MARINE SPATIAL PLANNING AS A STRATEGIC GOVERNANCE TOOL — INDIA'S DOMESTIC CAPABILITY AND REGIONAL LEADERSHIP IN THE INDIAN OCEAN

Dr Chime Youdon

Keywords: *Marine Spatial Planning, Indian Ocean, Regional Cooperation, Ocean Governance*

This paper argues that India should understand Marine Spatial Planning (MSP) not merely as an environmental management and conservation tool, but as a strategic asset. A carefully governed MSP architecture, one that integrates critical seabed infrastructure, including submarine cables, pipelines, and offshore installations, as a distinct and interoperable spatial layer, can strengthen India's maritime and seabed domain awareness, support infrastructure resilience, and create an opportunity for India to shape and lead regional approaches to MSP across the Indian Ocean.

The case for this claim rests on how contested the ocean has become. Expanding activities, including shipping, offshore energy, fisheries and aquaculture, seabed resource extraction, submarine cables, tourism, and marine conservation, are competing for limited and interconnected marine space. At the same time, climate change, biodiversity loss, technological advances, and growing geopolitical competition are increasing the complexity of managing these activities. The challenge is no longer simply how to develop marine resources, but how to reconcile competing economic, environmental, and strategic interests within an increasingly crowded maritime domain.

These pressures are compounded by the nature of the ocean itself. Seas and the ocean basins in which they are located are vulnerable ecosystems composed of interrelated biological, chemical, and physical processes, and they provide not only ecosystem goods and services but also abiotic benefits such as wind for offshore energy and corridors for navigation, which are increasingly central to national economic strategies.[1] This has been reinforced by the growing prominence of the "blue growth" agenda, promoted by the OECD and the European Commission, which frames the ocean as key to future economic competitiveness.[2] Yet exploiting this potential raises a fundamental sustainable-development dilemma: how to simultaneously preserve and use ecosystems that remain, in many respects, poorly understood. Many emerging maritime activities, including ocean-basin transmission grids, shipping routes, dredging, submarine cables, and pipelines, also have strong transboundary dimensions, while their impacts, from pollution to underwater noise, rarely remain

[1] F Douvere, "The Importance of Marine Spatial Planning in Advancing Ecosystem-Based Sea Use Management," *Marine Policy*, Vol 32 (2008), pp 762–771, https://doi.org/10.1016/j.marpol.2008.03.021.
[2] J Zaucha, "Can Classical Location Theory Apply to Sea Space?," in J Zaucha and K Gee (eds.), *Maritime Spatial Planning* (Cham: Palgrave Macmillan, 2019), https://doi.org/10.1007/978-3-319-98696-8_5

confined to the waters in which they occur. Transboundary approaches are, therefore, increasingly necessary not only for economic development but also for resource management and protection, directly underpinning the case for regional MSP cooperation, developed later in this paper. As the maritime domain becomes increasingly data-driven and strategically contested, MSP can be understood as more than a spatial-planning and conservation instrument. It can also function as a marine-information architecture through which information on infrastructure, seabed characteristics, ecosystems, resources, shipping routes, offshore installations, and vulnerable areas, is collected, standardised, integrated, and spatially interpreted. Effective MSP, therefore, depends substantially on accessible, interoperable, quality-assured spatial data and clear arrangements for data stewardship, metadata, and reuse.[3] This integrated information base can support environmental management and sustainable economic activity while providing a stronger basis for risk assessment, infrastructure resilience, and Maritime Domain Awareness (MDA).

The relationship between MSP and MDA, however, should be understood carefully. MSP is not a security instrument in and of itself, nor should it be reduced to one. Rather, it can provide a structured civilian and cross-sectoral spatial-information base that may complement MDA by improving awareness of the location, interaction, exposure, and environmental context, of maritime activities and fixed infrastructure.[4] The International Maritime Organisation (IMO) defines MDA as *"the effective understanding of matters associated with the maritime domain that could affect security, safety, the economy, or the marine environment"*.[5] MSP can, therefore, provide an important contextual spatial layer against which operational maritime information can be interpreted.

