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Paradigmatic Transition from Land-Oriented Planning to Maritime Geoeconomic Policymaking: A Spatial-Institutional Pathology and the Development of a Strategic Framework for Coastal Development in Bushehr Province

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A B S T R A C T

This study aimed to diagnose the spatial and institutional pathologies of the prevailing land-oriented development model in Bushehr Province and formulate a strategic framework for transitioning toward integrated maritime geoeconomic policymaking and sustainable coastal development. This applied qualitative study employed an integrative documentary review and spatial-institutional policy analysis. The study corpus consisted of 52 purposively selected documents, including peer-reviewed articles, national and provincial development plans, spatial planning documents, official reports, strategic policy documents, and specialized coastal and maritime studies. Data were extracted through a structured document analysis form covering spatial organization, port and logistics capacity, economic specialization, institutional governance, environmental constraints, coastal settlements, investment, and geoeconomic connectivity. The data were analyzed through qualitative content analysis, thematic synthesis, open and axial coding, and spatial-institutional diagnostic analysis. The analysis produced 186 initial codes, 47 axial codes, and four overarching analytical domains. The findings showed that Bushehr possesses substantial strategic maritime, port, energy, industrial, fisheries, tourism, and geoeconomic capacities, but these advantages are constrained by fragmented coastal spatial organization, weak port-hinterland integration, uneven concentration of investment, environmental pressures, fragmented governance, overlapping institutional mandates, weak vertical and horizontal policy coordination, and limited participation of local and private-sector actors. The strategic synthesis identified integrated maritime spatial planning, coordinated coastal governance, port-centered regional development, multimodal logistics connectivity, maritime economic diversification, environmental resilience, local participation, investment facilitation, and geoeconomic connectivity as the principal pillars of transition. Bushehr's coastal development challenge is primarily one of spatial and institutional integration rather than resource scarcity.

Keywords: *Maritime Geoeconomics, Coastal Development, Spatial Planning, Institutional Governance, Marine Spatial Planning, Blue Economy, Bushehr Province*

1. Introduction

Coastal regions have increasingly become strategic spaces in contemporary development planning because they function simultaneously as gateways to international trade, nodes of transportation and logistics, concentrations of energy and industrial activities, ecological transition zones, and arenas in which national economic strategies intersect with geopolitical and geoeconomic competition. The growing importance of ports, maritime corridors, marine resources, coastal settlements, offshore energy, fisheries, tourism, and transnational supply chains has shifted the logic of regional development from conventional land-centered planning toward integrated maritime-oriented policymaking. Within this emerging paradigm, coastal development is no longer understood merely as the physical expansion of ports or industries along the shoreline; rather, it is conceived as a multidimensional process in which spatial planning, institutional governance, economic diversification, environmental resilience, transport connectivity, and external economic relations are integrated within a coherent territorial strategy (Hajian et al., 2025; March et al., 2024; Tavakoli & Karimzadeh Motlagh, 2025). The blue economy literature similarly emphasizes that sustainable development of coastal and marine territories requires the simultaneous creation of economic value, protection of marine ecosystems, enhancement of social well-being, and improvement of governance capacity rather than the pursuit of isolated sectoral growth (March et al., 2024; Tavakoli & Karimzadeh Motlagh, 2025).

The paradigmatic importance of maritime development is particularly evident in countries whose territorial structure and economic geography have historically been dominated by inland development priorities. In such settings, coastal areas may possess extensive locational advantages and resource endowments while remaining functionally disconnected from national production networks, settlement systems, investment structures, and strategic policymaking. Iran represents an important example of this condition. Despite its extensive coastlines along the Persian Gulf, Sea of Oman, and Caspian Sea, the country's development geography has historically been characterized by strong land-oriented tendencies, concentration of population and investment in inland regions, and insufficient utilization of maritime capacities. Recent scholarship has therefore emphasized the necessity of a strategic transition from land-oriented development toward sea-oriented development as a fundamental restructuring of national spatial organization and economic policy (Azizi et al., 2026). Comparative assessments of Iran's maritime economic development further indicate that successful maritime countries have generally integrated ports, coastal industries, transport corridors, urban systems, investment policy, and external trade within long-term spatial and geopolitical strategies, whereas fragmented sectoral approaches tend to weaken the developmental effects of maritime assets (Khadem et al., 2026). In this regard, the formation of an indigenous conceptual framework for maritime development is essential because the institutional, geopolitical, environmental, and economic characteristics of Iran require context-specific policy arrangements rather than the mechanical adoption of external models (Khanzadi et al., 2026).

A transition toward maritime-oriented development also requires a corresponding transformation in spatial planning. Traditional land-use planning often treats terrestrial and marine spaces as administratively and analytically separate domains, even though economic activities, ecological processes, infrastructure systems, settlement patterns, and environmental pressures cross the shoreline continuously. Contemporary marine spatial planning seeks to overcome this separation by coordinating competing uses of marine and coastal space and by integrating marine activities with land-based planning systems (Helmi & Setiawan, 2026; Tocco et al., 2024). Systematic reviews of marine and land-based spatial planning indicate that weak coordination between these two domains can produce conflicting land uses, inefficient infrastructure development, environmental pressures, and fragmented governance, whereas integrated planning can strengthen functional relationships among ports, cities, industries, ecosystems, and communities (Helmi & Setiawan, 2026). The importance of land-sea interaction is particularly visible in coastal governance because decisions concerning industrial development, transportation, tourism, aquaculture, environmental protection, urban expansion, and port activity generate effects across both marine and terrestrial systems (Tocco et al., 2024). Multi-scalar approaches further demonstrate that successful maritime spatial planning requires coordination across national, regional, and local levels rather than reliance on a single administrative scale (Ramieri et al., 2024).

The spatial organization of maritime activities has consequently become an important field of methodological innovation. Geographic information systems, multi-criteria decision analysis, and spatial optimization techniques are increasingly used to evaluate the suitability of coastal and marine locations, resolve competing demands, and integrate

environmental, economic, infrastructural, and social criteria in planning decisions (Alhassan et al., 2026; Orou-Seko & Nyaaba Adokiya, 2026). Such approaches demonstrate that site selection and spatial allocation should not be reduced to a single economic criterion; instead, planning must account for accessibility, ecological sensitivity, resource availability, infrastructure, community interests, biodiversity, and long-term sustainability (Orou-Seko & Nyaaba Adokiya, 2026). Similar GIS-based marine spatial planning frameworks developed for offshore aquaculture show how spatial suitability analysis can be transformed into a transferable decision-making framework capable of reducing conflicts and increasing compatibility among marine uses (Menicou et al., 2026). Multi-criteria frameworks developed for coastal cities also reinforce the importance of balancing economic development, environmental capacity, social requirements, and spatial efficiency when formulating marine spatial strategies (Yu et al., 2025). These findings are particularly relevant for coastal provinces where multiple economic activities compete for limited shoreline and marine space.

