee will assess funding needs, oversee disbursement for transparency and accountability, and recommend strategies to mobilize additional resources[73] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-

brief.pdf#:~:text=The%20terms%20of%20reference%20and,report%20on%20other%20funding%20mechanisms]. It ensures that the financial mechanism is properly governed and responsive to the treaty’s objectives. The text explicitly requires consideration of a funding mobilization goal up to 2030 at the first COP, recognizing the urgency of resource mobilization[74] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=mechanism,the%20mobilization%20goal%20to%202030].

In summary, the CB&TT provisions seek to **level the playing field** by providing developing countries the tools, knowledge, and financial support to engage in high seas activities and fulfill their obligations. This responds to equity concerns – that the benefits of the high seas (scientific and economic) should be accessible to all, not only those with advanced technological means[63]

[https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=Third%252C%20accessing%20genetic%20resources%20in,exhaustive%20list%20of%20CBTMT]

[64] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=includes%20a%20section%20on%20CBTMT,which%20will%20identify%20the]. Through

obligatory support measures and innovative tools like the CHM matchmaking and Special Fund, the treaty creates an infrastructure for sustained capacity development, which is critical for its long-term success.

Institutional Framework of the Treaty

The BBNJ Agreement establishes a robust **institutional framework** (Part VI) to oversee and ensure the implementation of its substantive obligations. The institutions are designed with an eye to inclusivity, scientific rigor, compliance support, and collaboration with existing bodies. The major institutional components are:

- **Conference of the Parties (COP):** The COP is the supreme decision-making body of the treaty, composed of all States Parties. It will meet regularly (intervals to be decided, likely annually or biennially) to review implementation, adopt protocols or amendments, and make decisions needed for the treaty's operation. The COP has some notable powers beyond the standard mandate of reviewing reports and budgets[35] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=Conference%20of%20the%20Parties%20will,they%20are%20not%20empty%20promises]. It is explicitly empowered to **establish ABMTs/MPAs** by decision (Article 19)[36] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary/#:~:text=The%20final%20Agreement%20includes%20a,undermine%20the%20effectiveness%20of%20measures], which is an operational conservation role uncommon in many treaties. The COP can also seek advisory opinions from the International Tribunal for the Law of the Sea (ITLOS) on legal questions regarding implementation "as a matter of urgency" (Article 48(6))[35] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=Conference%20of%20the%20Parties%20will,they%20are%20not%20empty%20promises], giving it a direct link to international adjudication if needed. Decisions in the COP will generally be by consensus, but the treaty in several places allows for voting by specified majorities if consensus fails (e.g. for benefit-sharing modalities and possibly MPAs), ensuring the COP can act in the face of stalemate[21] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary/#:~:text=shall%20be%2050,the%20budget%20adopted%20by%20COP]. The COP will also establish rules of procedure, financial rules, and subsidiary bodies as needed. Observers from relevant intergovernmental organizations (e.g., UN agencies, regional fisheries bodies, conservation organizations) and stakeholders can be admitted to COP meetings, reflecting the inclusive approach to ocean governance.
- **Secretariat:** A Secretariat is established to provide administrative, logistical, and technical support for the treaty[75] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=What%20does%20it%20do%253F%20The,This%20includes]. The UN Division for Ocean Affairs and Law of the Sea (DOALOS) is expected to serve as the interim Secretariat until the COP designates a permanent arrangement. The Secretariat's duties include organizing COP and committee meetings, circulating documents, facilitating communications, and assisting parties – especially developing states – in implementation. Critically, the Secretariat will also **manage the Clearing-House Mechanism** and the day-to-day operation of treaty information systems[76] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=organizing%20and%20servicing%20of%20meetings,of%20the%20CHM%20outlined%20below]. It will require dedicated staff with expertise in data management, outreach, and capacity-building to fulfill this role[5] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20CHM%20will%20primarily%20consist,support%20available%20and%20facilitate%20cooperation] [77] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20CHM%20will%20primarily%20consist,large%20parts%20of%20the%20Agreement]. The treaty text calls for the Secretariat to function as a support body rather than a policing entity, in line with its generally facilitative and service-oriented role seen in other MEAs.
- **Scientific and Technical Body (STB):** This is a multidisciplinary expert committee established to provide **scientific and technical advice** to the COP (Article 49)[31] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20STB%20is%20an%20advisory,into%20account%20the%20need%20for]. The STB's core functions include reviewing ABMT/MPA proposals and making recommendations, evaluating EIA reports and environmental data, and advising on scientific matters related to implementation of the treaty's four thematic parts[31] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20STB%20is%20an%20advisory,into%20account%20the%20need%20for] [32] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=and%20technical%20advice%252C%20including%20in,balance%20and%20equitable%20geographical%20representation]. The STB members will be **experts serving in their personal capacity**, not government representatives, to ensure independent advice[34] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20STB%20will%20be%20composed,selection%20process%20and%20terms%20of]. The composition must reflect broad geographic representation, gender balance, and a range of relevant disciplines (marine biology, oceanography, fisheries science, ecology, etc.). The COP will decide the detailed terms of reference, size, and working methods of the STB[78] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=equitable%20geographical%20representation,be%20determined%20by%20the%20CoP]. This body parallels scientific advisory boards in other treaties (e.g., the IPCC-like body in climate agreements, or SBSTTA under CBD), and it is pivotal for grounding COP decisions in sound science. By design, the STB helps to **depoliticize** certain decisions (like identifying ecologically important areas or evaluating the sufficiency of an EIA) by providing a credible knowledge base.

- **Subsidiary Committees:** In addition to the STB, the BBNJ Agreement creates several *specialized committees* to handle specific thematic or functional issues, reflecting the complexity of the treaty. These include:
- **Access and Benefit-Sharing (ABS) Committee:** (Discussed under MGRs above) – advises on MGR benefit-sharing modalities, guidelines, and the interface with CHM and financial mechanism[23] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Final%20Agreement%253A%20In%20the%20final,COP%20on%20matters%20including%20on]. It ensures the evolving benefit-sharing system is fair and effective.
- **Capacity-Building and Transfer of Marine Technology (CB&TT) Committee:** – monitors and guides implementation of Part V (capacity-building), identifies needs of developing countries, and recommends measures to enhance capacity efforts[65] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=and%20equitable%20manner%252C%20and%20it,enhance%20their%20implementation%20of%20the] [66] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=monitoring%20and%20review%20of%20a,featured%20in%20other%20environmental%20treaties]. It works closely with the Secretariat and CHM to match needs with opportunities.
- **Finance Committee:** – oversees financial matters as described above, ensuring funds (Special Fund, GEF trust fund, etc.) are properly managed and advising on resource mobilization[73] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20terms%20of%20reference%20and,report%20on%20other%20funding%20mechanisms] [72] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=Open%20Questions%20The%20finance%20committee,first%20CoP%20will%20need%20to].
- **Implementation and Compliance Committee:** This committee (Article 53 ter in the text) is established to *facilitate implementation and promote compliance* by Parties[79] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=6,punitive%20manner]. It will operate in a **transparent, non-adversarial, and non-punitive manner**[80] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20implementation%20and%20compliance%20committee%E2%80%99s,punitive] – meaning its role is to assist countries in meeting their obligations rather than to impose sanctions. The Committee will likely review national reports, identify difficulties faced by Parties (for instance, if a developing state struggles to conduct EIAs or submit notifications), and recommend remedial measures or offer advice. Its composition will be of experts nominated by Parties, reflecting diversity and relevant expertise, and the COP will set out its procedures. Many environmental treaties have similar compliance committees that work behind the scenes to address issues before they escalate, and in the High Seas Treaty this mechanism is especially important given the need for collective trust and mutual accountability.
- **Clearing-House Mechanism (CHM):** A cornerstone of the institutional framework, deserving its own detailed discussion (see next section), the CHM is established by Article 51 as a **central information exchange platform** for the treaty[81] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=BBNJ%20Agreement%20establishes%20a%20Clearing,The%20multifaceted] [82] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Reflecting%20the%20importance%20afforded%20to,transparency%252C%20including%20through%20the%20facilitation]. It underpins all the substantive parts – MGRs, ABMTs, EIAs, and CB&TT – by facilitating data sharing, transparency, and collaboration. The CHM is not a decision-making body but rather a tool/infrastructure managed by the Secretariat (under COP oversight)[5] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20CHM%20will%20primarily%20consist,support%20available%20and%20facilitate%20cooperation]. Its functions and importance are elaborated in the next section, as it plays a pivotal role in operationalizing the treaty's commitments.
- **Relationship with Other Institutions:** The BBNJ Agreement was carefully crafted to **complement existing ocean governance bodies**. Article 4 and Article 5 of the treaty affirm that it is an *implementing agreement under UNCLOS* and that it shall be interpreted consistent with UNCLOS and not undermine relevant legal instruments or frameworks[83] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=Insights%20Volume%2027%252C%20Issue%206,not%20apply%20to%20military%20vessels] [84] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=%E2%80%A2%20%E2%80%9CIt%20shall%20be%20interpreted,further%20guidance%20from%20the%20Conference]. In practical terms, this means the institutions of the BBNJ treaty will coordinate with bodies like: the International Seabed Authority (which manages seabed mining in “the Area”), regional fisheries management organizations (for fisheries in ABNJ), the International Maritime Organization (for shipping), existing regional marine protected area agreements (e.g., OSPAR in the North Atlantic), and others. For example, the treaty anticipates linking its Clearing-House Mechanism with other global and regional clearing-houses and databases, and explicitly mentions potential cooperation with organizations such as the ISA[85] [https://www.isa.org.jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=Clearing,minor%20adjustments%20to%20ISA%20procedures] [86] [https://www.isa.org.jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=for%20the%20Clearing,ITLOS%252C%20Seabed%20Disputes]. Other bodies may also be invited to participate as observers in the COP or to contribute expertise (the treaty even alludes to drawing on ISA's experience in EIAs and benefit-sharing)[87] [https://www.isa.org.jm/wp-

