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State Obligations and the Fragmentation of Regional Legal Regimes in Governing Illegal Fishing Marketing Networks in the Strait of Hormuz: Implications for Coastal Food Security

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Abstract

The Strait of Hormuz is widely recognised as a critical chokepoint for global energy transportation, yet its fisheries governance has received limited attention in legal scholarship. This article examines how fragmentation within the regional legal regime creates gaps in state obligations that may enable illegal, unreported and unregulated (IUU) fishing and associated marketing activities to persist. Employing a normative (doctrinal) legal research method supported by contextual secondary data, the study analyses the 1982 United Nations Convention on the Law of the Sea (UNCLOS), the 2009 Port State Measures Agreement (PSMA), the instruments of the Regional Commission for Fisheries (RECOFI), and the domestic fisheries laws of Iran and Oman, with Indonesia serving as a parameterised comparator. The findings indicate that Iran has ratified neither UNCLOS nor the PSMA, whereas Oman is a party to both, leaving RECOFI without an effective, binding mechanism for joint surveillance and data exchange. As direct field evidence of marketing network operations in the Strait is unavailable, this aspect is treated as a working hypothesis, while the assessments of food security implications and five-year scenarios are presented as inferential and exploratory analyses. The article proposes a Collaborative Governance Model as a feasible response grounded in existing legal instruments.

Kata Kunci: Collaborative Governance; Fisheries Governance; Food Security; Illegal Fishing; Legal Regime Fragmentation; State Obligations; Strait of Hormuz.

1. INTRODUCTION

Each year, close to one fifth of the world's oil and a comparable share of its liquefied natural gas pass through the Strait of Hormuz, a passage roughly twenty one nautical miles wide at its narrowest point and bordered by the territorial seas of Iran and Oman (Arabasadi & Sasanian, 2026). Scholarly and public attention has consequently gravitated toward the law of navigation: transit passage under the 1982 United Nations Convention on the Law of the Sea (UNCLOS), Iran's unilateral regulation of vessel traffic, and the repeated military escalations that have threatened freedom of navigation (Barati, 2022; Weller, 2026). The tension resurfaced in early 2026, when a blockade and sea mines disrupted commercial shipping before a temporary ceasefire was reached (Marsden & Stigaite, 2026).

Behind this navigational debate sits a quieter question. The strait and the Persian Gulf that flanks it are a shallow, semi-enclosed sea of high biodiversity and, at the same time, one of the most heavily exploited marine areas in the world (Arabasadi & Sasanian, 2026). Fisheries studies focused on the Hormozgan coast

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and the Sea of Oman, the waters immediately adjoining the strait, report a declining mean trophic level of landings, an indicator consistent with fishing pressure that outpaces stock recovery (Hashemi & Ghasemzadeh, 2019; Razzaghi et al., 2017). A reconstruction of Gulf catches from 1950 to 2010 further suggests that official statistics systematically under-record discards, recreational and subsistence catch, and illegal catch (Al-Abdulrazzak et al., 2015). These findings are consistent with an unreported or unlicensed component in the regional supply chain, but they do not prove it. Establishing it as fact would require field investigation beyond the secondary-data basis of this study.

The surveillance vacuum that has long characterised the area may now be widening. When naval and coast-guard assets are redirected toward defence and the security of commercial shipping, the already limited capacity for fisheries patrols is pushed further down the policy agenda. This article therefore advances a governance-vacuum hypothesis: that an acute maritime-security crisis indirectly widens the institutional space in which lower-visibility illegal fishing and its marketing networks may expand. The proposition is examined against legal and secondary evidence and is not presented as an established causal finding. IUU fishing is understood here in the sense of the FAO International Plan of Action, namely fishing that violates national law or international conservation and management measures, within or beyond national jurisdiction, and which frequently overlaps with document forgery, trafficking and smuggling (FAO UN, 2001; Telesetsky, 2014). Global estimates indicate that illicit trade in marine catch carries substantial economic and ecological costs (Sumaila et al., 2020).

Existing scholarship on the strait falls into three strands. The first is the international law of navigation and the legality of Iran's traffic measures and the 2026 blockade (Barati, 2022; Weller, 2026; Marsden & Stigaite, 2026). The second is fisheries science on stock decline, trophic-level change and unreported catch (Al-Abdulrazzak et al., 2015; Hashemi & Ghasemzadeh, 2019; Razzaghi et al., 2017). The third is legal writing on transnational fisheries crime and catch laundering, which mostly addresses global patterns or other regions and rarely the Hormuz context (INTERPOL, 2021; Telesetsky, 2014; Yuliantiningsih et al., 2018). To the authors' knowledge, no legal study has combined these strands to ask how fragmentation of the regional regime (Koskenniemi & Leino, 2002) produces gaps in state obligations and how those gaps relate to coastal food security. This is the contribution of the present article. The question carries some urgency, because tension around the strait is unlikely to subside soon, and preparedness is better assessed before a food crisis materialises than after.