One of the central challenges in maritime spatial planning is the management of spatial conflict. Offshore energy, fisheries, aquaculture, navigation, tourism, conservation, urban development, and industrial activities frequently overlap or compete within the same coastal systems. Comparative experience shows that spatial conflict cannot be adequately addressed through fragmented permitting mechanisms and instead requires anticipatory planning, negotiated allocation, and institutional coordination (Kusters et al., 2025). This issue becomes more complex when economic pressures interact with environmental stressors. Coastal and marine environments are exposed to pollution, habitat degradation, climate-related risks, cumulative industrial pressures, and ecosystem disturbances that can reduce the resilience of development systems over time (Carmichael et al., 2025). Consequently, maritime development strategies must incorporate ecological thresholds and cumulative stressor management rather than treating environmental considerations as an external constraint imposed after economic decisions have been made (Wilson et al., 2026). This integrated perspective is consistent with the broader concept of integrated coastal zone management, which emphasizes the coordination of human activities, ecological systems, institutions, and spatial processes in coastal areas under conditions of increasing anthropogenic pressure (Maccarrone et al., 2024).

Environmental considerations are especially critical for sectors such as aquaculture, fisheries, and marine tourism. Offshore aquaculture has significant economic potential, but its development requires careful spatial planning because inappropriate siting can create ecological degradation, user conflicts, and negative interactions with sensitive marine habitats (Costa et al., 2026). Long-term studies of offshore aquaculture further demonstrate that cumulative impacts on benthic environments must be monitored as part of sustainable marine development rather than assessed only during initial project approval (Lampa et al., 2025). At the same time, co-location strategies can create opportunities for combining aquaculture with marine renewable energy and other compatible offshore functions, provided that ecological and technical conditions are systematically evaluated (Costa et al., 2026). Coastal sustainability therefore depends not only on expanding marine economic activities but also on improving the spatial intelligence through which these activities are distributed and governed.

Another crucial dimension of the transition toward maritime geoeconomics is the role of transportation networks and economic corridors. Ports are not merely physical interfaces between land and sea; they are strategic nodes within regional and international networks of trade, production, logistics, and geopolitical influence. The geoeconomic significance of transport corridors has become particularly visible in Eurasia, where competition among major powers increasingly revolves around port access, corridor control, connectivity, and the ability to shape cross-border flows of commodities and investment (Veisi, 2025). Iran's coastal regions therefore possess significance beyond their local economic functions because they can influence the country's position within larger regional transport and trade systems. Research on the Makran coast has similarly emphasized that maritime transportation must be understood as an element of political economy and geopolitical strategy rather than as a narrow transport-sector issue (Mottaghi Dastnaei et al., 2024). External factors, including sanctions, regional competition, trade relations, foreign investment, and geopolitical instability, further affect the prospects of maritime development in the Persian Gulf and Makran regions (Nezam Barati & Akbarpour, 2024).

The experience of other coastal regions also illustrates how marine spatial resources change in response to economic restructuring, urbanization, environmental regulation, and changing patterns of use. Studies of rapidly developing coastal areas in China have shown that marine spatial resources are not static but evolve through the

interaction of economic demand, policy intervention, ecological protection, and technological change (Wang et al., 2025). Coastline protection and restoration policies similarly demonstrate that economic development and shoreline conservation must be coordinated through long-term planning, regulatory mechanisms, and adaptive management (Zhang et al., 2024). In addition, resilience-based approaches to coastal engineering emphasize the need to incorporate risk prevention, adaptation, monitoring, and recovery throughout the entire project lifecycle rather than concentrating exclusively on structural construction (Zhou et al., 2025). These international experiences strengthen the argument that sustainable coastal development depends on institutional learning and adaptive governance as much as on physical infrastructure.

Within Iran, the Makran experience has generated important lessons regarding the gap between strategic ambition and implementation. Research has shown that development programs may fail to produce sustainable outcomes when they overlook ecological limits, local capacities, social conditions, and institutional coordination (Sadat Mousavi & Rahimi, 2026). Studies of sustainable regional development in Makran have likewise identified infrastructure, investment, governance, environmental sustainability, human capital, and interregional connectivity as interdependent factors rather than independent policy fields (Shahali et al., 2024). These findings suggest that simply declaring a coastline a strategic development zone is insufficient; effective maritime development requires alignment among territorial planning, economic policy, governance mechanisms, environmental capacity, and local participation.

Bushehr Province provides a particularly significant context for examining these issues because it combines major national economic assets with persistent regional development challenges. The province possesses a long Persian Gulf coastline, important ports, extensive energy and petrochemical activities, fisheries resources, coastal settlements, tourism assets, maritime cultural traditions, and proximity to regional markets. These characteristics provide a substantial material basis for maritime economic development. However, previous studies of Bushehr's coastal cities have identified weaknesses in spatial organization, infrastructure, urban services, environmental management, and the coordination of development policies (Mousavi et al., 2024). Research focusing specifically on the maritime economy of Bushehr's coastal cities has also emphasized the importance of moving beyond sectoral activity toward a broader understanding of maritime economic linkages and coastal urban functions (Jafari & Maleki, 2025). From a population-planning perspective, the distribution of population and economic opportunities across the province has implications for balanced regional development and the capacity of coastal settlements to absorb and support maritime economic activities (Karaei, 2024).

Bushehr's development challenges are not exclusively economic or infrastructural; they also contain important social dimensions. The spatial distribution of social capital in Bushehr Port indicates that social cohesion, trust, participation, and community networks vary across urban space and can affect local development processes (Nazari et al., 2024). Sustainable tourism research in Bushehr's coastal areas has similarly highlighted the importance of social resilience in determining whether tourism growth produces durable benefits for local communities (Mohebizadeh et al., 2025). At the village level, community-based tourism has been shown to contribute to the economic, social, and cultural empowerment of women, demonstrating that coastal development can create locally distributed benefits when communities are integrated into economic strategies (Shamseddini & Dehghani, 2024). These findings are consistent with broader research showing that the resilience of coastal communities depends on socioeconomic conditions, livelihood diversity, access to services, and the capacity of local populations to participate in development processes (Ihdayatul et al., 2026). Thus, a maritime geoeconomic strategy that focuses exclusively on large-scale infrastructure and national economic output may reproduce spatial inequality unless mechanisms for local inclusion are incorporated into the development model.

The province also has opportunities for diversification beyond its dominant energy sector. Marine tourism, fisheries, aquaculture, ecological restoration, and conservation-based recreation provide potential avenues for expanding the economic base. Research on the Iran Shadat shipwreck in Bushehr Province has demonstrated the potential to combine aquatic stock restoration with conservation-oriented marine ecotourism, illustrating how ecological and tourism objectives can be integrated within multifunctional marine development (Ghanaatian et al., 2026). Tourism-oriented maritime economy models developed in other Iranian island contexts also demonstrate that maritime tourism can act as a component of wider economic restructuring when it is supported by appropriate governance, infrastructure, investment, and destination

management (Jalalnia & Malek Akhlagh, 2026). Such diversification is strategically important for Bushehr because heavy dependence on energy-related activities can limit resilience and reduce the territorial diffusion of economic benefits.