content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=explicitly%20identified%252C%20alongside%20other%20global,sponsoring%20persons%20and%20[88] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=In%20any%20case%252C%20it%20will,collection%20and%20sampling%20of%20marine]. This collaborative approach is intended to **avoid duplication** of efforts and ensure synergy – a principle also reflected in Article 52(7) regarding coordination of funding to avoid duplication[89] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=contributions%20to%20the,17%20ISA].

- **Additional Noteworthy Features:** The institutional framework of the treaty includes progressive elements such as a commitment to **gender balance** in the composition of bodies and decision-making processes[90] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=mechanism%20,the%20lack%20of%20women%E2%80%99s%20representation]. This was highlighted by negotiators as a response to the underrepresentation of women in ocean science and diplomacy[91] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=mechanism%20,international%20law%20and%20diplomacy%20today]. Also, the treaty provides for **dispute settlement** (by reference to UNCLOS mechanisms, e.g., ITLOS or arbitration, in case of disputes between Parties) and includes standard final clauses (signature, ratification, entry into force after 60 ratifications[92] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focus.2025.1584927/full#:~:text=process%20to%20support%20and%20facilitate,of%20the%20measures%20and%20actions], etc.). The Agreement is open for signature for two years (20 September 2023 to 20 September 2025) and will enter into force 120 days after the 60th instrument of ratification is deposited[2] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focus.2025.1584927/full#:~:text=Part%20V,of%20the%20measures%20and%20actions].

In summary, the BBNJ Agreement's institutional setup is comprehensive and reflects lessons from other environmental treaties: a strong COP for collective decision-making, expert subsidiary bodies for science and compliance, a dedicated focus on equity via ABS and CB&TT committees, and an information hub (CHM) to knit it all together. This framework will guide the implementation of the treaty and adapt over time as needed, under the oversight of the Parties themselves.

Clearing-House Mechanism (CHM)

One of the most innovative and essential features of the High Seas Treaty is the establishment of a **Clearing-House Mechanism (CHM)** (Article 51) to support its implementation. The CHM is conceived as more than just a website or database – it is a *multifaceted platform and network* that will facilitate transparency, cooperation, and compliance across all elements of the treaty. Below, we examine the CHM's legal function, operational modalities, governance structure, and roles, as well as practical considerations for its implementation and comparisons with analogous mechanisms in other regimes.

Mandate and Legal Functions of the CHM

The treaty **formally establishes the CHM as part of its institutional architecture**[81]

[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focus.2025.1584927/full#:~:text=BBNJ%20Agreement%20establishes%20a%20Clearing,The%20multifaceted] [82] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focus.2025.1584927/full#:~:text=Reflecting%20the%20importance%20afforded%20to,transparency%252C%20including%20through%20the%20facilitation]. Article 51 provides the CHM with a broad mandate, making it a central pillar for implementing obligations. Key legal functions assigned to the CHM include:

- **Central Information Repository:** The CHM will serve as an **open-access, centralized platform** for **storing and disseminating information** related to all four substantive parts of the agreement: MGRs, ABMTs/MPAs, EIAs, and CB&TT[81] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focus.2025.1584927/full#:~:text=BBNJ%20Agreement%20establishes%20a%20Clearing,The%20multifaceted] [82] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focus.2025.1584927/full#:~:text=Reflecting%20the%20importance%20afforded%20to,transparency%252C%20including%20through%20the%20facilitation]. In effect, it is the treaty's "one-stop shop" for data and documents. For example, it will host notifications of MGR collection (as legally required by Article 10) and their associated batch identifiers, records of access to traditional knowledge, proposals and decisions for MPAs, EIA screening decisions, EIA reports (draft and final), reports on capacity-building projects, and more[11] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Final%20Agreement%253A%20In%20the%20final,ABNJ%252C%20including%20on%252C%20inter%20alia] [55] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focus.2025.1584927/full#:~:text=Tanaka%252C%202024,Beyond%20a%20simple%20notification%20of]. Making this information publicly accessible fulfills the treaty's transparency obligations and helps inform decision-making by all Parties.
- **Facilitating Legal Obligations:** Many treaty provisions explicitly require use of the CHM to fulfill obligations, effectively making it part of the legal process. For instance:
- **Parties must notify** the CHM prior to MGR collection and provide specified information[11] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Final%20Agreement%253A%20In%20the%20final,ABNJ%252C%20including%20on%252C%20inter%20alia]. The CHM then generates an official identifier[93] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=contributions%20to%20proposed%20major%20programmes], which becomes part of the legal traceability of that sample.

- Parties *must* post their EIA-related documents (notifications, reports, rationales for no-EIA) on the CHM[48] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Under%20the%20Agreement%252C%20States%20Parties,also%20to%20ensure%20that%20E%28%20%29Crelevant%20of%20the%20CHM%20is%20a%20condition%20for%20compliance%20with%20Part%20IV.]. This is a condition for compliance with Part IV. [55] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Tanaka%252C%202024),Beyond%20a%20simple%20notification%20of].
- Parties *shall* use the CHM to share information on ABMT proposals and to consult with others[94] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=match%20at%20L863%20,Indigenous%20Peoples%20and%20local%20communities]. [37] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=match%20at%20L979%20implementation%20of,measures%252C%20shall%20be%20monitored%20and].
- Requests for and offers of capacity-building are *channeled through* the CHM as per Part V[95] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=relating%20to%20the%20four%20elements,insights%20on%20what%20this%20might]. [96] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Article%2051%20affords%20the%20CIHM,12%20Therefore%252C%20the].
- Even the *financial benefit-sharing* mechanism references the CHM – for example, Article 11(4) envisages the CHM facilitating access to DSI and other data which is a form of non-monetary benefit[16] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Final%20Agreement%253A%20In%20the%20final,and%20transfer%20of%20marine%20technology].
- In sum, the CHM is deeply woven into the treaty's operative clauses, not an optional add-on. Legally, it is the **means by which Parties “exchange information” and “cooperate”** under the treaty. Failure to use the CHM as required (e.g. not submitting a mandated notification or EIA report) could constitute non-compliance.
- **Linking with Other Systems:** Article 51 directs that the CHM *shall be capable of linking or interoperating* with other relevant clearing-house systems and databases[85] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=Clearing,minor%20adjustments%20to%20ISA%20procedures]. Specifically, **Article 51(3)(c)** provides that the BBNJ CHM may be linked to “relevant global, regional, subregional, national and sectoral clearing-house mechanisms and other gene banks, repositories and databases”[85] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=Clearing,minor%20adjustments%20to%20ISA%20procedures]. This broad clause recognizes the multitude of existing information sources (from the CBD's ABS Clearing-House and Biosafety Clearing-House, to ISA's DeepData repository, OBIS (Ocean Biogeographic Information System), GenBank for genetic sequences, etc.) and seeks to integrate rather than duplicate. For example, the CHM could harvest or provide data to the ISA's database on deep-sea environmental data, ensuring that sample batch IDs assigned by the CHM are also recorded in ISA records for mineral exploration activities that collect biological samples[97] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=may%20need%20to%20be%20some.php%253Fid%253D109]. [13] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=content%252F2022%252F06%252Fpolicy_brief_benefit_sharing_01_2022,the%20prc]. Such interoperability means the CHM will legally function as a **node in a global network** of marine biodiversity information, enhancing coherence across regimes. Article 51(4) further envisions that the CHM can be *managed in cooperation with other bodies*[98] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=and%20sectoral%20clearing,For%20example], suggesting formal partnerships (for instance, co-developing a module with UNESCO-IOC for oceanographic data exchange).
- **Other Mandated Functions:** Beyond information exchange, Article 51 enumerates specific functions for the CHM, including: facilitating *scientific and technical cooperation*, sharing of environmental baseline data to foster *transparency*, and facilitating *matching of capacity-building needs and offers*[96] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Article%2051%20affords%20the%20CIHM,12%20Therefore%252C%20the]. [99] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=and%20gene%20banks8%20%253B%20fostering,merely%20sharing%20information%20about%20the]. It also acts as an official channel for any additional functions the COP might assign or that are described elsewhere in the treaty[100] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=international%20cooperation%20and%20collaboration%252C%20including,and%20sustainable%20use%20of%20BBNJ]. For example, the COP could request the CHM to host a roster of experts or a database of research cruises. In essence, the CHM's legal remit is defined expansively – it is an *enabling mechanism* intended to support the treaty's core objective through improved access to information[101] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=needs%20and%20opportunities,and%20sustainable%20use%20of%20BBNJ].