India illustrates both the opportunity and the imperative underlying this argument. It has already initiated MSP through collaboration with Norway, with pilot projects in Puducherry and Lakshadweep, and its planning architecture continues to expand.[6] Yet it remains unclear whether critical seabed infrastructure is being integrated into this architecture as a distinct, interoperable spatial layer, or how such data would interact with ecological and use-conflict information. This gap, and how it might be addressed, is the central empirical and policy problem examined in this paper. The paper first examines the evolution and information requirements of MSP, then considers its strategic and security relevance, assesses India's emerging trajectory and the seabed-infrastructure gap in detail, and finally proposes a pathway towards regional MSP interoperability and Indian leadership.

---

[3] S Flynn, W Meaney, AM Leadbetter, JP Fisher and C Nic Aonghusa, "Lessons from a Marine Spatial Planning Data Management Process for Ireland," *International Journal of Digital Earth* (2020), https://doi.org/10.1080/17538947.2020.1808720.
[4] Charlene Sharee-Ann Charles and Yi Chang, "Cross-National Analysis of Marine Spatial Planning (MSP) Frameworks: Collaboration, Conservation, and the Role of NGOs in Australia, Germany, Seychelles, and England," *Sustainability*, Vol. 17, No. 18 (2025), 8306, https://doi.org/10.3390/su17188306.
[5] International Maritime Organization. (n.d.). *Maritime Domain Awareness*. https://www.imo.org/en/ourwork/security/pages/maritime-domain-awareness.aspx
[6] Ministry of Earth Sciences, Government of India, "India and Norway Agree to Conduct Marine Spatial Planning in Lakshadweep and Puducherry," *Press Information Bureau*, 03 March 2021. https://www.pib.gov.in/PressReleasePage.aspx?PRID=1702137&reg=48&lang=2

From Marine Spatial Planning to Strategic Information Governance

The need for MSP emerged from the increasing intensity and diversity of activities occupying marine space. Offshore energy, fishing, aquaculture, dredging, mineral extraction, shipping, tourism, and conservation, increasingly interact within the same areas, while their environmental effects can accumulate across space and time.[7] Conventional sector-based governance, in which activities are managed through separate institutional and regulatory frameworks, is poorly suited to managing these spatial and cumulative interactions.

The foundations of MSP predate the formal emergence of the concept. Early marine conservation and spatial-zoning initiatives, including Australia's experience with the Great Barrier Reef Marine Park, demonstrated the value of considering conservation and human use within a common spatial framework. In response to growing public concerns over oil drilling, mining, and threats to the reef ecosystem, the Australian federal government enacted the Great Barrier Reef Marine Park Act 1975.[8] Rather than excluding human activities altogether, the Act introduced a multiple-use zoning system, with zones ranging from general-use areas to highly protected ones, allowing fishing, shipping, and tourism to continue alongside conservation.[9] A formal 1979 agreement between the federal and Queensland governments subsequently formalised complementary management arrangements, providing an early demonstration that spatial zoning and intergovernmental cooperation could be operationalised together, not merely agreed to in principle.[10] These experiences contributed to the broader development of integrated coastal and ecosystem-based approaches that subsequently informed contemporary MSP.

MSP developed into a more explicit policy-and-governance framework as marine uses became increasingly crowded and interconnected. The Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO) defines MSP as *"a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives specified through a political process"*.[11] This definition highlights the principal characteristics of MSP: it is spatial and temporal, integrates multiple sectors and objectives, operates through public governance arrangements, and involves stakeholders in the planning process.[12]

Importantly, MSP is not a one-time exercise in zoning. It is a cyclical process involving governance and objectives-setting, data collection and spatial analysis, allocation of activities, implementation,