Despite these capacities, the central challenge remains the disconnection among spatial planning, institutional governance, and geoeconomic strategy. The existing development pattern has largely evolved through sectoral interventions in ports, energy, industry, fisheries, tourism, urban development, and infrastructure, while the functional relationships among these sectors have remained insufficiently integrated. This produces a paradox in which Bushehr simultaneously possesses high-value maritime assets and experiences fragmented coastal development. International and national evidence suggests that overcoming this condition requires more than investment expansion; it requires a paradigmatic transition in which coastal territory is reconceptualized as an interconnected geoeconomic system. Such a transition must integrate land-sea interactions, port-hinterland relationships, coastal settlements, environmental capacity, marine economic diversification, institutional coordination, and regional connectivity within a single strategic framework (Helmi & Setiawan, 2026; Ramieri et al., 2024; Wilson et al., 2026). It must also reconcile economic utilization with environmental limits and incorporate spatial decision-support tools capable of identifying compatible and conflicting uses (Alhassan et al., 2026; Menicou et al., 2026).

Accordingly, the principal research gap is the absence of an integrated framework that simultaneously diagnoses the spatial and institutional pathologies of coastal development in Bushehr Province and translates this diagnosis into a coherent maritime geoeconomic policy architecture. Existing studies have addressed specific aspects of maritime economy, coastal cities, tourism, population planning, social capital, environmental management, and regional development, but these dimensions have generally been examined separately. A comprehensive approach is therefore needed to explain how spatial fragmentation, institutional overlap, sectoral policymaking, weak connectivity, environmental vulnerability, and uneven distribution of development benefits interact and how these constraints can be reorganized within an integrated maritime-oriented development strategy.

The aim of this study is to diagnose the spatial and institutional pathologies of the prevailing land-oriented development model in Bushehr Province and to formulate a strategic framework for transitioning toward integrated maritime geoeconomic policymaking and sustainable coastal development.

2. Methods and Materials

This study employed a qualitative review-based research design with an applied and strategic orientation to examine the paradigmatic transition from land-oriented planning toward maritime geoeconomic policymaking and to identify the spatial and institutional constraints affecting coastal development in Bushehr Province. The study was designed as an integrative document review combined with spatial-institutional policy analysis, allowing the research to move beyond a conventional descriptive review and systematically examine the relationships among territorial organization, coastal development policies, governance structures, economic functions, infrastructural capacities, and the geoeconomic position of Bushehr Province. The analytical logic of the study was based on the premise that the transition toward a maritime development paradigm cannot be assessed solely through sectoral economic indicators, but must instead be examined through the interaction of spatial structures, institutional arrangements, development policies, coastal and port capacities, economic networks, and the province's functional connections with national and transnational maritime systems. Accordingly, the review focused on documents directly related to maritime development, coastal planning, spatial planning, port and logistics development, regional economic development, geoeconomics, territorial governance, institutional coordination, marine-based industries, and development planning in Bushehr Province and the southern coastal regions of Iran.

The study sample consisted of 52 documents, which were purposively selected on the basis of their conceptual, policy, spatial, and institutional relevance to the research problem. The documentary corpus included peer-reviewed scientific articles, national and provincial development plans, spatial planning documents, strategic policy documents, official reports, coastal and maritime development studies, port and logistics development reports, and planning documents produced by governmental and specialized institutions. Documents were included when they addressed at least one of the principal analytical domains of the study, including maritime-oriented development, coastal spatial organization, geoeconomic capacity, port-based development, maritime transportation and logistics, marine

industries, energy and petrochemical activities, fisheries and aquaculture, tourism, coastal settlement systems, regional infrastructure, environmental constraints, institutional governance, interorganizational coordination, or regional development policy in Bushehr Province. Documents that dealt only with general economic development without a meaningful maritime, coastal, spatial, or institutional dimension were excluded. Duplicate documents, documents lacking sufficient analytical content, and materials whose geographical or thematic scope had no direct relevance to Bushehr Province or comparable maritime-development contexts were also excluded. Selection continued until the documentary corpus provided sufficient conceptual coverage and analytical saturation across the major dimensions of the research problem. The final set of 52 documents was therefore treated not as a statistically representative sample but as an analytically purposeful corpus capable of supporting a comprehensive diagnosis of the existing land-oriented development model and the formulation of a maritime geoeconomic policy framework.

Data were collected using a structured document review protocol developed specifically for the objectives of the study. The principal data collection instrument was a researcher-designed document analysis form that was used to extract comparable information from all selected sources. The form was organized around several interconnected analytical domains, including the prevailing development paradigm, spatial organization of economic activities, distribution of coastal functions, port and logistics capacities, maritime connectivity, industrial and energy specialization, coastal settlement patterns, infrastructural accessibility, investment capacity, environmental limitations, institutional responsibilities, governance fragmentation, regulatory constraints, interorganizational relations, national-regional policy alignment, and the potential role of Bushehr Province within national and international geoeconomic networks. Particular attention was paid to evidence indicating the persistence of land-oriented planning, such as inland-centered investment allocation, weak functional integration between ports and hinterlands, sectoral fragmentation, limited coastal value-chain development, and the absence of integrated maritime governance. In parallel, the review form captured evidence associated with a maritime geoeconomic transition, including port-centered production networks, logistics corridors, export-oriented coastal clusters, marine industries, energy linkages, connectivity with Persian Gulf markets, coastal urban development, blue-economy activities, and mechanisms for integrating provincial development with national maritime strategies.

To improve the consistency of data extraction, all documents were reviewed according to the same analytical framework. Bibliographic and descriptive information was first recorded for each document, followed by the extraction of statements, findings, policy propositions, spatial observations, institutional deficiencies, strategic capacities, and development recommendations relevant to the research questions. Extracted material was then classified according to whether it represented an existing capacity, a spatial deficiency, an institutional deficiency, an external opportunity, a structural constraint, a policy requirement, or a strategic development mechanism. The data collection framework was designed to preserve the contextual meaning of each document while simultaneously allowing cross-document comparison. Particular emphasis was placed on identifying repeated patterns across scientific literature and official policy documents, because convergence between academic findings and planning evidence was considered important for distinguishing persistent structural problems from isolated sectoral observations. The research also examined the internal consistency of major policy documents by comparing formally stated maritime-development objectives with the spatial distribution of development functions, institutional arrangements, infrastructural priorities, and implementation mechanisms identified in the reviewed materials.

Data analysis was conducted through qualitative content analysis, thematic synthesis, and spatial-institutional diagnostic analysis. The analytical process began with repeated reading of the selected documents and the identification of meaningful analytical units related to coastal development, maritime geoeconomics, spatial organization, governance, institutional capacity, infrastructure, economic specialization, and regional connectivity. Relevant statements and findings were initially coded through an open-coding procedure in order to avoid imposing a predetermined explanatory model on the documentary evidence. Conceptually similar codes were subsequently compared, merged, and organized into broader categories reflecting recurring patterns in the reviewed literature and policy documents. Through this process, the analysis distinguished between spatial pathologies and institutional pathologies. Spatial pathologies included issues such as fragmented coastal development, weak port-hinterland integration, insufficient logistics connectivity, uneven concentration of economic activities, limited

diversification of coastal functions, inadequate integration of coastal settlements, infrastructural discontinuities, and underutilization of maritime economic capacities. Institutional pathologies included fragmented governance, overlapping organizational responsibilities, weak horizontal and vertical policy coordination, sectoral policymaking, discontinuity between national and provincial plans, regulatory inefficiencies, limited private-sector participation, and the absence of an integrated institutional mechanism for maritime-oriented development.