In summary, the CHM's legal function is to be the **information backbone** of the BBNJ Agreement – ensuring that commitments on paper (e.g., to share data, to notify activities, to cooperate) translate into action via a concrete platform. It embodies principles of **open access and transparency in international law**, making the otherwise remote high seas more visible and governed by all. By embedding the CHM into the treaty text, states created a binding obligation to establish and use this mechanism, underscoring its importance.

Operational Modalities and Governance Structure

While the treaty sets out what the CHM must do, the exact **modalities of its operation** are largely left to be determined by the COP. Article 51 stipulates that the COP at its first meeting will decide the detailed terms of the CHM's operation, reflecting a need for flexibility and expert input in its design[102]

[[https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-](https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=Open%20Questions%20and%20Considerations%20Specific,start%20thinking%20about%20its%20operationalization)

[brief.pdf#:~:text=Open%20Questions%20and%20Considerations%20Specific,start%20thinking%20about%20its%20operationalization](https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=Open%20Questions%20and%20Considerations%20Specific,start%20thinking%20about%20its%20operationalization)][103]

[[https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-](https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=Specific%20Modalities%20for%20the%20operation,from%20the%20experience%20of%20other)

[brief.pdf#:~:text=Specific%20Modalities%20for%20the%20operation,from%20the%20experience%20of%20other](https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=Specific%20Modalities%20for%20the%20operation,from%20the%20experience%20of%20other)]. However, based on the treaty and analogous systems, we can outline the likely operational and governance features:

- **Management by the Secretariat:** The CHM will be managed and maintained by the treaty's Secretariat[104] [<https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=6.4.%20Clearing,fulfill%20other%20functions%252C%20including%20facilitating>][5] [<https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20CHM%20will%20primarily%20consist,support%20available%20and%20facilitate%20cooperation>]. This implies the Secretariat will host the central web platform, ensure it is updated, secure, and accessible, and coordinate the flow of information. The IUCN policy brief explicitly notes that the CHM will require *dedicated Secretariat staff time* given its breadth of tasks[77] [<https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20CHM%20will%20primarily%20consist,large%20parts%20of%20the%20Agreement>]. We can expect a **CHM Unit** within the Secretariat, possibly consisting of IT specialists, data managers, and outreach officers. The Secretariat will likely also establish user guidelines, technical standards, and help desk support for the CHM.
- **Open Access Platform:** By design, the CHM is to be **open-access** (with information available to all states and the general public)[104] [<https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=6.4.%20Clearing,fulfill%20other%20functions%252C%20including%20facilitating>][5] [<https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20CHM%20will%20primarily%20consist,support%20available%20and%20facilitate%20cooperation>]. This means its default setting is transparency – documents and data submitted under the treaty will be publicly viewable unless the COP decides on some confidential items (e.g., sensitive traditional knowledge might have restricted access, but generally the ethos is open data). The platform will presumably be internet-based for global reach. To accommodate all users, it should be multilingual or at least available in the UN languages. The open nature of CHM is vital for building trust and enabling scientists, civil society, and other stakeholders to contribute to and use BBNJ-related information.
- **Modalities to be Determined by COP:** The First COP (likely in 2025 or 2026) is tasked with adopting **modalities for the CHM's operation**. These will cover technical and procedural aspects, such as:
 - The **format and standards** for data submissions (ensuring interoperability and that data are in machine-readable, standardized formats).
 - Protocols for verifying and updating information (e.g., how states submit notifications or reports, possibly via national CHM focal points or automated systems).
- **Governance arrangements** for the CHM – for example, the COP might establish an *Informal Advisory Committee* for the CHM (similar to what was done under the Nagoya Protocol) to guide its development[105] [<https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=mechanisms%20is%20an%20ongoing%252C%20continuous,147%20Notably%252C%20during%20this%20process>][106] [<https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=ratification%20and%20implementation%20of%20the,house%20and%20its%20functionalities>]. Indeed, lessons from Nagoya show that an Informal Advisory Committee of volunteer experts and country representatives was critical during the pilot phase of the ABS Clearing-House[107] [<https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Nagoya%20Protocol%20entered%20into%20force,modalities%20for%20operation%20were%20agreed>]. A BBNJ CHM advisory group could fulfill a similar role, advising on user needs, technical solutions, and phased implementation.
- **Regional and Decentralized Components:** The COP will consider whether to adopt a *centralized model* (one global system) or a **“hub-and-spokes” decentralized model**[108] [<https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Similar%20to%20other%20CIHMs%20explored,and%20information%20sources%252C%20and%20help>]. Article 51(3) explicitly allows the establishment of regional or subregional clearing-house nodes under the global mechanism[109] [<https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=hub,and%20information%20sources%252C%20and%20help>]. A hub-and-spoke approach might involve, for example, regional organizations hosting linked regional CHMs in different languages or focusing on regional datasets, which feed into the global CHM. The benefit would be greater regional ownership and possibly integration with existing regional databases; the challenge would be ensuring consistency and avoiding fragmentation. This decision will influence the technical architecture.
- **Security and Intellectual Property:** Modalities will also need to address data security (preventing unauthorized alterations, cyber threats) and handling of any proprietary data. While most data should be open, there may be cases (like raw genetic sequences before publication, or certain traditional knowledge) where controlled access is needed. The COP might set rules for what can be marked confidential and how to handle it on CHM.

- **Updates and Maintenance:** A schedule or mechanism for updating CHM functionalities (the CHM should evolve as needs change – modalities might mandate periodic review of the CHM's performance and user feedback incorporation).
- **Governance and Oversight:** Ultimately, the **COP has authority over the CHM**. Article 51 allows the COP to assign new functions to it and to refine its operation[101] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=needs%20and%20opportunities,and%20sustainable%20use%20of%20BBNJ]. The COP will receive reports on the CHM's functioning, likely through the Secretariat's report or a dedicated CHM report, and can issue decisions to improve it. The inclusion of CHM matters in the ABS Committee's mandate (to make recommendations on CHM related to MGRs)[23] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=Final%20Agreement%253A%20In%20the%20final,COP%20on%20matters%20including%20on] [24] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=,relation%20to%20the%20financial%20mechanism] suggests that some subsidiary bodies will feed into CHM governance as well. For instance, the ABS Committee might suggest features needed to track DSI, or the CB&TT Committee might identify new matchmaking functions. In practice, a **continuous improvement process** is anticipated: much like the Nagoya ABS Clearing-House is still guided by an informal committee and feedback rounds years after entry into force[110] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Advisory%20Committee%20was%20then%20established,house%20and%20its%20functionalities], the BBNJ CHM will be an ongoing project. This agile governance is necessary because information technology and user needs evolve quickly.
- **Cooperation with Other Entities:** As noted, governance might include cooperation agreements with relevant organizations. For example, the treaty names the **IOC-UNESCO** as a potential collaborator for the CHM (the IOC had trialed a clearing-house for ocean science as a proof of concept)[111] [https://www.frontiersin.org/journals/research-metrics-and-analytics/articles/10.3389/frma.2021.637127/full#:~:text=Ocean%20Science%20Diplomacy%20can%20Be,America%20and%20the%20Caribbean]. The International Seabed Authority is explicitly identified in negotiations as a partner in linking databases[86] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=for%20the%20Clearing,ITLOS%252C%20Seabed%20Disputes]. The CHM could even be co-managed to some extent: Article 51(4) implies management "in cooperation with" others[98] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=and%20sectoral%20clearing,For%20example], which might mean shared portals or data exchange agreements. The Secretariat would likely take the lead in formalizing such cooperation, under COP approval.