---

[7] Fanny Douvere and Charles N Ehler, "New Perspectives on Sea Use Management: Initial Findings from European Experience with Marine Spatial Planning," *Journal of Environmental Management* 90, No 1 (January 2009): 77–88, https://doi.org/10.1016/j.jenvman.2008.07.004
[8] Judith Wright, *The Coral Battleground* (Melbourne: Spinifex Press, 2014).
[9] JC Day, "Zoning—Lessons from the Great Barrier Reef Marine Park," *Ocean & Coastal Management*, Vol. 45, Issues 2–3 (2002), pp. 139–156, https://doi.org/10.1016/S0964-5691(02)00052-2
[10] D Lawrence, R Kenchington, and S Woodley, *The Great Barrier Reef: Finding the Right Balance* (Melbourne: Melbourne University Press, 2002)
[11] C Ehler and F Douvere, *Marine Spatial Planning: A Step-by-Step Approach toward Ecosystem-Based Management* (Paris: Intergovernmental Oceanographic Commission and Man and the Biosphere Programme, UNESCO, 2009).
[12] F Douvere, "The Importance of Marine Spatial Planning in Advancing Ecosystem-Based Sea Use Management," *Marine Policy*, Vol. 32 (2008), pp. 762–771, https://doi.org/10.1016/j.marpol.2008.03.021

monitoring and adaptation. Its effectiveness consequently depends not only on the existence of a plan but also on institutional capacity, decision-support tools, and reliable spatial information. Evidence from implemented MSPs shows considerable variation in analytical approaches and the extent to which plans establish explicit scenarios and measurable indicators of success.[13] The mere existence of an MSP framework, therefore, does not, by itself, guarantee effective marine governance.[14]

The significance of MSP consequently extends beyond the allocation of marine space. Its value lies increasingly in the ability to bring fragmented information into a common spatial reference and reveal relationships that may remain invisible within sectoral systems.[15] The location of a submarine cable, for example, becomes more meaningful when considered alongside fishing grounds, shipping routes, anchorage areas, marine protected areas, offshore-energy developments, and sensitive seabed habitats. Spatial integration can therefore expose interactions, dependencies and cumulative risks across sectors.

This information function is particularly important as marine infrastructure becomes more interconnected. Submarine cables and pipelines form part of wider systems involving cable landing stations, ports, energy networks, data infrastructure, offshore installations, repair routes, and terrestrial connections. The vulnerability of an individual asset may, therefore, depend upon the condition or location of other assets. A cable landing point may represent a critical concentration point for national connectivity, while disruption to a single component can generate consequences across communications, energy, economic activity, and security systems.

The strategic value of MSP thus lies not simply in the quantity of data collected, but in the relationships that can be derived from integrated spatial information. Bathymetry, sediment characteristics, seabed mobility, vessel activity, fishing intensity, infrastructure locations, environmental sensitivity, and planned development, all become more strategically meaningful when analysed together. Such integration can identify common points of failure, infrastructure dependencies, and areas where otherwise routine activities may generate disproportionate risks.

Strategic and Security Imperatives

The strategic significance of MSP lies in its capacity to integrate and govern the information on which marine planning depends. In an increasingly crowded and technologically accessible maritime domain, the ability to understand the location, function, ownership, use, and interdependences and exposure of marine assets is itself becoming a form of strategic capacity.

---

[13] Suvaluck Satumanatpan, Kutkanut Chuenwongarun, Thiyada Piyawongnarat, Sakanan Plathong, and Zhiwei Zhang, "Pathways in Marine Spatial Planning: A Systematic Review of Drivers and Enabling Conditions in the Asia-Pacific," *Frontiers in Marine Science*, Vol 12 (2025), https://doi.org/10.3389/fmars.2025.1659088.
[14] Suvaluck Satumanatpan et al, "Pathways in Marine Spatial Planning…"
[15] Intergovernmental Oceanographic Commission of UNESCO and European Commission, *MSPglobal: International Guide on Marine/Maritime Spatial Planning*, Vol 1, IOC Manuals and Guides, No 89 (2021), p XX. https://unesdoc.unesco.org/ark:/48223/pf0000379196

MSP nevertheless remains distinct from conventional maritime surveillance. Maritime Domain Awareness (MDA) focuses on effective understanding of activities and events that may affect security, safety, the economy, or the marine environment,[16] whereas MSP is a planning and governance process concerned with the spatial and temporal organisation of marine uses.[17] Its strategic contribution is, therefore, indirect but important. MSP can provide the contextual spatial baseline against which operational information can be assessed.