Following the diagnostic phase, axial analysis was used to examine the causal and functional relationships among the extracted categories. Spatial, economic, infrastructural, institutional, environmental, and policy factors were therefore analyzed not as independent variables but as interacting components of the regional development system. The analysis specifically examined how institutional fragmentation could reproduce spatial inefficiencies, how deficiencies in logistics and connectivity could restrict the geoeconomic role of coastal areas, and how a predominantly land-oriented planning logic could prevent the transformation of ports, coastal industries, maritime services, tourism, fisheries, and energy activities into an integrated regional value system. A comparative thematic synthesis was subsequently conducted across the 52 documents to identify areas of convergence, contradiction, and policy discontinuity. Themes repeatedly confirmed across independent documentary sources were assigned greater analytical weight, while context-specific findings were retained when they revealed strategically important characteristics of Bushehr Province.

In the final analytical stage, the results of the spatial and institutional pathology were synthesized into a strategic framework for maritime-oriented coastal development. The framework was developed by linking identified deficiencies with corresponding geoeconomic capacities, institutional requirements, spatial interventions, and policy mechanisms. Strategic components were organized around the transition from sector-based and land-centered planning toward integrated coastal governance, port-centered regional development, maritime logistics connectivity, coastal economic clustering, diversification of the marine economy, strengthening of port-hinterland relations, coordinated infrastructure development, institutional integration, investment facilitation, and stronger linkage between provincial capacities and national and transnational economic corridors. The final framework was therefore derived through an iterative movement between documentary evidence, thematic categories, spatial-institutional diagnosis, and strategic synthesis. Analytical credibility was enhanced through continuous comparison among different categories of documents, examination of convergent and divergent evidence, repeated refinement of codes and categories, and maintenance of a transparent relationship between the identified problems, the extracted development capacities, and the strategic propositions formulated in the final model.

3. Findings and Results

The final documentary corpus consisted of 52 sources that met the predefined inclusion criteria and provided sufficient conceptual, spatial, institutional, or policy-related evidence for analysis. In terms of document type, 21 documents (40.38%) were peer-reviewed scientific articles, 12 (23.08%) were national or provincial development and spatial-planning documents, 8 (15.38%) were official institutional and sectoral reports, 6 (11.54%) were strategic or policy documents concerning maritime, coastal, port, energy, or logistics development, and 5 (9.62%) were specialized research reports and technical studies. Regarding publication period, 7 documents (13.46%) were published before 2015, 16 (30.77%) between 2015 and 2019, and 29 (55.77%) between 2020 and 2026, indicating that more than half of the reviewed evidence reflected relatively recent policy, planning, and academic debates concerning coastal development and maritime-oriented economic restructuring. With respect to geographical scope, 24 documents (46.15%) focused directly on Bushehr Province or one or more of its coastal counties and port areas, 15 (28.85%) addressed the southern coastal regions of Iran or the Persian Gulf littoral more broadly, and 13 (25.00%) examined national-level maritime development, spatial planning, coastal governance, port systems, logistics corridors, or geoeconomic policy with direct applicability to Bushehr Province. The documentary corpus therefore provided a combination of province-specific evidence and broader national and regional evidence required for interpreting Bushehr's position within the larger maritime development system. Analysis of the documents produced 186 initial codes, which were reduced through comparison, conceptual integration, and repeated recoding to 47 axial codes and ultimately organized into four overarching analytical domains: structural-spatial capacities, spatial pathologies, institutional-governance pathologies, and strategic mechanisms for transition toward maritime geoeconomic policymaking. The results indicated that

Bushehr possesses substantial natural, locational, industrial, port, energy, and maritime capacities, but these capacities remain only partially integrated because the existing spatial and institutional architecture continues to operate predominantly according to sectoral and land-oriented planning principles.

Table 1

Overall Thematic Structure of the Findings Derived from the Documentary Analysis

Overarching Analytical Domain	Main Dimensions	Principal Analytical Indicators	Frequency of Documents Addressing the Dimension, n (%)
Structural and geoeconomic capacities	Strategic maritime location	Location on the Persian Gulf, proximity to international maritime routes, access to regional markets, cross-border commercial potential	43 (82.69%)
Structural and geoeconomic capacities	Port and logistics capacity	Commercial ports, fishing ports, customs functions, maritime transport, cargo movement, port-supporting activities	39 (75.00%)
Structural and geoeconomic capacities	Energy and industrial concentration	Oil and gas fields, South Pars-related activities, petrochemical industries, energy infrastructure, export-oriented industries	41 (78.85%)
Structural and geoeconomic capacities	Marine and coastal economic resources	Fisheries, aquaculture, tourism, ship services, marine industries, coastal cultural assets	35 (67.31%)
Spatial pathology	Fragmented coastal spatial organization	Functional discontinuity among ports, cities, industries, tourism areas, fisheries zones, and coastal settlements	38 (73.08%)
Spatial pathology	Weak port-hinterland integration	Insufficient road-rail-logistics linkages, limited inland distribution networks, weak regional production connections	34 (65.38%)
Spatial pathology	Uneven concentration of investment	Spatial concentration of infrastructure and capital in energy-related nodes and insufficient territorial diffusion of benefits	36 (69.23%)
Spatial pathology	Environmental-spatial conflict	Industrial pressure, coastal ecosystem degradation, land-use conflict, resource constraints, climate-related vulnerability	31 (59.62%)
Institutional pathology	Fragmented governance	Multiplicity of decision-making bodies, overlapping mandates, fragmented sectoral authority, weak integrated coastal governance	42 (80.77%)
Institutional pathology	Policy discontinuity	Weak alignment among national, provincial, sectoral, and local plans; implementation gaps; short-term decision-making	37 (71.15%)
Institutional pathology	Limited local and private-sector participation	Centralized decision-making, weak municipal and local roles, limited investor facilitation, inadequate stakeholder inclusion	30 (57.69%)
Institutional pathology	Weak implementation and monitoring mechanisms	Insufficient accountability, absence of integrated performance indicators, inconsistent policy follow-up	33 (63.46%)
Strategic transition	Integrated maritime spatial planning	Functional zoning, coastal-land-use integration, port-city-industry coordination, ecosystem-sensitive development	40 (76.92%)
Strategic transition	Maritime economic diversification	Development of logistics, fisheries value chains, tourism, marine services, ship-related industries, knowledge-based activities	38 (73.08%)
Strategic transition	Institutional integration	Coordinating body, interorganizational governance, unified strategic framework, multilevel decision-making	41 (78.85%)
Strategic transition	Geoeconomic connectivity	Regional corridors, export networks, port-hinterland connections, Persian Gulf commercial linkages, international positioning	36 (69.23%)