The article accordingly addresses three research questions: a) To what extent does fragmentation of the regional legal regime, comprising UNCLOS 1982, the PSMA, RECOFI's constitutive instruments, and the domestic fisheries legislation of Iran and Oman, create normative gaps and unclear state obligations that may structurally enable illegal fishing and associated marketing activity? b) What enforcement and jurisdictional gaps exist between the obligations these instruments impose and their institutional implementation, and how might these gaps relate, as a working hypothesis, to the erosion of coastal food security? c) What collaborative governance model, built on identified actors, authority, coordination mechanisms and accountability structures, could plausibly close these gaps within the evidentiary limits of this study?

2. RESEARCH METHODOLOGY

This study uses normative (doctrinal) legal research supplemented by contextual secondary data. The primary unit of analysis is the legal norm: treaty provisions, the constitutive instruments of regional fisheries bodies, and the domestic legislation of Iran and Oman, interpreted systematically and comparatively. This choice follows from the research questions, which concern the content, ratification status and institutional implementation of legal instruments. They do not concern the empirical prevalence or structure of a criminal network, which would require socio-legal fieldwork that is currently impracticable in the region.

Three categories of material were used. Primary legal materials include UNCLOS; the PSMA (FAO UN, 2009; FAO UN, 2026); the IPOA-IUU (FAO UN, 2001); the RECOFI Agreement and its 2011 performance review (FAO UN, 1999; FAO UN, 2011); Iran's Temporary Regulations for Catching Fish, Shrimp and Other Sea Animals; Oman's Royal Decree No. 20/2019 on the Law on Living Aquatic Wealth and Royal Decree No. 26/2013 on accession to the PSMA (UN Environment Programme, 2013); and, as comparator, Indonesia's Law No. 17 of 1985, Law No. 31 of 2004 as amended by Law No. 45 of 2009, and Law No. 7 of 2016. Secondary materials include international reports, peer-reviewed fisheries studies on the Persian Gulf and Sea of Oman, and legal scholarship on fisheries crime. Tertiary materials are credible news, trade reporting and Indonesian ministry documents, used only as illustrative comparators.

Analysis proceeded in three stages: (i) doctrinal analysis of the norms to identify what each state is obliged to do and where obligations are incomplete, unratified or unimplemented; (ii) contextual reading of secondary literature, used to situate but never to replace the doctrinal findings; and (iii) structured comparison with Indonesia along six defined parameters, so that Indonesia is assessed on the same terms as Iran and Oman and is not treated as an implicit model of success.

Throughout the article, claims are distinguished by the strength of their evidentiary basis. Statements about ratification and treaty content are doctrinal findings. Statements drawn from Gulf-wide or nonGulf sources are comparative inferences. Statements about the structure of marketing networks, the effect of the 2026 crisis, and food-security outcomes are working hypotheses or exploratory reasoning. The principal limitation is that no field data, interviews or direct observation of marketing-network operations in the strait could be collected, so any statement on the structure, actors or volume of such a network is hypothetical. Any scenario in Section 3.6 is a qualitative exercise, not a forecast.

3. RESULTS AND DISCUSSION

3.1 Legal and Ecological Vulnerability of Hormuz Fisheries

The strait forms part of the Persian Gulf and Gulf of Oman ecosystem. At its narrowest, roughly twenty-one to twenty-two nautical miles, it lies wholly within the territorial seas of Iran and Oman, with no high-seas space (Arabasadi & Sasanian, 2026). This geography simplifies jurisdiction on paper, since every part of the strait falls under one coastal state's sovereignty. In practice it produces jurisdictional asymmetry, because the two states apply different legal frameworks and enforcement capacities to a single shared ecosystem.

Iranian fisheries management rests mainly on the Temporary Regulations

administered by the Iranian Fisheries Company (Shilat), a thirteen chapter instrument covering vessel registration, permitted grounds and gear, closed seasons and violations, supplemented by an older 1979 regulation authorising confiscation of vessels and gear used in violation (Arabasadi & Sasanian, 2026). Oman is governed by Royal Decree No. 20/2019, a sixty-four-article framework law that gives the Ministry of Agriculture and Fisheries licensing, vessel-registration and port-management authority and expressly mandates cooperation with neighbouring states and international organisations in the joint exploitation of shared living aquatic resources (UN Environment Programme, 2013). This express cooperation mandate is a primary source finding of direct relevance to the governance model proposed in Section 3.7.