This distinction has practical consequences. Without an integrated spatial framework, a cable fault may be treated primarily as a telecommunications problem, an anchor strike as a navigation problem, seabed instability as an engineering problem, and damage to a protected habitat as an environmental problem. MSP enables these issues to be examined as interconnected consequences of activities occurring within a shared space. It can therefore reveal second- and third-order effects arising from activities which, taken in isolation, might appear unrelated.

MSP also has an anticipatory function. Proposed offshore-energy projects, for example, can be assessed not only for environmental impacts and technical feasibility but also for their interaction with existing cables and pipelines, shipping routes, fishing grounds, emergency-access requirements and future repair constraints. Similarly, anchorage and fishing areas can be planned with regard to the location and protection requirements of seabed infrastructure. International practice includes measures such as "no-anchoring" and "no-trawling" zones along specified cable and pipeline routes.[18]

Spatial context can also improve the interpretation of dynamic maritime information. AIS, radar, satellite imagery, and vessel-monitoring systems, become more useful when assessed against an authoritative spatial record of marine uses, infrastructure, and permitted activities. MSP does not itself generate MDA, but it can improve the contextual and analytical quality of information available to MDA systems.

This is particularly significant on the seabed, where many relevant activities are difficult to observe directly. Surface surveillance may reveal that a vessel is operating in a particular area without establishing what it is doing beneath the water. Information on seabed conditions, infrastructure routes, permitted survey areas, maintenance operations, and other legitimate activities, can provide additional context for interpreting such activity.

The strategic significance of this information extends beyond infrastructure protection: the same underlying data may simultaneously support scientific research, infrastructure resilience, resource development, environmental management, economic activity, and maritime security. France's

---

16 International Maritime Organization, "Maritime Domain Awareness" https://www.imo.org/en/ourwork/security/pages/maritime-domain-awareness.aspx.
17 UNESCO-IOC, *Assessment of Global Capacity Needs on Marine/Maritime Spatial Planning 2025*, IOC Technical Series No 212 (Paris: UNESCO, 2025), https://maritime-spatial-planning.ec.europa.eu/media/document/15714
18 European Commission, "Introduction to Marine Spatial Planning," *European Maritime Spatial Planning Platform*, https://maritime-spatial-planning.ec.europa.eu/msp-eu/introduction-msp.

approach to seabed-warfare illustrates how States are tending to treat knowledge of the seabed as a strategic capability in its own right. Its strategy emphasises the ability to understand, monitor, and operate on the seabed, recognising that bathymetry, gravimetry, sediment characteristics, and other environmental information, can support navigation, sensor optimisation, threat assessment, operational planning, and underwater autonomy.[19] This convergence of uses creates an important governance challenge: information required for effective MSP may also possess commercial-, operational-, or security sensitivity.

The Information-Governance Problem

This convergence creates a governance challenge. The information architecture required for effective MSP increasingly overlaps with information that may have commercial, operational, or security sensitivity. Evidence-based planning requires integrated information on marine uses, environmental conditions, infrastructure, and the seafloor; MSP data systems must, therefore, address data quality, ownership, licensing, classification, and differentiated access.[20] In particular, information related to submarine cables, pipelines, and detailed bathymetry could be necessary for safe routing, planning, repair, and resilience, while also raising concerns about critical-infrastructure exposure and intentional interference.[21]