As shown in Table 1, the findings revealed a dual structure in which substantial geoeconomic potential coexists with persistent spatial and institutional constraints. The most frequently identified structural advantage was Bushehr's strategic maritime position, which appeared in 43 of the 52 documents (82.69%), followed by concentration of energy and industrial activities in 41 documents (78.85%) and port and logistics capacities in 39 documents (75.00%). These findings show that the province does not suffer primarily from an absence of strategic resources; rather, its principal challenge concerns the inability to transform existing resources into an integrated coastal development system. On the pathology side, fragmented governance was the most frequently identified problem, appearing in 42 documents (80.77%), followed by fragmented coastal spatial organization in 38 documents (73.08%) and policy discontinuity in 37 documents (71.15%). This pattern indicates that institutional fragmentation and spatial fragmentation are mutually reinforcing. Sectoral institutions tend to manage individual components of the coast

independently, while spatial development consequently occurs in the form of disconnected industrial, port, urban, tourism, fisheries, and environmental zones. The strategic findings similarly demonstrate that transition toward a maritime geoeconomic paradigm requires simultaneous institutional and spatial restructuring. Institutional integration was identified in 41 documents (78.85%) and integrated maritime spatial planning in 40 documents (76.92%), showing that the proposed transition cannot be reduced to expansion of ports or marine industries alone. Rather, the reviewed evidence consistently supported a systemic transformation in which spatial planning, economic diversification, governance integration, environmental protection, and international connectivity are treated as interdependent components of coastal development.

Table 2

Spatial Pathologies Affecting Maritime-Oriented Coastal Development in Bushehr Province

Spatial Pathology	Manifestation in the Existing Development Pattern	Principal Consequence for Coastal Development	Analytical Priority
Fragmentation of coastal functions	Ports, industrial zones, urban settlements, fisheries areas, tourism zones, and environmental assets are planned and managed as separate spatial units	Loss of functional synergy and inability to create an integrated coastal economic system	Very high
Weak port-hinterland connectivity	Limited multimodal integration among ports, highways, rail infrastructure, production centers, distribution networks, and inland markets	Increased logistics costs and reduced capacity of ports to operate as regional development engines	Very high
Energy-dominated spatial structure	Concentration of major investments around oil, gas, petrochemical, and energy infrastructures	Dependence on a narrow economic base and weak territorial diffusion of economic benefits	Very high
Spatial imbalance among coastal counties	Unequal distribution of infrastructure, investment, employment opportunities, and specialized services	Reinforcement of center-periphery inequalities and uneven development	High
Weak port-city functional integration	Limited coordination between port expansion, urban development, housing, public services, employment, and local economic activities	Reduced local capture of port-generated value and increased urban pressures	High
Underdevelopment of marine economic clusters	Insufficient spatial concentration and networking of fisheries processing, aquaculture, logistics, marine services, tourism, and ship-related industries	Weak value-chain formation and low economic diversification	High
Inadequate tourism spatial organization	Fragmented tourism infrastructure and weak integration of coastal natural, historical, cultural, and maritime attractions	Limited tourism competitiveness and short duration of visitor stays	Moderate to high
Conflict among industrial, residential, environmental, and tourism land uses	Expansion of energy and industrial activities into environmentally or socially sensitive coastal spaces	Environmental degradation, spatial conflict, and increased development risk	High
Environmental vulnerability of coastal areas	Coastal erosion, habitat degradation, water stress, pollution, ecosystem sensitivity, and climate-related risks	Reduced resilience and increased long-term cost of coastal development	Very high
Insufficient logistics and transport diversification	Dominance of road-based movement and incomplete rail, maritime feeder, warehousing, and distribution systems	Weak integration into national and transnational supply chains	Very high
Limited spatial integration of islands and smaller ports	Weak functional relationships among island territories, minor ports, major commercial ports, and mainland development nodes	Underutilization of distributed maritime capacities	Moderate to high
Disconnection between planning boundaries and functional economic regions	Administrative jurisdictions do not necessarily correspond to actual commuting, logistics, industrial, environmental, and trade networks	Fragmented decision-making and inefficient allocation of infrastructure	High

Table 2 demonstrates that the central spatial problem in Bushehr Province is not merely insufficient infrastructure but the absence of an integrated spatial logic connecting existing infrastructure, settlements, ports, industries, ecological assets, and economic activities. The most critical deficiencies concern fragmentation of coastal functions, weak port-hinterland connectivity, the dominance of energy-related spatial development, environmental vulnerability, and inadequate logistics diversification. The current territorial structure has largely been shaped by sector-specific investment decisions, especially those associated with oil, gas, petrochemical, port, and industrial development. Although these investments have generated national economic value, their effects have not been sufficiently translated into balanced provincial development because backward and forward linkages with local production systems, coastal settlements, service sectors, tourism, fisheries, and knowledge-based activities remain

weak. Consequently, high-value economic enclaves coexist with less-developed surrounding areas. The findings also indicate that port development has frequently been treated as a transport or infrastructure issue rather than as a spatial-development mechanism capable of reorganizing regional production, employment, logistics, urban development, and external trade. This has weakened the role of ports as catalysts of territorial development. Environmental conflicts further intensify these problems because industrial and urban expansion can compete with sensitive coastal ecosystems, fisheries resources, tourism landscapes, and residential functions. Therefore, the spatial diagnosis supports a shift from conventional land-use allocation toward integrated maritime spatial planning in which economic, infrastructural, settlement, environmental, and geoeconomic functions are coordinated at the scale of functional coastal regions rather than managed through isolated administrative and sectoral units.

Table 3

Institutional and Governance Pathologies Affecting Coastal Development in Bushehr Province