In essence, **the CHM's operation will blend a technical infrastructure with a human support system**.

Delegates in the negotiations stressed that the CHM "should not be limited to a website, but should also have a human component"[112] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=mechanism%20that%20is%20built%20both,effective%20functioning%20of%20the%20CHM] [113] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=during%20the%20negotiations%20of%20the,users]. This means investing in the people who run it and who help users. We anticipate that the CHM will have a helpdesk and possibly regional coordinators or trainings to ensure all countries can effectively use it.

The **human element** also refers to facilitating dialogue – the CHM might host forums or scheduled virtual consultations (for EIA or MPA proposals, for example) rather than just static data[114] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=The%20exact%20form%20and%20function,technical%20assistance%252C%20some%20actors%252C%20particularly] [115] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=will%20likely%20be%20very%20important,technical%20assistance%252C%20some%20actors%252C%20particularly].

The treaty's drafters recognized that some functions, like capacity matchmaking and EIA/ABMT consultations, will require active facilitation, which a purely automated system cannot provide[116] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=EIA%20processes%252C%20and%20ABMT%20provisions%252C,CIHM%20for%20the%20BBNJ%20Agreement] [115] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=will%20likely%20be%20very%20important,technical%20assistance%252C%20some%20actors%252C%20particularly]. Therefore, governance of the CHM includes ensuring sufficient **financial and human resources** for it to function effectively from the start. Lessons from other treaties indicate initial development costs for a clearing-house can be significant (hundreds of thousands of USD per year, largely in staffing)[117] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Importantly%252C%20lessons%20pertaining%20to%20cost,However] [118] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=2017%E2%80%932018%252C87%20of%20the%20largest%20expenditure,member%20were%20required%20for%20optimal],

but these investments are crucial for a "fit-for-purpose" system.

Role in Transparency, Data Sharing, and Compliance

The Clearing-House Mechanism is fundamentally a **transparency and information-sharing instrument**, which has direct benefits for compliance and trust among Parties:

- **Enhanced Transparency:** By providing a publicly accessible window into activities in ABNJ, the CHM dramatically increases transparency. All Parties, regardless of their capacity, can see who is conducting research cruises, where MPAs have been proposed, what the results of an EIA were, and what benefit-sharing payments are being made. This addresses the historical problem of the "high seas knowledge gap" – previously, much activity on the high seas (scientific expeditions, bioprospecting, etc.) went unreported or was only known to those directly involved. Now, through CHM notifications and postings, **nothing significant should happen in ABNJ without the knowledge of the international community**[119] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-

summary#:~:text=,through%20specific%20modalities%20for%20the[120] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-

summary#:~:text=in%20ABNJ%252C%20in%20accordance%20with,the%20interests%20of%20all%20states].

Transparency serves as a deterrent against illicit or harmful activities; actors know their actions will be visible and thus subject to scrutiny and peer pressure.

- **Data Sharing and Scientific Cooperation:** The CHM will house **environmental and scientific data** critical for research and conservation. For example, baseline data collected as part of EIAs (such as biodiversity surveys or pollution measurements in a particular high seas area) must be uploaded to the CHM[96] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Article%2051%20affords%20the%20CIHM,12%20Therefore%252C%20the] [99] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=and%20gene%20banks8%20%253B%20fostering,merely%20sharing%20information%20about%20the]. This creates a growing repository of scientific knowledge about ABNJ that all can use – scientists from developing nations who lack resources to go to sea can access data collected by others, leveling the playing field. The CHM can also link to genetic sequence databases (for MGRs) and to scientific literature, acting as a **clearing-house for knowledge** broadly. Moreover, by connecting to existing data portals, it avoids reinventing the wheel and instead federates data from various sources. This ease of access to information can spur new research collaborations and inform better decision-making (e.g., a country proposing an MPA can gather data from CHM to justify the proposal). In short, the CHM is a tool to implement the principle of using “best available science and knowledge” in high seas governance[121] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=holistic%20and%20cooperative%20approach%20to,the%20Agreement%252C%20namely%20Marine%20Genetic] [122] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=implementation%20of%20the%20BBNJ%20Agreement,critical%20task%20of%20designing%20and].
- **Supporting Compliance:** Transparency via the CHM underpins compliance in several ways. First, it creates a **record of each Party’s actions**: e.g., whether they have submitted required notifications, whether they have conducted EIAs for their high seas activities, what measures they are taking for MPAs, etc. This record can be used by the Implementation and Compliance Committee to identify parties that may need assistance or are lagging. The compliance committee can point to CHM data (or lack thereof) when engaging a Party – for instance, “we note you have not posted any EIA or any capacity needs; is there an issue we can help with?”. Second, CHM empowers **other Parties and civil society** to play a monitoring role. If a Party fails to post something it should, others can raise that diplomatically or through the compliance process. If an EIA document indicates potential violations of standards, others can follow up. This peer review dynamic encourages self-compliance to avoid international criticism. Third, the CHM is an official source of information in case of disputes. Since all information is in one place, if there were an allegation of harm or non-compliance, the evidence on CHM (or absence thereof) is readily available for fact-finding. The presence of CHM reduces the chance of “I didn’t know” excuses; every Party has equal access to information. It also signals that compliance is a **shared responsibility** – everyone can see and everyone is expected to act on the knowledge.
- **Accountability and Confidence-Building:** For developing countries in particular, transparency builds confidence that the treaty’s promises (like benefit-sharing and capacity-building) are being fulfilled. They will be able to track on the CHM whether, for example, monetary benefits are indeed being paid into the Special Fund, and what projects are funded. This helps hold developed countries accountable for their commitments, and likewise shows developed countries that their contributions are documented and used properly. The open nature of CHM thus buttresses the **equity** aims of the treaty by ensuring visibility of actions and resources flowing from North to South and vice versa. Over time, this can strengthen the norm of compliance – countries will want to be seen as responsible actors in this transparent arena.
- **Public Engagement and Knowledge:** An ancillary benefit is that the CHM will also allow **NGOs, academics, and the public** to stay informed and contribute. For example, environmental NGOs might use CHM data to do independent analyses of high seas biodiversity health, or to propose new measures to the COP. Indigenous communities and local communities (IPLCs) can also access information about traditional knowledge usage and ensure their rights are respected. The CHM thereby democratizes information about the global commons, which historically has been confined to experts. This could lead to greater public support and compliance as states face not only peer review but also public opinion based on CHM transparency.

In summary, the CHM serves as the eyes, ears, and memory of the BBNJ Agreement, shining a light on activities in the high seas and making the treaty’s implementation an open book. Experience in other regimes (like the Cartagena Protocol’s Biosafety Clearing-House) shows that such transparency mechanisms are indispensable for building trust – countries are more willing to join and comply with rules when they are confident that others are doing the same and that information is shared equitably[123] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Lessons%20from%20other%20existing%20CIHMs,the%20development%20of%20the%20pilot] [105] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=mechanisms%20is%20an%20ongoing%252C%20continuous,147%20Notably%252C%20during%20this%20process].

The High Seas Treaty’s CHM, with its expansive scope, is poised to significantly advance transparency in ocean governance.