The answer is not to limit MSP to low-resolution or purely environmental information. Doing so would weaken its planning value and constrain meaningful assessment of cumulative and systemic risk. A more defensible approach is differentiated information-governance: information should be managed and shared according to its resolution, sensitivity, purpose, and intended users. Broad infrastructure corridors and environmental constraints may be appropriate for public planning, while exact route coordinates, burial depths, system capacities, operational patterns, and repair vulnerabilities may require controlled access. Metadata should also record not only the technical

---

[19] Soham Agarwal, "Seabed Warfare Strategy of France: Lessons for India", National Maritime Foundation, 16 August 2024. https://maritimeindia.org/seabed-warfare-strategy-of-france-lessons-for-india/
Also see: French Ministry of Armed Forces, *Seabed Warfare Strategy* (2022), p 8. https://www.archives.defense.gouv.fr/content/download/636001/10511909/file/20220214_FRENCH%20SEABED%20STRATEGY.pdf
[20] Sarah Flynn et al, "Lessons from a Marine Spatial Planning Data Management Process for Ireland," *International Journal of Digital Earth* 14, no. 2 (2021): 139–157, https://doi.org/10.1080/17538947.2020.1808720.
Also see: United Nations, *Marine Geospatial Information Management* (Sales No E.24.V.1) (New York: United Nations, 2024), https://www.un.org/Depts/los/doalos_publications/publicationstexts/MarineGeospatialInfoMgmt.pdf.
[21] Working Group on Marine Geospatial Information, United Nations Committee of Experts on Global Geospatial Information Management, *White Paper on Readily Available and Accessible (Open) Marine Geospatial Information* (United Nations, 2020), https://ggim.un.org/meetings/GGIM-committee/10th-Session/documents/E-C.20-2020-31-Add_2-White-paper-on-readily-available-and-accessible-marine-geospatial-information-23Jul.pdf.
Also see: Tara Davenport, "Submarine Cables, Cybersecurity, and International Law: An Intersectional Analysis," *Catholic University Journal of Law and Technology* 24, no. 1 (2015): 57–109. https://scholarship.law.edu/jlt/vol24/iss1/4.

quality and provenance of a dataset but, where appropriate, its ownership, update frequency, permitted uses, and access conditions.[22]

This distinction is important because interoperability does not require unrestricted availability. Agencies and partner States can use common terminology, coordinate systems, metadata standards, and compatible GIS structures, while retaining appropriate controls over sensitive underlying datasets. Such an approach can allow the planning and resilience benefits of spatial integration to be realised without unnecessarily exposing critical-infrastructure vulnerabilities.[23]

For India, this offers a practical basis for connecting MSP to broader maritime and seabed resilience without turning the planning system into a defence mechanism, while leaving room for regional cooperation in lower-sensitivity areas such as fisheries, pollution, and migratory corridors.

Ultimately, the strategic value of MSP lies not in its securitisation but in recognising that spatial knowledge is itself becoming an element of strategic resilience. As marine space grows more intensively used and the seabed becomes more technologically accessible, understanding the relationships among infrastructure, activity, and risk will only matter more. For India, MSP can serve not only as an instrument for organising marine uses but as part of a broader architecture for strategic marine information and seabed domain awareness.

India's MSP Trajectory and Seabed-Integration Gap

India's MSP trajectory illustrates a shift from pilot-based planning towards a broader and increasingly digital marine-planning capability. Developed through India–Norway cooperation arrangements initiated in 2019–20, the MSP initiative identified Puducherry and Lakshadweep as pilot geographies for coordinating fisheries, tourism, transport, aquaculture, energy, and other uses within a common spatial framework.[24]

This trajectory has acquired an important digital dimension through MSP-SAHAV, an open-source, GIS-based decision-support platform owned by the National Centre for Coastal Research (NCCR), which is administered by the Ministry of Earth Sciences. Developed under the Indo–Norwegian collaboration, SAHAV supports the visualisation and communication of complex marine spatial information for planning and decision-making and was recognised in the Digital Public Goods Registry in June 2025.[25]