On the biological side, studies of Hormozgan province and the Sea of Oman document declining mean trophic levels in coastal landings, together with a Fishing-in-Balance pattern consistent with expansion into new grounds masking an underlying "fishing down" effect (Hashemi & Ghasemzadeh, 2019; Razzaghi et al., 2017). These are Hormuz-specific, peer-reviewed findings. They are consistent with, though not direct proof of, a meaningful unreported or unlicensed component in Hormozgan waters. The Gulf-wide reconstruction by Al-Abdulrazzak et al., adds that official statistics for the whole Gulf under-record discards, recreational and subsistence catch, and illegal catch (Al-Abdulrazzak et al., 2015). Because that reconstruction is not specific to the strait, it is used here only as comparative inference supporting the plausibility of under-reporting in Hormuz waters.

This structural vulnerability now meets the military escalation of early 2026 (Marsden & Stigaite, 2026). As security priorities shift toward the defence of commercial navigation, resources for fisheries surveillance are likely to be marginalised. Under the governance-vacuum hypothesis, maritime agencies forced into prioritisation trade offs leave more room for low visibility illegal fishing. No direct evidence quantifying such displacement for the 2026 crisis was available at the time of writing, so the hypothesis is offered as a plausible legal institutional proposition for future empirical testing.

3.2 Fragmentation of the Regional Legal Regime and State Obligations

The central doctrinal finding concerns the uneven ratification of the two main multilateral instruments. Fragmentation in international law is often described as the diversification of rules and institutions without a common hierarchy or coordinating logic (Koskenniemi & Leino, 2002); the Hormuz regime is a clear regional example.

a) UNCLOS

Iran signed UNCLOS in 1982 but has never ratified it. Iranian scholarship attributes this to unresolved objections to the innocent passage provisions for warships and to the absence of any government or parliamentary initiative toward ratification (Barati, 2022). Oman ratified in 1989 (Arabasadi & Sasanian, 2026). Because many UNCLOS rules are widely regarded as reflecting customary law, Iran is not free of all baseline obligations. Its specific treaty based duties of cooperation, however, including Article 123 on states bordering semi enclosed seas, bind Iran only through the more contested and less determinate route of custom (Arabasadi & Sasanian, 2026; Barati, 2022). The Advisory Opinion of the International Tribunal for the Law of the Sea in the SRFC case (ITLOS, 2016) is instructive here, because it frames fisheries obligations in terms of due diligence and cooperation. Those

obligations, however, presuppose participation in the treaty framework.

b) The Port State Measures Agreement

A parallel asymmetry exists under the PSMA, the first binding global instrument aimed specifically at IUU fishing through port-state control. According to the FAO list of parties consulted for this study, Oman acceded on 1 August 2013, becoming the first Arab Gulf state to do so, and Saudi Arabia has since joined. Iran, the United Arab Emirates, Qatar, Kuwait, Bahrain and Iraq are not parties (FAO UN, 2026). Only two of the eight Gulf coastal states are therefore bound by PSMA inspection duties. A vessel denied port entry or landing in Muscat on suspicion of IUU fishing faces no equivalent binding obligation at the other coastal state's ports or at most other Gulf ports. That is precisely the port-shopping opportunity the PSMA was designed to remove (Palma et al., 2010).

c) RECOFI

At the regional level, the Gulf states belong to RECOFI, established in 1999 under FAO Council Resolution 1/117. Its constitutive Agreement allows Commission recommendations to become binding through a two-thirds majority procedure subject to an objection period (FAO UN, 1999). On paper RECOFI is therefore more than consultative. In practice, FAO's 2011 Technical Performance Review recorded members' wish to enhance and consolidate the Commission's role, and gaps in scientific advice, data collection and cooperation remained unresolved (FAO UN, 2011). Nothing in the primary or secondary record available to this study indicates that RECOFI currently operates a binding joint monitoring, control and surveillance (MCS) mechanism or a shared catch-documentation database aimed at IUU fishing. The gap between RECOFI's formal capacity and its apparent under-institutionalisation is treated as a working hypothesis about a key structural cause of the region's enforcement gap. Testing it would require an institutional audit of RECOFI sessions after 2015, which lies beyond the documentary record accessible here.

d) Political Constraints

Legal fragmentation is compounded by political tension between Iran and other Gulf states, which narrows the space even for cooperation that ought to remain technical and insulated, such as fisheries enforcement. The Iran–Oman working group on navigation management announced in 2026 shows that ad hoc bilateral cooperation remains possible despite non-ratification and tension. Its focus so far has been navigational rather than fisheries-specific (Hendriansyah, 2026).