Institutional Pathology	Existing Governance Condition	Resulting Developmental Effect	Required Institutional Response
Multiplicity of decision-making institutions	Numerous national, provincial, port, municipal, environmental, industrial, energy, fisheries, tourism, and infrastructure bodies influence coastal development	Fragmented authority and difficulty in establishing unified development priorities	Creation of an integrated coastal governance mechanism
Overlapping mandates	Institutional responsibilities intersect in land use, environmental licensing, port management, investment, industrial development, and coastal protection	Administrative conflict, duplication, and delayed implementation	Clarification of mandates and formal coordination procedures
Sectoral policymaking	Agencies primarily optimize their own sectoral objectives	Weak compatibility among economic, environmental, spatial, and social policies	Cross-sector policy integration
Centralized decision-making	Major strategic and investment decisions are frequently determined outside local and provincial governance structures	Limited responsiveness to territorial needs and local development capacities	Strengthened multilevel governance and provincial authority
Weak horizontal coordination	Limited systematic coordination among provincial organizations	Inconsistent projects and competing spatial interventions	Permanent interorganizational coordination arrangements
Weak vertical coordination	Incomplete alignment among national strategies, provincial plans, county-level priorities, and local implementation	Policy discontinuity and implementation gaps	Hierarchical alignment of plans and implementation responsibilities
Instability of development priorities	Changes in managerial priorities and project sequencing	Interrupted implementation and low continuity of long-term development programs	Binding long-term maritime development framework
Limited private-sector participation	Administrative, regulatory, financing, and investment barriers reduce effective participation	Underinvestment in logistics, tourism, fisheries processing, marine services, and complementary industries	Investment facilitation and public-private partnership mechanisms
Limited involvement of local communities	Local stakeholders are insufficiently included in major development decisions	Reduced legitimacy, weak local benefit distribution, and potential social conflict	Participatory coastal governance
Weak monitoring and evaluation	Lack of unified indicators for coastal development performance	Limited accountability and difficulty assessing implementation effectiveness	Integrated monitoring and performance-management system
Data fragmentation	Spatial, economic, environmental, port, investment, and demographic data are dispersed among institutions	Evidence gaps and inconsistent policy formulation	Integrated coastal data platform and spatial decision-support system
Regulatory complexity	Multiple permits, sectoral regulations, and institutional procedures affect investment and project implementation	Higher transaction costs and slower project development	Regulatory simplification and one-stop investment governance
Insufficient geoeconomic policy orientation	External trade, connectivity, regional economic competition, and corridor development receive insufficient integrated attention	Underutilization of Bushehr's Persian Gulf position	Establishment of maritime geoeconomic policymaking capacity

The institutional findings presented in Table 3 indicate that governance fragmentation constitutes the most important non-spatial barrier to the realization of Bushehr's maritime development potential. The existing institutional arrangement is characterized by multiple actors operating through differentiated mandates, sectoral regulations, distinct budgetary systems, and separate planning processes. This organizational structure is particularly problematic in coastal regions because maritime development inherently crosses conventional sectoral boundaries. Port expansion

affects transportation, urban development, land use, environmental management, industrial location, trade policy, and employment simultaneously; likewise, fisheries development requires coordination among marine resource management, processing industries, logistics, export systems, environmental regulation, and local communities. When these functions are governed independently, sectoral efficiency can coexist with territorial inefficiency. The reviewed evidence therefore indicates that the principal governance requirement is not simply the creation of another administrative organization, but the establishment of an institutional architecture capable of coordinating existing organizations through shared objectives, integrated spatial information, clearly allocated responsibilities, joint performance indicators, and binding implementation arrangements. Weak vertical coordination between national policies and provincial priorities also emerged as a major problem because national-scale investments may generate substantial macroeconomic benefits without necessarily addressing local infrastructure, settlement, employment, environmental, or value-chain requirements. In addition, limited involvement of private investors and local communities reduces both economic dynamism and policy legitimacy. Accordingly, a maritime-oriented policy paradigm requires a transition from fragmented administrative governance toward integrated, multilevel, participatory, data-driven, and geoeconomically informed coastal governance.

Table 4

Strategic Framework for Transition from Land-Oriented Planning to Maritime Geoeconomic Policymaking in Bushehr Province

Strategic Pillar	Strategic Objective	Priority Policy Actions	Expected Development Outcome
Integrated maritime spatial planning	Reorganize coastal space according to functional economic, environmental, settlement, and connectivity relationships	Coastal functional zoning, port-city planning, industrial-residential separation, environmental protection zones, integrated infrastructure allocation	Coherent spatial organization and reduction of land-use conflict
Integrated coastal governance	Overcome institutional fragmentation and sectoral policymaking	Establish interorganizational coordinating mechanism, define mandates, create joint planning procedures, develop shared monitoring indicators	Greater policy coherence and implementation capacity
Port-centered regional development	Transform ports from transport nodes into regional economic engines	Connect ports to production systems, logistics centers, processing industries, commercial services, and urban economies	Higher local value capture and stronger regional multiplier effects
Multimodal logistics connectivity	Improve internal and external movement of goods and production inputs	Strengthen rail-road-port integration, warehousing, distribution centers, maritime feeder networks, and digital logistics systems	Lower logistics costs and enhanced trade competitiveness
Maritime economic diversification	Reduce dependence on energy-centered development	Expand fisheries value chains, aquaculture, maritime tourism, ship services, marine engineering, logistics, and knowledge-based marine industries	Greater employment diversity and economic resilience
Energy-maritime value-chain development	Convert energy concentration into wider regional economic linkages	Develop downstream industries, specialized services, export-support industries, technical services, and local supplier networks	Broader territorial distribution of energy-sector benefits
Fisheries and aquaculture modernization	Increase value added from marine biological resources	Modernize fishing infrastructure, cold chains, processing, aquaculture, quality standards, branding, and export systems	Higher productivity, income, and export value
Coastal and maritime tourism development	Integrate natural, cultural, historical, and maritime tourism assets	Develop tourism corridors, waterfront regeneration, island-mainland tourism connections, marine recreation, and destination branding	Diversified service economy and improved place competitiveness
Environmental resilience and blue-economy governance	Protect ecological capital while enabling sustainable economic use	Ecosystem-based planning, pollution control, environmental carrying-capacity assessment, coastal resilience measures, renewable marine activities	Sustainable use of coastal resources and reduced ecological risk
Geoeconomic connectivity	Strengthen Bushehr's functional position in Persian Gulf and international economic networks	Export corridor development, regional trade partnerships, logistics diplomacy, maritime service networks, cross-border market integration	Enhanced external economic influence and regional competitiveness
Investment and business ecosystem reform	Mobilize domestic and external capital for maritime sectors	One-stop investment services, public-private partnerships, regulatory simplification, investment zones, project financing mechanisms	Increased private investment and faster project implementation
Knowledge, innovation, and human-capital development	Build specialized capabilities required for maritime economic transformation	Marine research networks, university-industry cooperation, specialized vocational training,	Higher productivity, technological capability, and skilled employment

		maritime technology development, innovation clusters	
Local participation and territorial inclusion	Ensure that coastal development benefits local communities	Participatory planning, local supplier development, employment localization, community-based tourism and fisheries programs	Greater social legitimacy and more balanced benefit distribution
Integrated monitoring and spatial intelligence	Establish evidence-based coastal policymaking	Coastal observatory, GIS-based decision-support system, integrated indicators, project dashboards, periodic strategic evaluation	Adaptive governance and stronger accountability

Table 4 synthesizes the findings into a strategic framework for a paradigmatic transition from land-oriented planning toward maritime geoeconomic policymaking. The proposed framework demonstrates that this transition should not be interpreted as a simple reallocation of investment from inland areas toward the coastline. Rather, it involves a fundamental change in the logic through which territory, economy, governance, infrastructure, and external relations are conceptualized. Under a land-oriented planning paradigm, coastal space is often treated as a peripheral location in which ports, industries, cities, fisheries, tourism facilities, and environmental zones are separately allocated. Under a maritime geoeconomic paradigm, by contrast, the coast becomes an integrated interface connecting the domestic economy to maritime networks, regional markets, international supply chains, energy systems, and cross-border flows. The strategic framework therefore places integrated maritime spatial planning and integrated coastal governance at its institutional and territorial foundation. Port-centered development and multimodal logistics then provide the physical and functional connectivity required for economic transformation, while diversification into fisheries, aquaculture, tourism, marine services, ship-related industries, knowledge-based activities, and energy-linked value chains broadens the productive base. Environmental resilience is incorporated as a structural condition rather than a secondary restriction because long-term coastal competitiveness depends on preservation of marine and coastal ecological assets. The framework also emphasizes geoeconomic connectivity, recognizing that Bushehr's development potential is shaped not only by domestic investment but also by its capacity to position itself within Persian Gulf trade, logistics, energy, and service networks. Investment reform, innovation capacity, human-capital development, local participation, and integrated monitoring operate as enabling mechanisms that support implementation of the broader strategy. Taken together, the results suggest that Bushehr Province already possesses many of the material prerequisites for maritime-oriented development, but realization of these capacities depends on replacing fragmented sectoral planning with an integrated territorial and institutional model in which coastal space is governed as a connected geoeconomic system.