---

[22] European Union Commission. EUR-Lex: Access to European Union Law. Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 Establishing a Framework for Maritime Spatial Planning. 2014. Available online: http://data.europa.eu/eli/dir/2014/89/oj
[23] *Ibid*
[24] Ministry of Earth Sciences, Government of India, "India and Norway Agree to Conduct Marine Spatial Planning in Lakshadweep and Puducherry," Press Information Bureau, 03 March 2021. https://www.pib.gov.in/PressReleasePage.aspx?PRID=1702137.
[25] Government of Odisha, "MoU Signed between the Department of Science and Technology, State Government, and the Ministry of Earth Sciences for Implementation of a Marine Spatial Plan," Office of the Chief Minister, Odisha, 16

The MoU of February 2026 between the Ministry of Earth Sciences and the Government of Puducherry, which envisages upgrading the MSP pilot into a functional model incorporating offshore wind, resource mapping, and marine-sector integration, signals a movement from framework development towards implementation-oriented planning. Odisha's April 2026 MSP agreement with the Ministry of Earth Sciences similarly extends the initiative beyond the original pilot geographies.[26]

These developments represent an important institutional transition. India's MSP effort is no longer solely a demonstration of spatial planning in selected areas; it is becoming a broader marine-information and decision-support capability. The incorporation of additional sectors, geographies, and datasets, can strengthen the evidence base for environmental management, coastal-disaster preparedness, infrastructure planning, and resource governance. However, this should be described as an emerging national capability rather than a completed national MSP architecture.

A structural integration issue nevertheless remains. The published Puducherry MSP framework includes designated cable-protection areas and cable corridors, demonstrating that communications infrastructure has entered India's MSP practice. Yet the publicly available material does not demonstrate a consistent, nationally applicable approach for integrating and governing the wider range of seabed-related interests—such as submarine-cable and pipeline corridors, subsea energy assets, offshore installations, seabed mineral and extractive activities, repair access, and associated security or protection requirements. India's next MSP phase should therefore establish these as explicit, interoperable planning categories, supported by common data standards, differentiated data-access arrangements, inter-agency coordination, and legally defined protection measures

International practice also demonstrates that the systematic integration of seabed infrastructure into marine spatial planning is both feasible and institutionally well established. Under the EU's MSP Directive of 2014, all coastal member States must produce maritime spatial plans that explicitly cover the seabed and its uses; Belgium, Germany, the Netherlands, and Sweden, among others, zone specifically for cables, pipelines, aggregates, and offshore energy infrastructure on the seabed itself, not merely in the water column above it.[27]

Closer home, Indonesia offers a more directive model of seabed-infrastructure governance. Government Regulation No 32 of 2019 on Marine Spatial Planning applies to waters, the seabed, and subsoil, and specifically recognises submarine cable and pipeline routes as a category of marine

---

April 2026. https://cm.odisha.gov.in/en/latest-news/mou-was-signed-between-department-science-and-technology-state-government-and-ministry.

[26] Government of Odisha, "MoU Was Signed between the Department of Science and Technology, State Government, and the Ministry of Earth Sciences for Implementation of a Marine Spatial Plan," Office of the Chief Minister, Odisha, 16 April 2026, https://cm.odisha.gov.in/en/latest-news/mou-was-signed-between-department-science-and-technology-state-government-and-ministry.

[27] European Union, "Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 Establishing a Framework for Maritime Spatial Planning," *Official Journal of the European Union*, L 257 (28 August 2014), https://eur-lex.europa.eu/eli/dir/2014/89/oj/eng

spatial structure. This legal basis was given operational effect through Decree No 14 of 2021 of the Minister of Marine Affairs and Fisheries on submarine pipelines and cable systems.[28] The decree includes mapped coordinates for 43 submarine-pipeline segments, 217 submarine-cable line segments, 209 beach manhole locations, and four designated cable-landing stations—Batam, Kupang, Manado, and Jayapura—and provides a national spatial reference for routing and licensing such infrastructure.[29] It demonstrates how MSP can move beyond general allocation of sea usage to establish a spatially explicit framework for the location, regulation, and protection of critical subsea infrastructure.