3.3 Illegal Fishing Marketing Networks: Global Inference and Hormuz-Specific Evidence

Fisheries crime is rarely a stand-alone act of illegal catching. INTERPOL coordinated operations report that a common modus operandi worldwide combines the falsification of vessel, licence and crew documents, the blending of illegal with legal catch (catch laundering), and links to trafficking and smuggling (INTERPOL, 2021). Legal scholarship treats this as a structural feature of globalised seafood chains, in which easy reflagging and opaque beneficial ownership create durable opportunities for laundering (Telesetsky, 2014). Indonesian research on the 2015 Benjina case documents document forgery, crew exploitation and catch mixing operating together as a transnational organised-crime pattern (Yuliantiningsih et al., 2018).

It must be stated plainly that no field investigation, law enforcement report or academic study identified in this research documents the structure, actors or volume of an illegal-catch marketing network operating within the Strait of Hormuz. The sequence often described in the literature (unlicensed catch, collection by intermediaries, blending at landing points, and entry into export or digital retail channels) is therefore presented here as a working hypothesis built by analogy from the global modus operandi and from comparable developing-country fisheries, including Indonesia, where fishers' weak bargaining position against intermediaries is well established (Jayadi et al., 2026; Susanti et al., 2020). Analogy is a legitimate basis for forming a hypothesis, but it cannot substitute for direct evidence.

What can be stated as fact is narrower. Trade data indicate that Iran's fisheries exports rose to about USD 228 million in the first nine months of 2023 despite Western sanctions (Oirere, 2024). This is a finding about aggregate export value. It is not evidence that any share of that volume is laundered illegal catch. The structural point is only that origin verification systems in the Gulf appear less developed than the traceability standards now enforced in United States and European Union import markets (Telesetsky, 2014), which leaves open the possibility that official export channels could carry some unlicensed catch.

The case of the FV Viking, a toothfish poacher that operated under successive false names and flags for about a decade before its 2016 detention by Indonesian authorities acting on an INTERPOL Purple Notice (Sea Shepherd Global, 2016); (Fadli, 2016), is cited only to illustrate that transnational fisheries crime networks can evade detection across jurisdictions for long periods. It comes from a different fishery and ocean and does not show that a similar network operates in Hormuz.

A further emerging pattern is the use of messaging applications and e-commerce platforms by Indonesian coastal fishers to sell directly to consumers (Lastuti et al., 2025). Whether an equivalent channel is developing in the Gulf is not documented. It is flagged as a plausible development worth monitoring, since a regionally under regulated digital channel could complicate traceability by moving transactions outside ports and markets that fisheries authorities ordinarily oversee.

3.4 Structured Comparative Legal Analysis: Iran, Oman and Indonesia

The comparison is organised around six legal-institutional parameters applied identically to the three states, so that Indonesia is evaluated on the same terms as the two Hormuz coastal states and is not presented as an unqualified benchmark.

Table 1. Comparison of legal-institutional parameters in Iran, Oman and Indonesia

Parameter	Iran	Oman	Indonesia
UNCLOS 1982	Signed 1982; not ratified	Ratified 1989	Ratified by Law No. 17/1985
PSMA 2009	Not a party (FAO)	Party since 2013 (FAO; UN Environment Programme)	Party (FAO)
Principal fisheries legislation	Temporary Regulations, administered by Shilat	Royal Decree No. 20/2019 (UN Environment Programme)	Law No. 31/2004 as amended by Law No. 45/2009

Standalone protection of small-scale fishers	Not identified in the sources reviewed	Not identified in the sources reviewed	Law No. 7/2016 on Protection and Empowerment of Fishers
Community-based surveillance	Not documented in the sources reviewed	Not documented in the sources reviewed	Pokmaswas under the Ministry of Marine Affairs and Fisheries
Digital traceability /e-commerce integration	Not documented in the sources reviewed	Not documented in the sources reviewed	Emerging platforms for artisanal catch.

Source: Analysis of primary legal materials and the secondary sources cited in each cell.