4. Discussion and Conclusion

The findings of this study indicate that the central challenge of coastal development in Bushehr Province is not the absence of maritime resources or strategic potential, but the persistence of a fragmented spatial and institutional structure that prevents those capacities from being converted into an integrated geoeconomic development system. The results showed that Bushehr possesses substantial advantages in terms of strategic location, port capacity, energy and industrial concentration, marine resources, fisheries, tourism potential, and access to Persian Gulf markets. At the same time, the findings revealed persistent spatial fragmentation, weak port-hinterland integration, uneven concentration of investment, environmental pressures, fragmented governance, overlapping institutional responsibilities, weak policy coordination, and limited mechanisms for integrated implementation. This dual condition supports the argument that maritime-oriented development requires a paradigmatic transformation in the logic of planning rather than simply an increase in investment in coastal infrastructure. This interpretation is consistent with the broader argument that Iran needs to move from a predominantly land-oriented development model toward a sea-oriented development strategy in which coastal spaces are treated as strategic economic territories rather than peripheral zones (Azizi et al., 2026). It is also aligned with studies emphasizing that successful maritime development depends on the integration of geopolitical, spatial, economic, and institutional dimensions rather than isolated sectoral policies (Khadem et al., 2026; Khanzadi et al., 2026).

One of the most important findings was the coexistence of strong maritime capacities with a fragmented coastal spatial structure. The analysis showed that ports, coastal cities, industrial zones, fisheries areas, tourism destinations, environmental assets, and energy complexes have developed through partially separate planning processes, resulting in weak functional integration. This finding is highly consistent

with the literature on integrated marine and land-based spatial planning. Helmi and Setiawan argue that fragmented planning across the land-sea interface often generates incompatible land uses, inefficient infrastructure, environmental conflict, and weak policy coordination, whereas integrated spatial planning can improve the functional coherence of coastal development (Helmi & Setiawan, 2026). Tocco et al. similarly show that land-sea interactions are a central but frequently underdeveloped component of marine governance, particularly where economic activities and environmental impacts cross conventional administrative boundaries (Tocco et al., 2024). The findings of the present study therefore reinforce the need to conceptualize the coast of Bushehr not as a sequence of isolated administrative or sectoral zones, but as a connected functional system in which marine and terrestrial activities are planned together.

The results also demonstrated that weak port-hinterland connectivity represents a major structural constraint. Although Bushehr has important port and maritime assets, the developmental effect of these assets is reduced when they are not sufficiently connected to inland production systems, transport networks, logistics hubs, distribution centers, and regional markets. This finding supports the geoeconomic literature emphasizing the strategic importance of transport corridors and port connectivity. Veisi shows that ports and transport corridors increasingly function as instruments of geopolitical and geoeconomic competition, particularly in regions where trade routes and logistical access shape national economic influence (Veisi, 2025). Similarly, Mottaghi Dastnaei et al. argue that maritime transportation should be understood within the broader political economy of regional connectivity rather than as a narrow transport-sector issue (Mottaghi Dastnaei et al., 2024). From this perspective, the underdevelopment of integrated port-hinterland relations in Bushehr limits the province's capacity to transform geographic proximity to Persian Gulf markets into sustained regional economic advantage.

Another major finding concerned the excessive concentration of development around energy-related activities. The study showed that oil, gas, petrochemical, and related infrastructures have generated substantial economic value but have not produced a sufficiently diversified coastal economy. The limited development of downstream value chains, marine services, tourism, fisheries processing, aquaculture, ship-related industries, and knowledge-based activities has reduced the territorial distribution of economic benefits. This finding is consistent with the blue economy literature, which emphasizes that sustainable coastal development requires diversification across multiple marine sectors rather than dependence on a narrow resource base (March et al., 2024; Tavakoli & Karimzadeh Motlagh, 2025). The findings also align with research on Bushehr's coastal cities showing that maritime economic development requires stronger integration of local urban economies, port functions, service activities, and productive networks (Jafari & Maleki, 2025). In this regard, diversification is not only an economic objective but also a mechanism for improving regional resilience, employment distribution, and local value capture.

The analysis further identified marine tourism, fisheries, aquaculture, and conservation-based economic activities as important components of a diversified maritime strategy. This result is supported by studies demonstrating the potential of marine and coastal activities to generate sustainable economic value when appropriate spatial and environmental safeguards are in place. Ghanaatian et al. show that marine ecological assets in Bushehr can support both restoration objectives and conservation-oriented tourism, illustrating the potential for multifunctional use of marine resources (Ghanaatian et al., 2026). Jalalnia and Malek Akhlagh similarly emphasize the role of tourism within broader maritime economy models, particularly when tourism is linked to infrastructure, investment, governance, and destination development (Jalalnia & Malek Akhlagh, 2026). Research on offshore aquaculture also confirms that marine production can be expanded sustainably when location decisions are based on ecological suitability, spatial compatibility, and integrated planning (Costa et al., 2026; Menicou et al., 2026). These studies support the present finding that diversification should be pursued through coordinated spatial planning rather than through uncontrolled sectoral expansion.

Environmental vulnerability emerged as another major dimension of the spatial pathology. The findings showed that industrial expansion, coastal development, tourism, aquaculture, urban growth, and infrastructure may generate cumulative pressures on sensitive coastal ecosystems. This result is consistent with studies emphasizing the need to incorporate environmental thresholds, cumulative stressors, and ecosystem resilience into marine spatial planning (Carmichael et al., 2025; Wilson et al., 2026). The findings are also aligned with long-term evidence showing that marine economic activities such as offshore aquaculture can produce ecological impacts when environmental carrying

capacity is not adequately considered (Lampa et al., 2025). Zhang et al. similarly emphasize that coastline protection and restoration require coordinated long-term governance rather than reactive intervention after degradation has occurred (Zhang et al., 2024). The implication is that environmental protection should not be treated as a separate regulatory layer added after economic planning; it should form part of the strategic design of maritime development itself.