Scotland provides a complementary policy-based example. Its "National Marine Plan" contains a chapter dedicated to submarine-cables, requiring early engagement with planning authorities and other users, and routing that accounts for installation and protection needs, minimisation of impacts on the seabed, and cable burial or alternative protective measures where risk assessments indicate that these are necessary.[30] It also adopts a risk-based approach to the decommissioning or retention of redundant cables.

Taken together, these cases illustrate three progressively stronger approaches to seabed integration: the EU model of embedding seabed usage within a general MSP framework; Indonesia's model of nationally mapped and regulated cable and pipeline corridors; and Scotland's model of detailed lifecycle policy for route selection, burial, protection, repair, and decommissioning. For India, the principal lesson is that subsea infrastructure should not be treated merely as a sectoral technical concern. It should be incorporated into MSP as a mapped, regulated, and protected spatial category, linked to energy planning, maritime safety, environmental assessment, cable repair, and national-security considerations.

Regional MSP: Lessons from the EU and Western Indian Ocean

International experience shows that regional MSP need not require a supranational marine plan or a centralised regional database. Rather, it can be built through common principles, compatible planning processes, technical coordination, and structured cross-border consultation. The European Union and the Western Indian Ocean offer two complementary models from which India can draw lessons.

The European Union offers a strong legal model for regional MSP cooperation. Under the 2014 Maritime Spatial Planning Directive, each coastal Member State must establish and implement MSP, while retaining responsibility for the format, content, and spatial allocations within its own national marine plan. At the same time, Article 11 requires Member States bordering the same marine region

[28] Ministry of Marine Affairs and Fisheries, Republic of Indonesia, "KKP Siapkan Proses Bisnis Kabel Bawah Laut," 12 August 2021, https://kkp.go.id/news/news-detail/kkp-siapkan-proses-bisnis-kabel-bawah-laut65c1cc163caf9.html.
[29] *Ibid*
[30] The Scottish Government, *Scotland's National Marine Plan*, 2015, https://www.gov.scot/publications/scotlands-national-marine-plan/.

to cooperate so that their plans are coherent and coordinated across the relevant sea basin. The Directive expressly permits such cooperation to proceed through existing regional institutions, networks of competent authorities, or other suitable arrangements. It also encourages cooperation with neighbouring non-EU States where shared marine regions extend beyond Union jurisdiction. The EU model, therefore, combines national control over planning with a binding expectation of regional coherence, data use, and consultation on transboundary issues.[31]

The EU also promotes MSP beyond its own waters through "MSPglobal", a joint initiative of UNESCO's "Intergovernmental Oceanographic Commission" and the European Commission's "Directorate-General for Maritime Affairs and Fisheries", co-financed by the European Union.[32] "MSPglobal" develops international guidance, technical tools, and capacity-building programmes while supporting regional and transboundary MSP initiatives in the Mediterranean, Southeast Pacific, Atlantic Africa, and Western Pacific. Its current phase also supports regional MSP and ocean-governance initiatives in Asia and the Pacific.

The Western Indian Ocean provides an especially relevant institutional model. In March 2019, Parties to the "Nairobi "Convention requested the development of a regional MSP strategy to harmonise marine and coastal planning initiatives across the region. The resulting "*Regional Marine Spatial Planning Strategy for the Western Indian Ocean*", adopted in 2021, was developed through a regional MSP Technical Working Group and wider stakeholder consultation. It identifies regional MSP as a means of addressing transboundary and cross-sectoral challenges—including shared fish stocks, migratory species, pollution, climate impacts, shipping, maritime safety, resource extraction, and emerging blue-economy activities.[33] It encourages participating States to harmonise in-country MSP development in support of regional marine planning without compromising national MSP processes. It proposes a regional platform for shared learning, technical guidance, capacity development, policy harmonisation, stakeholder engagement, and knowledge management.