Support for Capacity-Building and Technology Transfer

A particularly important role of the CHM is to actively **support capacity-building and technology transfer** efforts under Part V of the treaty. Unlike many information portals that are passive libraries, the BBNJ CHM is envisioned to have *interactive and matchmaking functions* to ensure that capacity-building is targeted and effective. Key aspects of this role include:

- **Needs and Offers Matching:** The CHM will act as a **matchmaking hub** between those who need capacity-building and those who can provide it[95]
[<https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=relating%20to%20the%20four%20elements,insights%20on%20what%20this%20might>]
[99]
[<https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=and%20gene%20banks8%20%253B%20fostering,merely%20sharing%20information%20about%20the>].
Practically, this means the CHM might have a module where developing States can post specific “needs” – for example, “Country X seeks training in deep-sea taxonomic identification” or “Marine research equipment needed for Country Y’s oceanographic institute.” On the other side, donor countries, international organizations or even NGOs can post “offers” or opportunities – for instance, “Research cruise invites applications from scientists of developing states” or “University Z offers 5 scholarships in marine biology.” The CHM would then facilitate connecting these dots. It may allow users to search and filter opportunities, or even automatically suggest matches (e.g., notifying Country X that a training workshop relevant to their need is available). This kind of clearing-house function (akin to a job market board or dating service for capacity-building) has been identified as a core function by negotiators[95]
[<https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=relating%20to%20the%20four%20elements,insights%20on%20what%20this%20might>]
[68]
[<https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Capacity,from%20existing%20mechanisms%20and%20databases>].
It ensures the good intentions of Part V translate into real projects on the ground by bridging information gaps. Over time, as matches are made and documented on the CHM, it could help identify where persistent gaps are (if some needs go repeatedly unmet, that signals an area requiring more support).
- **Information on Funding and Projects:** The CHM can host information about **funding sources and ongoing projects**. For example, it may list how to access the Special Fund or GEF funding for BBNJ projects, including application procedures and deadlines. It could also track and publicize successful capacity-building case studies or current projects (e.g., a marine technology transfer project that provided equipment to a certain region). By sharing these stories and data, the CHM encourages knowledge transfer between regions – a project in the Pacific could inspire a similar one in the Indian Ocean. It also allows oversight: developing states can see what funds or programs are available and whether they are being utilized.
- **Toolkits and Knowledge Resources:** Part of building capacity is making relevant knowledge readily available. The CHM can serve as a repository for **guidance materials, best practices, and lessons learned** for capacity-building. For instance, if the COP adopts a manual on how to conduct high seas EIAs or a best-practice guide for MPA management, the CHM will host it. Training modules, e-learning courses, scientific manuals (possibly co-developed by the STB or UNESCO-IOC) can be made accessible to all via the CHM. This is crucial for technology transfer: not just the hardware, but the know-how. Additionally, the CHM might link to global databases like the IOC’s Ocean Teacher Global Academy or the CBD’s clearing-house for technology transfer, thus directing users to a wealth of educational resources without duplicating them. By being a **portal to knowledge**, the CHM helps build human and institutional capacity continuously.
- **Collaboration Networks:** The CHM could facilitate networking by listing **experts, institutions, and research facilities** willing to collaborate. For example, a database of marine scientific experts open to mentoring or hosting researchers could be part of it (subject to privacy considerations). It may also map out which countries have what facilities (like marine stations, research vessels) so that others can seek partnerships. This addresses one aspect of technology transfer – awareness of who has what technology or expertise. A developing state wanting to do deep-sea sampling can use CHM to find a partner state or institution that has an ROV (remotely operated vehicle) and might share access or training. In essence, the CHM becomes a **connector and catalyst** for cooperation, consistent with Article 44’s call for international cooperation in capacity-building.
- **Monitoring Capacity-Building Implementation:** The CHM will assist the CB&TT Committee and COP in monitoring progress. Countries might be required to report on capacity-building provided/received, and these reports could be channeled through CHM for transparency. The CHM could have dashboards or indicators (e.g., number of people trained, equipment transferred, funds disbursed by region) which help identify trends or shortfalls. This evidence base can then inform decisions at COP (for instance, if a region is clearly lagging in technology transfer, targeted initiatives can be developed).

It is noteworthy that **developing countries championed the CHM’s capacity-building role** in negotiations, viewing it as a practical way to ensure they benefit from the treaty and not just a token provision. By institutionalizing a modern, digital means of matching needs to resources, the CHM addresses one past challenge: offers of assistance often failed to reach the right recipients due to information gaps. Now, with an interactive platform, the efficiency of capacity-building should improve.

One potential challenge is ensuring that those who need the most help (some least developed countries or small islands) have the ability to access and use the CHM (this is addressed in the next section). However, if implemented well, the CHM's support for capacity-building could become a model for other treaties, as it moves beyond passive information-sharing to active facilitation of cooperation.

Practical Implementation Considerations and Challenges

Implementing the Clearing-House Mechanism will be a complex task, especially given its wide scope. Several practical needs and challenges have been identified:

- Data Interoperability:** To fulfill its mandate of linking with diverse databases and ensuring information can be widely used, the CHM must adhere to **FAIR data principles (Findable, Accessible, Interoperable, Reusable)**[124] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=data%20are%20FAIR%20,information%20should%20be%20easily%20discoverable]. The treaty explicitly references the FAIR concept, indicating Parties' intent that data shared be in standardized, machine-readable formats[17] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary#:~:text=benefits%20shall%20be%20shared%20in,and%20transfer%20of%20marine%20technology] [124] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=data%20are%20FAIR%20,information%20should%20be%20easily%20discoverable]. Interoperability means, for example, that metadata for a marine genetic sample on the CHM should align with internationally recognized standards (so that it can be cross-referenced in gene bank repositories or scientific literature). It also means the CHM platform should be built with APIs (Application Programming Interfaces) enabling other systems to query its data and vice versa. Adopting common vocabularies (for species, areas, etc.), perhaps using existing ones like OBIS or GBIF for biodiversity data, will be essential. Without strong interoperability, the CHM risks becoming a silo; with it, the CHM can act as a **node that interconnects global ocean data** seamlessly. Technical working groups involving data scientists will likely be needed early on to design this aspect.
- Digital Infrastructure and Accessibility:** The CHM will require robust digital infrastructure – reliable servers, cloud storage (given potentially large datasets, e.g., environmental DNA sequence data or GIS mapping data for MPAs), and cybersecurity measures. It must handle potentially heavy usage during peak times (like right before COP meetings or when a major EIA is posted). Ensuring 24/7 uptime and backup systems (to prevent data loss) is critical given the CHM's legal significance. The platform should be user-friendly, with a well-designed interface and search functionality so users can actually find and use the information. Importantly, since the audience ranges from policy-makers to scientists to community members, the design must be intuitive for different levels of technical skill. Considering low-bandwidth options is also wise: a lightweight version of the site or offline access method (such as downloadable datasets or CD/DVD distribution on request) could help users in areas with poor internet. For remote Pacific islands or developing states with unstable connectivity, these accommodations might make a big difference.
- National-Level Integration:** The CHM's success will partly depend on effective **national focal points and systems**. Typically, for treaties with clearing-houses (like the CBD's CHM or Cartagena's BCH), countries designate a **National Focal Point or Administrator** who is responsible for uploading and validating information related to that country. We can expect the BBNJ COP to request Parties to nominate CHM focal points. Those individuals will need training and resources. Some states might choose to build or adapt **national databases** that connect to the CHM (e.g., a national repository of high seas research that automatically feeds into the CHM). A "single sign-on" system for national admins to input data could improve efficiency. Additionally, national integration means aligning domestic processes: for example, if a marine scientific research permit is issued by a country's agency for a cruise in ABNJ, there should be a procedure to promptly send the relevant info to the CHM (maybe even making CHM notification a condition of the permit). Countries will need to update their **legislation and workflows** accordingly. Developing these national systems is itself a capacity-building exercise; the treaty's CB&TT provisions may need to assist countries in setting up the necessary **domestic infrastructure or portals** that interface with the global CHM[125] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=likely%20need%20to%20be%20more,users%252C%20is%20critical%20and%20necessitates] [126] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=needs%20are%20could%20prove%20advantageous,critical%20and%20necessitates%20proactive%20consideration].
- User Support and Training:** Rolling out the CHM will require training end-users, especially in developing countries. This includes training government officials on how to submit information (e.g., how to fill in the MGR notification form on CHM), how to download and interpret data, and how to use CHM to find capacity opportunities. It also involves awareness-raising so that stakeholders (like researchers and companies) know about the CHM and feed information into it via their governments. The treaty negotiators emphasized the need for a **strong human support element**[112] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=mechanism%20that%20is%20built%20both,effective%20functioning%20of%20the%20CIHM] [115] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=will%20likely%20be%20very%20important,technical%20assistance%252C%20some%20actors%252C%20particularly] – likely the Secretariat will organize workshops, webinars, and helpdesk services. In some cases, it might mean deploying personnel to certain regions for on-site support. Adequate budget for these activities must be allocated (which the Finance Committee will need to consider). Without user buy-in and capability, even the best platform will sit idle.