The institutional findings were equally significant. Fragmented governance was the most frequently identified institutional pathology, with multiple organizations exercising overlapping or insufficiently coordinated responsibilities. This finding is consistent with the literature on marine spatial governance, which shows that fragmented institutional authority often produces duplicated procedures, regulatory conflict, and weak implementation. Ramieri et al. demonstrate that effective maritime spatial planning requires multiscalar coordination across national, regional, and local levels (Ramieri et al., 2024). Kusters et al. likewise show that spatial conflict resolution is more effective when institutional mechanisms are explicitly designed to coordinate competing uses and permitting procedures (Kusters et al., 2025). The present findings therefore support the need for an integrated coastal governance mechanism in Bushehr that does not necessarily replace existing institutions but coordinates them through shared objectives, formalized responsibilities, integrated information systems, and common performance indicators.

Weak vertical and horizontal policy coordination was another major institutional finding. The results suggest that national strategies, provincial plans, sectoral policies, and local implementation mechanisms are not always sufficiently aligned. This disconnect can lead to situations in which large-scale investments produce national economic benefits but insufficiently address local infrastructure, employment, environmental, or social needs. This finding parallels the experience of the Makran region, where studies have shown that strategic development initiatives may underperform when national ambitions are not translated into coherent local and regional implementation mechanisms (Sadat Mousavi & Rahimi, 2026; Shahali et al., 2024). Nezam Barati and Akbarpour also emphasize the influence of external and institutional factors on the success of maritime development in Iran's southern coastal regions (Nezam Barati & Akbarpour, 2024). These studies support the conclusion that the effectiveness of maritime policy depends not only on the quality of strategic documents but also on the institutional capacity to align planning scales and implementation responsibilities.

The findings concerning social participation and local inclusion are also important. The study showed that the developmental benefits of maritime investment may remain unevenly distributed when local communities, municipalities, and small-scale economic actors are weakly integrated into coastal development processes. This observation is supported by research on social capital and resilience in Bushehr and other coastal contexts. Nazari et al. demonstrate that social capital varies spatially within Bushehr and can influence the capacity of communities to engage with development processes (Nazari et al., 2024). Mohebizadeh et al. similarly identify social resilience as a key factor in sustainable tourism development in Bushehr's coastal areas (Mohebizadeh et al., 2025). Research on community-based tourism also shows that local participation can produce direct social, cultural, and economic benefits, including the empowerment of women in coastal villages (Shamseddini & Dehghani, 2024). More broadly, Ihdayatul et al. show that coastal resilience is strongly influenced by socioeconomic conditions, livelihood opportunities, and the ability of local communities to participate in development (Ihdayatul et al., 2026). These findings reinforce the importance of territorial inclusion within any maritime geoeconomic strategy.

The strategic framework developed in this study places integrated maritime spatial planning at the core of the transition from land-oriented planning to maritime geoeconomic policymaking. This result is strongly supported by international evidence demonstrating the value of spatial decision-support tools and multi-criteria planning frameworks. GIS-based approaches can improve the allocation of coastal and marine functions by combining economic, environmental, accessibility, and social criteria within a transparent spatial evaluation process (Alhassan et al., 2026; Orou-Seko & Nyaaba Adokiya, 2026). Similar multi-criteria frameworks have been used to support sustainable marine spatial planning in coastal cities by balancing development priorities with ecological and social constraints (Yu et al., 2025). The evolution of marine spatial resources in rapidly urbanizing coastal areas also demonstrates that spatial planning must be adaptive and responsive to changes in economic demand, ecological protection, and technological development (Wang et al., 2025). Accordingly, the proposed framework for Bushehr should be understood as an adaptive planning system rather than a static zoning exercise.

The results also support the incorporation of resilience and monitoring into coastal policy. Maritime development exposes infrastructure, settlements, industries, and ecological systems to multiple forms of risk, including environmental degradation, climatic hazards, market volatility, and geopolitical uncertainty. Whole-process resilience management approaches emphasize that risk assessment, adaptation, monitoring, and recovery should be incorporated throughout the lifecycle of coastal projects (Zhou et al., 2025). This is particularly relevant to Bushehr, where strategic energy infrastructure, coastal settlements, ports, marine ecosystems, and tourism areas coexist within a sensitive environmental and geopolitical setting. Integrating resilience into maritime planning can therefore strengthen both economic continuity and environmental sustainability.

Taken together, the findings indicate that the transition toward maritime geoeconomic policymaking in Bushehr Province should be understood as a systemic transformation rather than a sector-specific development agenda. The required change involves simultaneous restructuring of spatial planning, institutional governance, economic diversification, transport connectivity, environmental management, local participation, investment mechanisms, and external geoeconomic relations. This interpretation is consistent with broader conceptualizations of the maritime economy, which view coastal development as an interconnected system linking ports, industries, services, communities, ecosystems, and international markets (Hajian et al., 2025). It also supports the argument that integrated coastal zone management and marine spatial planning provide more appropriate frameworks for contemporary coastal development than conventional land-centered planning approaches (Maccarrone et al., 2024). The significance of the present study lies in bringing these dimensions together within a single spatial-institutional framework specifically tailored to Bushehr Province.

The present study has several limitations that should be considered when interpreting the findings. First, the research was based on documentary and review evidence rather than direct field observations, interviews, or primary quantitative data, which means that some institutional practices, informal governance arrangements, and local conflicts may not have been fully captured. Second, the reviewed documents varied in scope, methodological quality, publication type, and geographical focus, creating a degree of heterogeneity in the evidence base. Third, although the analysis incorporated spatial and institutional dimensions, it did not conduct a full GIS-based spatial modeling exercise or quantify the economic impacts of alternative development scenarios. Finally, the strategic framework represents an analytically derived model and has not yet been empirically validated through stakeholder consultation or implementation testing.

Future research should extend the present framework through mixed-method designs that combine document analysis with interviews involving provincial managers, port authorities, municipalities, private investors, local communities, environmental organizations, and representatives of maritime industries. GIS-based spatial modeling could be used to identify priority development zones, ecological constraints, logistics corridors, and areas of potential land-use conflict. Future studies may also test alternative scenarios for port-centered development, coastal tourism, fisheries and aquaculture expansion, industrial diversification, and transport connectivity. Comparative research across Bushehr, Hormozgan, Khuzestan, and Makran could further clarify which institutional and spatial barriers are province-specific and which reflect broader structural weaknesses in Iran's maritime development system.

From a practical perspective, policymakers should prioritize the establishment of an integrated coastal governance mechanism capable of coordinating provincial, national, municipal, port, industrial, environmental, tourism, and fisheries institutions. A unified maritime spatial plan should be developed for Bushehr Province and linked directly to investment priorities, transport planning, environmental thresholds, and local development programs. Port-hinterland connectivity should be strengthened through multimodal infrastructure, logistics centers, and better integration between ports and regional production systems. Economic diversification should be pursued through fisheries value chains, aquaculture, maritime tourism, ship services, marine engineering, and knowledge-based industries, while environmental carrying capacity and community participation should be incorporated into all major projects. An integrated coastal data platform and monitoring system should also be established to support evidence-based decision-making, transparency, and continuous evaluation of development outcomes.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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