India should pursue regional MSP through a phased, sovereignty-respecting approach. The immediate objective should be to build technical interoperability, institutional trust, and common data-governance standards—not to create a supranational marine plan or regional database. This approach is consistent with the Western Indian Ocean MSP Strategy, which promotes regional coordination without displacing national planning authority.

---

[31] European Union, "Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 Establishing a Framework for Maritime Spatial Planning," *Official Journal of the European Union*, L 257 (28 August 2014), https://eur-lex.europa.eu/eli/dir/2014/89/oj/eng

[32] UNESCO Intergovernmental Oceanographic Commission and European Commission, "MSPglobal," https://www.mspglobal2030.org/msp-global/.

[33] UNEP-Nairobi Convention, Western Indian Ocean Marine Science Association (WIOMSA), Nelson Mandela University and Macquarie University, *A Regional Marine Spatial Planning Strategy in the Western Indian Ocean* (2021), 82 pp., https://www.nairobiconvention.org/sites/default/files/clearinghouse/UNEP_EAF_CP11_3_Annex_VI_Western_Indian_Ocean_Marine_Spatial_Planning_Strategy_2021_0.pdf

India could propose a Bay of Bengal–Northern Indian Ocean MSP Working Group, initially involving Bangladesh, Sri Lanka, and the Maldives. Its first phase should address lower-sensitivity shared concerns, including fisheries, migratory species, marine pollution, climate risks, and disaster preparedness. This Working Group could:

- Establish procedures for consultation on national decisions with transboundary effects.
- Develop common terminology, metadata standards, coordinate-reference systems, and compatible GIS formats.
- Enable cross-border spatial analysis while allowing States to retain ownership and control of national datasets.
- Support joint assessments of shared fisheries, ecosystems, pollution pathways, shipping pressures, and coastal hazards.

Cooperation should proceed incrementally. Early work should focus on common planning principles and non-sensitive environmental and socioeconomic data. More sensitive information—such as detailed cable routes, pipeline infrastructure, high-resolution bathymetry, and offshore installations—should be addressed later through agreed technical standards, controlled-access arrangements, and confidence-building measures.

India's strategy should, therefore, combine a consolidated domestic MSP system, including seabed infrastructure as an explicit planning category, with a phased regional mechanism for consultation and interoperability. This would strengthen seabed domain awareness, improve management of shared marine spaces, and position India to shape regional marine-data governance.

Conclusion

Marine Spatial Planning is evolving from a mechanism for allocating marine uses into a broader framework for integrating and governing marine spatial information. This has strategic significance because the same information that supports environmental management and economic activity can also strengthen infrastructure resilience and provide contextual support for Maritime and Seabed Domain Awareness. For India, the priority is to consolidate its emerging MSP architecture by explicitly incorporating seabed mapping, submarine infrastructure, and other critical subsea assets, while applying differentiated controls to sensitive information. Regional interoperability can then extend this capability across shared marine spaces without compromising national data sovereignty. India's strategic opportunity is, therefore, not to securitise MSP, but to strategically govern the information architecture that MSP creates. By doing so, India can strengthen maritime resilience and help shape emerging norms of marine spatial governance in the Indian Ocean.

About the Author
Dr Chime Youdon is a Research Fellow at the National Maritime Foundation and heads its Resilience, Sustainability, and Ocean Resources (RSOR) Cluster. Her research focuses on climate risk, resilience, and

sustainable transitions in the coastal and maritime domain, with a regional focus on India and the Indo-Pacific. She is currently the PI of a CDRI-IRIS programme project on climate-risk assessment and seaport resilience in Seychelles, in collaboration with the Seychellois think-tank, "Nature Seychelles". She may be contacted at climatechange1.nmf@gmail.com