- **Challenges for Developing Countries:** Many developing nations face constraints that could hinder full CHM utilization:
- **Technical Infrastructure:** Some SIDS and LDCs have limited internet bandwidth, outdated computer systems, or unreliable electricity, which can make consistent online engagement difficult. This could affect their ability to upload large datasets or even regularly monitor CHM updates. Solutions may include providing hardware support (e.g., funding for computers, satellite internet access, etc.) or designing an interface that works on mobile devices since in some places mobile internet is more accessible than broadband.
- **Human Capacity:** There may be a shortage of trained personnel to handle the scientific and technical information. For example, preparing an EIA summary for CHM or extracting data may require expertise that some small administrations lack. This ties back to capacity-building: the treaty might use the CHM itself to identify these gaps and direct assistance. The CHM's Informal Advisory Committee or Secretariat could pair resource-rich countries with specific poorer countries for mentorship on CHM usage.
- **Language:** While the CHM will likely operate in UN official languages, local stakeholders might not be fluent in those languages. Important information may need translation (the CHM already budgets for some translation of content[127]
[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=disaggregated%252C%20insights%20into%20potential%20costs,Union%20and%20Switzerland%20150%20and][118]
[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=2017%E2%80%932018%252C87%20the%20largest%20expenditure,member%20were%20required%20for%20optimal]). Ensuring that at least the interface and guidance are in multiple languages will aid inclusivity.
- **Initial Setup Costs:** Although using the CHM is far cheaper than creating a national data center from scratch, there are some costs (staff time, training, possibly software). International support (through the Special Fund or GEF) may need to subsidize these costs for poorer states. The frontiers analysis indicates that early implementation of clearing-houses often relied on extra-budgetary support from donors[118]
[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=2017%E2%80%932018%252C87%20the%20largest%20expenditure,member%20were%20required%20for%20optimal][128]
[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=108%252C693%20for%20program%20support%20costs%252C,other%20staff%20from%20across%20the] – for example, the EU and Switzerland funded initial ABS-CH personnel. A similar approach might be needed so developing countries aren't left behind in the CHM rollout.
- **Managing Expectations and Phased Implementation:** Given the breadth of functions (from data repository to interactive hub), the CHM may need to be implemented in **phases**. For instance, a basic version might launch by the treaty's entry into force – covering core functions like MGR notification submission and EIA report sharing (which are immediately needed) – and later modules for more advanced features (like full-fledged capacity matchmaking) could be rolled out. It's important that Parties understand this and prioritize essential features first. A rushed attempt to do everything at once could lead to an unstable system. By phasing, developers can incorporate user feedback and scale up. During initial years, parallel use of interim solutions (such as email notifications, or using existing platforms like the CBD CHM for some tasks) might be required until the bespoke BBNJ CHM is fully operational. The **Interim Secretariat** is likely already considering a pilot or prototype CHM in the lead-up to COP[129] [https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=CHM%20are%20yet%20to%20be,the%20experience%20of%20other%20CHMs][130]
[https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=implementation%20of%20large%20parts%20of,Committee%20What%20does%20it%20do], which would allow testing of concepts.

In conclusion, implementing the CHM is as much a *capacity-building exercise* as a technical one. It will require resources, careful planning, and international cooperation. The treaty text anticipated these challenges by including provisions to ensure the CHM is user-friendly for SIDS and developing states[86]

[https://www.isa.org.jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=for%20the%20Clearing,ITLOS%252C%20Seabed%20Disputes][131]
[https://www.isa.org.jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=one%20consequence%20for%20ISA%E2%80%99s%20processes%252C,4].

This likely translates into instructions for the mechanism to be simple to use, with appropriate support. By addressing these practical considerations head-on, the CHM can truly become the empowering tool it is meant to be, rather than a source of division. If successful, developing countries stand to benefit greatly – gaining unprecedented access to high seas data and opportunities – and thus have strong incentive to advocate for and contribute to a well-resourced CHM.

Comparison with Other International Clearing-House Mechanisms

The concept of a clearing-house mechanism is not new; several international environmental agreements have established similar systems. However, the BBNJ CHM is unique in its breadth. Comparing it with analogous mechanisms can provide insight into best practices and potential pitfalls:

- **Nagoya Protocol (Access and Benefit-Sharing) – ABS Clearing-House:** The 2010 Nagoya Protocol under the Convention on Biological Diversity (CBD) set up the Access and Benefit-Sharing Clearing-House (ABS-CH) to facilitate implementation of genetic resource access and benefit-sharing. The ABS-CH's primary role is to publish national ABS permits (known as internationally recognized certificates of compliance), national legislative measures, and to allow provider countries and user countries to verify legal access to genetic resources. **Similarities:** Both Nagoya's ABS-CH and BBNJ's CHM deal with genetic resources and

benefit-sharing information. BBNJ's CHM will likewise record permits/notifications of MGR collection and subsequent utilization (through batch IDs and potentially records of monetary benefits paid)[11] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-

summary#:~:text=Final%20Agreement%253A%20In%20the%20final,ABNJ%252C%20including%20on%252C%20inter%20alia]

[18] [https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-

summary#:~:text=,the%20budget%20adopted%20by%20COPJ]. Both mechanisms aim to **enhance**

transparency and legal certainty in ABS transactions. **Differences:** The ABS-CH is narrower in scope – it focuses on bilateral transactions within national jurisdictions (provider country – user country scenarios), whereas the BBNJ CHM covers *global commons* where there is no national “owner” but a collective management. Thus, BBNJ CHM must also handle things like MPA proposals and EIAs, which ABS-CH does not. Operationally, Nagoya's ABS-CH was developed **prior to entry into force** via an expert group and a pilot phase (2011–2014)[105]

[https://www.frontiersin.org/journals/ocean-

sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=mechanisms%20is%20an%20ongoing%252C%20continuous,147%20Notably%252C%20during%20this%20process]

[107]

[https://www.frontiersin.org/journals/ocean-

sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Nagoya%20Protocol%20Entered%20into%20force,modalities%20for%20operation%20were%20agreed].

This early start proved valuable – by the time Nagoya came into force in 2014, the clearing-house was ready for use[110] [https://www.frontiersin.org/journals/ocean-

sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Advisory%20Committee%20was%20then%20established,house%20and%20its%20functionalities].

This lesson is explicitly noted by BBNJ scholars, suggesting that a similar **early development and pilot-testing** of the BBNJ CHM (even before the treaty enters into force) would be wise[105]

[https://www.frontiersin.org/journals/ocean-

sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=mechanisms%20is%20an%20ongoing%252C%20continuous,147%20Notably%252C%20during%20this%20process]

[107]

[https://www.frontiersin.org/journals/ocean-

sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Nagoya%20Protocol%20Entered%20into%20force,modalities%20for%20operation%20were%20agreed].

Another aspect from Nagoya: an **Informal Advisory Committee** continues to refine the

ABS-CH, indicating that ongoing stakeholder feedback is vital[110]

[https://www.frontiersin.org/journals/ocean-

sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Advisory%20Committee%20was%20then%20established,house%20and%20its%20functionalities].

The BBNJ CHM will likely benefit from establishing such a committee for continuous improvement. On governance, the ABS-CH is run by the CBD Secretariat, with Parties mandated to regularly update their info. BBNJ mirrors this by placing CHM under its Secretariat and requiring Party inputs. A challenge Nagoya faced is that not all countries were quick to use the ABS-CH, partly due to capacity issues; BBNJ is proactively addressing this by focusing on user-friendliness and support[129] [https://iucn.org/sites/default/files/2024-

01/iucn-bbnj-treaty-policy-

brief.pdf#:~:text=CHM%20are%20yet%20to%20be,the%20experience%20of%20other%20CHMs][125]

[https://www.frontiersin.org/journals/ocean-

sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=likely%20need%20to%20be%20more,users%252C%20is%20critical%20and%20necessitates].

- **Cartagena Protocol (Biosafety) – Biosafety Clearing-House (BCH):** The 2000 Cartagena Protocol on Biosafety (also under CBD) created the BCH to exchange information on Living Modified Organisms (LMOs) – e.g., national decisions on GMO imports, risk assessments, and occurrences of illegal transboundary movements. **Similarities:** Both BCH and BBNJ CHM serve as *regulatory information hubs* – making national decisions and data accessible to others to facilitate safe and informed practices. Both are also open-access and aim for real-time updates. **Differences:** The BCH is highly focused on a single issue (biosafety of GMOs), whereas BBNJ CHM is multi-purpose. One relevant point: the **core data management component** of the BCH was prioritized early and expanded over time[132]

[https://www.frontiersin.org/journals/ocean-

sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=of%20the%20CBD's%20Biosafety%20Clearing,ain%20et%20al.%252C%202018].

For instance, initially it allowed posting of national contacts and decisions; later it incorporated databases of risk assessment summaries, etc. This stepwise approach might be instructive for BBNJ CHM – start with the essential functions (like posting required notifications and decisions) and then layer on additional data exchange features. The BCH also taught the importance of **common formats and controlled vocabularies** (so that a search for “maize” or “corn” yields the same LMO info, for example). For BBNJ, harmonizing terms (e.g., species names, area descriptors) will be similarly important. Another lesson from the BCH is the value of **regional and sub-regional capacity-building**; the CBD Secretariat held numerous regional workshops to train national focal points on using the BCH. BBNJ will likely need to do the same, potentially leveraging CBD's existing networks given some overlap in national focal points across biodiversity instruments.

- **UNCLOS and Existing Ocean Mechanisms:** UNCLOS itself (1982) did not have a digital clearing-house (pre-Internet era), but it provided the **philosophical basis** for information-sharing in marine science. For example, UNCLOS Article 244 requires States to “*publish and disseminate information on marine scientific research*” and to “*actively promote the flow of scientific data and information*” through international channels. The BBNJ CHM can be seen as a concrete realization of these UNCLOS principles – effectively the modern “international channel” to publish marine science results from ABNJ[133] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=XIII,employment%20in%20research%20in%20the]
- [134] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=benefit%20of%20ISA,ISA%20are%20under%20an%20obligation].
- Additionally, UNCLOS Part XIV on technology transfer encourages the establishment of marine scientific and technological centers, which anticipated a network for sharing knowledge (e.g., via IOC-UNESCO)[135]
- [https://www.un.org/Depts/los/biodiversityworkinggroup/IOCReportforBBNJPrepCom-FINAL.PDF#:~:text=UNCLOS%20,of%20marine%20scientific%20research]. In fact, UNESCO's IOC has experimented with a “clearing-house mechanism” for ocean science in the past as a proof-of-concept[111] [https://www.frontiersin.org/journals/research-metrics-and-

analytics/articles/10.3389/frma.2021.637127/full#:~:text=Ocean%20Science%20Diplomacy%20can%20Be,America%20and%20the%20Caribbean], and regional centers exist that manage ocean data. The BBNJ CHM will tie into this legacy by linking with IOC's Ocean Data systems and possibly building regional nodes. Another relevant existing mechanism is the **ISA's databases**: while not called a clearing-house, the International Seabed Authority maintains extensive data from contractors on deep-sea mining exploration, including environmental baseline data and samples collected. The BBNJ treaty explicitly calls for coordination with ISA, for instance by integrating the CHM's sample identifier system with ISA's database[87] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=explicitly%20identified%252C%20alongside%20other%20global,sponsoring%20persons%20and%20 [13] [https://www.isa.org/jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=content%252Fuploads%252F2022%252F06%252Fpolicy_brief_benefit_sharing_01_2022,the%20prc

This could effectively extend the CHM's reach into the mineral exploration domain, ensuring a two-way flow: data from ISA informs BBNJ (e.g., regarding biodiversity in the Area), and BBNJ notifications of biological research in the deep seabed inform ISA. Compared to Nagoya/Cartagena, UNCLOS-era mechanisms were more fragmented and often not publicly accessible; the BBNJ CHM thus represents a leap to a unified, transparent, **21st-century information system** for ocean governance.

- Cartagena Protocol's BCH vs. BBNJ CHM on Compliance:** One interesting comparison is how these mechanisms can indirectly enforce compliance. Under Cartagena, if a country doesn't post a required import decision or risk assessment on the BCH, it becomes apparent and other countries might be wary of trading with them, etc. Similarly, if under BBNJ a country doesn't submit an EIA it should have, this gap will be visible on CHM and can be raised in compliance meetings. Both create a form of "**sunshine enforcement**", relying on transparency to encourage states to follow through on their obligations[52] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focusu.2025.1584927/full#:~:text=Under%20the%20BBNJ%20Agreement's%20EIA,Beyond%20a%20simple%20notification%20of] [55] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focusu.2025.1584927/full#:~:text=Tanaka%252C%202024),Beyond%20a%20simple%20notification%20of]. The presence of a compliance committee in BBNJ strengthens this loop, and they will likely use CHM records as evidence.
- Convention on Biological Diversity (CBD) – CBD Clearing-House Mechanism:** The CBD itself (1992) established a general CHM (separate from the specific ones for Nagoya and Cartagena). The CBD CHM's goal is to promote scientific and technical cooperation. Many Parties have their own national CHM websites as part of this network. **Lesson:** The CBD CHM taught the importance of **networking decentralized components** – national CHMs feed information to a global portal. BBNJ's CHM, as noted, contemplates a similar hub-and-spoke model[108] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focusu.2025.1584927/full#:~:text=Similar%20to%20other%20CHMs%20explored,and%20information%20sources%252C%20and%20help]. Also, the CBD CHM has shown that maintaining an active, up-to-date CHM requires constant content generation and interaction, not just passive posting. Some national CHMs became inactive due to lack of updates. BBNJ can avoid this by integrating the CHM deeply into each obligation (so that constant inputs are required) and by having the Secretariat actively curate content (e.g., highlight new data or analyses to keep users engaged).
- Basel, Rotterdam, Stockholm Conventions – Joint Clearing-House:** The chemicals and waste conventions run a **joint clearing-house** for information on chemicals, which has a budget of a few hundred thousand USD per biennium[136] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focusu.2025.1584927/full#:~:text=envisoned%20to%20be%20around%20USD,154] [137] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focusu.2025.1584927/full#:~:text=example%252C%20the%20joint%20clearing,154]. It shows that cost-sharing and integration across agreements is possible. While BBNJ is a stand-alone treaty, it might interface with others (e.g., sharing information on ocean pollutants). One takeaway is that even with limited funds, a focused clearing-house can operate if well-designed, but for a scope as broad as BBNJ's, the investment will need to be larger (frontiers estimate perhaps around \$250k-\$500k per year in steady state, based on ABS-CH costs)[117] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focusu.2025.1584927/full#:~:text=Importantly%252C%20lessons%20pertaining%20to%20cost,However] [118] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focusu.2025.1584927/full#:~:text=2017%E2%80%932018%252C87%20to%20the%20largest%20expenditure,member%20were%20required%20for%20optimal].

In summary, the BBNJ Clearing-House Mechanism draws inspiration from prior mechanisms like those under the Nagoya and Cartagena Protocols, but it will break new ground in terms of the diversity of functions and stakeholders it serves. It can be thought of as a **next-generation clearing-house**, combining regulatory transparency (like Cartagena), benefit-tracking (like Nagoya), and broad data exchange (like CBD CHM), all in one. The experience from those systems provides a roadmap: **start early, involve users in design, ensure adequate funding for human support, and iterate continuously**[105] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focusu.2025.1584927/full#:~:text=mechanisms%20is%20an%20ongoing%252C%20continuous,147%20Notably%252C%20during%20this%20process] [138] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focusu.2025.1584927/full#:~:text=The%20exact%20form%20and%20function,it%20is%20likely%20that%20without].

By learning these lessons, the BBNJ CHM has the potential to significantly enhance international cooperation for the high seas, setting a precedent for how digital tools can support global governance of the commons.

Conclusion

The 2023 High Seas Treaty (BBNJ Agreement) represents a historic step in international law, creating a comprehensive regime to govern the global ocean commons. Its design features – from a framework for equitable sharing of marine genetic resources, to a mechanism for establishing high seas marine protected areas, to robust requirements for environmental impact assessments and commitments to build capacity – are all geared towards the dual goals of **conservation and sustainable use** of marine biodiversity beyond national borders. Underpinning all these elements is a forward-looking institutional structure that seeks to balance **scientific input, equity, and compliance**. The **Clearing-House Mechanism** emerges as a linchpin of this structure: it operationalizes transparency and cooperation in ways never before implemented at the global ocean scale. Legally mandated and integrated across the treaty's pillars, the CHM will function as the information and communication engine driving the treaty's implementation.

For diplomats and legal practitioners, the BBNJ Agreement offers an innovative blend of classic legal obligations (reports, meetings, committees) with modern modalities (digital platforms, data standards, networked governance). Its success will depend on diligent follow-through: setting up the institutions promptly, securing resources (especially for developing country participation), and political will to utilize the tools provided – including the CHM – to their fullest. The treaty also leaves certain details to be fleshed out by the COP (such as CHM modalities, benefit-sharing rates, and criteria for EIAs), meaning that continued negotiation and fine-tuning will be part of the process in the coming years.

Notably, the Clearing-House Mechanism will require an early and sustained commitment to build and refine, but it holds immense promise. If effectively realized, it can knit together disparate actors – scientists, governments, industries, and civil society – into a more **transparent and collaborative governance network for the high seas**. In doing so, it addresses a long-standing gap in ocean governance: the lack of shared information and coordination that has hindered collective action in ABNJ. By comparing it with mechanisms from the Nagoya Protocol, UNCLOS, and the Cartagena Protocol, we see that the CHM stands on the shoulders of prior efforts but also must tackle new challenges given the high seas context.

In conclusion, the BBNJ Treaty's design reflects a careful compromise and synthesis of ideas: it embeds UNCLOS principles like freedom of marine scientific research and common heritage with new principles of equity and ecosystem stewardship. It creates avenues for **inclusive decision-making** (giving developing countries and stakeholders a voice through committees and transparency) and ensures that decisions will be informed by the **best available science and knowledge** (through the STB and CHM)[121]

[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=holistic%20and%20cooperative%20approach%20to,the%20Agreement%252C%20namely%20Marine%20Genetic] [139]

[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Agreement%20also%20establishes%20the%20foundational,in%20practice%20and%20what%20success].

For a legal/diplomatic audience, the treaty stands as a testament to contemporary multilateralism – one that is adaptive, innovative, and geared towards practical implementation. As States now move toward ratification and the first COP, the focus shifts from negotiation to action: building the institutions, populating the CHM with data, and ultimately achieving tangible conservation outcomes on the high seas. The groundwork laid by the treaty's design features gives reason for optimism that the international community can collectively rise to the challenge of protecting and sustainably using the **blue heart of our planet**, the high seas, for present and future generations[140]

[https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=More%20than%20an%20implementation%20agreement,developed%20worlds%20to%20consolidate%20consensus] [141] [https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=resources,from%20stipulating%20the%20general%20obligations].

Sources: Official Text of the 2023 BBNJ Agreement; Earth Negotiations Bulletin Summary of Final Session[10]

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[https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5-resumed-summary/#:~:text=,the%20budget%20adopted%20by%20COP]; Centre for International Law Analysis[142]

[https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=states%20to%20submit%20proposals%20to,and%20procedural%20requirements%20for%20the] [35]

[https://cil.nus.edu.sg/blogs/the-bbnj-agreement-links-between-the-new-and-existing-laws-on-protecting-marine-biodiversity/#:~:text=Conference%20of%20the%20Parties%20will,they%20are%20not%20empty%20promises]; IUCN Policy Brief on BBNJ[5]

[https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=The%20CHM%20will%20primarily%20consist,support%20available%20and%20facilitate%20cooperation] [102]

[https://iucn.org/sites/default/files/2024-01/iucn-bbnj-treaty-policy-brief.pdf#:~:text=Open%20Questions%20and%20Considerations%20Specific,start%20thinking%20about%20its%20operationalization];

Frontiers in Ocean Sustainability (Caldeira et al. 2025) on BBNJ CHM[82]

[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Reflecting%20the%20importance%20afforded%20to,transparency%252C%20including%20through%20the%20facilitation] [96]

[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Article%2051%20affords%20the%20CIHM,12%20therefore%252C%20the];

ISA Technical Paper on BBNJ and ISA[85] [https://www.isa.org.jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=Clearing,minor%20adjustments%20to%20ISA%20procedures] [86]

[https://www.isa.org.jm/wp-content/uploads/2024/06/The_contribution_of_ISA_to_the_BBNJ_objectives.pdf#:~:text=for%20the%20Clearing,ITLOS%252C%20Seabed%20Disputes];

CBD Nagoya Protocol ABS Clearing-House documents[105] [https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=mechanisms%20is%20an%20ongoing%252C%20continuous,147%20Notably%252C%20during%20this%20process]; and others as cited above.

[1] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Concerning%20the%20biological%20diversity%20of,EIAs%253B%20Part\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Concerning%20the%20biological%20diversity%20of,EIAs%253B%20Part)

[2] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Part%20V\),of%20the%20measures%20and%20actions\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Part%20V),of%20the%20measures%20and%20actions)

[3] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=specifically%20to%20the%20conservation%20and,and%20sustainable%20use%20actions%20for\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=specifically%20to%20the%20conservation%20and,and%20sustainable%20use%20actions%20for)

[46] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L551%20provisions%20on,a%20central%20role%20in%20operationalising\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L551%20provisions%20on,a%20central%20role%20in%20operationalising)

[48] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Under%20the%20Agreement%252C%20States%20Parties,also%20to%20ensure%20that%20%E2%80%9Crelevant\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Under%20the%20Agreement%252C%20States%20Parties,also%20to%20ensure%20that%20%E2%80%9Crelevant)

[49] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=provisions%20on%20EIAs%20is%20to,a%20central%20role%20in%20operationalising\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=provisions%20on%20EIAs%20is%20to,a%20central%20role%20in%20operationalising)

[50] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L589%20screening%20to,activity%20will%20not%20cause%20substantial\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L589%20screening%20to,activity%20will%20not%20cause%20substantial)

[51] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=screening%20to%20determine%20whether%20an,activity%20will%20not%20cause%20substantial\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=screening%20to%20determine%20whether%20an,activity%20will%20not%20cause%20substantial)

[52] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Under%20the%20BBNJ%20Agreement's%20EIA,Beyond%20a%20simple%20notification%20of\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Under%20the%20BBNJ%20Agreement's%20EIA,Beyond%20a%20simple%20notification%20of)

[53] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L619%20public%20consultation,Subsequently%252C%20the%20Secretariat%20will%20notify\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L619%20public%20consultation,Subsequently%252C%20the%20Secretariat%20will%20notify)

[54] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=public%20consultation%20stage%252C%20the%20Party,Subsequently%252C%20the%20Secretariat%20will%20notify\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=public%20consultation%20stage%252C%20the%20Party,Subsequently%252C%20the%20Secretariat%20will%20notify)

[55] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Tanaka%252C%202024\),Beyond%20a%20simple%20notification%20of\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=Tanaka%252C%202024),Beyond%20a%20simple%20notification%20of)

[56] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=,associated%20relevant%20information\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=,associated%20relevant%20information)

[57] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=public%20consultation%20stage%252C%20the%20Party,Subsequently%252C%20the%20Secretariat%20will%20notify\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=public%20consultation%20stage%252C%20the%20Party,Subsequently%252C%20the%20Secretariat%20will%20notify)

[58] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L578%20if%20an,Notably%252C%20this%20presents%20potential\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=match%20at%20L578%20if%20an,Notably%252C%20this%20presents%20potential)

[59] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=if%20an%20EIA%20for%20a,Notably%252C%20this%20presents%20potential\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=if%20an%20EIA%20for%20a,Notably%252C%20this%20presents%20potential)

[60] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=that%20were%20either%20not%20foreseen,this%20process%20is%20that%20registered\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=that%20were%20either%20not%20foreseen,this%20process%20is%20that%20registered)

[61] [\[https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=that%20were%20either%20not%20foreseen,this%20process%20is%20that%20registered\]](https://www.frontiersin.org/journals/ocean-sustainability/articles/10.3389/focsu.2025.1584927/full#:~:text=that%20were%20either%20not%20foreseen,this%20process%20is%20that%20registered)

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