Read through these parameters, Indonesia's relative strength lies in a more complete normative framework: ratification of both principal treaties, a consolidated fisheries statute, a dedicated fisher-protection statute, an institutionalised community surveillance scheme and an emerging digital channel. This study cannot verify whether Indonesian enforcement is more effective on the ground. For Iran and Oman, no counterpart to the fisher protection statute or Pokmaswas was identified in the sources reviewed. This structured gap, and not a general narrative of Indonesian success, grounds the adaptation proposals in Section 3.7.

3.5 Implications for the Food Security of Coastal Communities

Food security rests on four interrelated pillars: availability, access, utilisation and stability. This section traces plausible pathways by which the gaps identified in Sections 3.1 to 3.4 could affect each pillar. Because the study relies on secondary legal and scientific data and not on household surveys in Iran or Oman, these pathways are reasoned inference and not established causal findings, and no quantified impact is offered.

Availability. The documented decline in the mean trophic level of Hormozgan and Sea of Oman landings (Hashemi & Ghasemzadeh, 2019; Razzaghi et al., 2017) is consistent with a gradual loss in the quality and, potentially, the long-run quantity of fish available for consumption and livelihoods. This is a direct extension of an existing finding and not a new empirical claim.

Access. In Indonesia, illegal fishing has been linked to reduced local seafood supply and rising prices, narrowing low income households' access to an important protein source (Nurhakim, 2025; Umar, 2024). The pattern is analogically relevant to the Gulf insofar as unlicensed or under documented catch is more likely to be diverted toward higher value export or unregulated channels than toward local markets. No Hormuz-specific price or access data were located to confirm that it holds in Iranian or Omani markets, so the point remains an inference.

Utilisation and stability. Iran's Persian Gulf fisheries output fell during the Iran-Iraq War, which shows that armed conflict has previously disrupted the regional supply chain (Arabasadi & Sasanian, 2026). Whether the 2026 tension will cause a comparable disruption, possibly compounded by the overexploitation pressure noted in Section 3.1, is a working hypothesis, given the absence of contemporaneous production data. Small scale fishers, who hold the weakest

bargaining position against larger market actors, would be the most exposed under this hypothesis. A similar pattern of unequal access has been documented, in a different jurisdiction, among Indonesian fishers competing with foreign and illegal vessels in Natuna and Aceh (Afriandi et al., 2023; Ambanaga & Burhanuddin, 2023; Susanti et al., 2020). That evidence illustrates a general structural dynamic and is not proof of conditions in the Gulf.

3.6 Exploratory Scenario Analysis (2026-2031)

The scenarios below are a qualitative planning device for mapping plausible alternative futures under stated assumptions. They are not statistical or econometric projections. No probability is assigned to any scenario, and no quantitative model underlies them.

a) Escalation Scenario

Military tension continues intermittently without stable political resolution (Marsden & Stigaite, 2026). Coastal-state surveillance resources remain absorbed by defence needs, and the gaps identified in Section 3.2 (Iran's non ratification and RECOFI's under institutionalisation) are left unaddressed. Hormozgan and Bushehr provinces, and possibly parts of Oman's Musandam coast, would face the most direct exposure.

b) *Status-Quo* Scenario

Tension subsides but no legal or institutional reform follows. RECOFI continues to operate below its formal binding capacity (FAO UN, 2011), Iran remains outside UNCLOS and the PSMA, and the enforcement gap persists, though at a slower pace than under escalation.

c) Reform Scenario

Oman's PSMA leadership is extended to other Gulf states through diplomatic effort, RECOFI's binding-recommendation procedure under Article III of its Agreement is invoked and resourced (FAO UN, 1999; FAO UN, 2011), and a regionally shared catch-documentation system is adopted. This outcome depends entirely on political will that would need to be built now, and its likelihood is not estimated here.

Taken together, the scenarios show that a window for preventive action remains conceptually open, without suggesting how likely any outcome is. The strait's status as a global energy choke point keeps it constantly in the focus of international security attention. In the authors' assessment, this is underused diplomatic capital that could bring fisheries governance and coastal food security onto the agenda of regional maritime-security dialogue. This is a policy argument and not an empirical prediction.

3.7 Toward a Collaborative Governance Model

Collaborative governance is commonly understood as an arrangement in which public institutions and nonstate stakeholders engage in consensus oriented decision-making, with clear starting conditions, facilitative leadership and institutional design (Ansell & Gash, 2008; Emerson et al., 2012). In fisheries, co-management literature adds that durable compliance depends on sharing responsibility between government and resource users (Pomeroy & Berkes, 1997). Drawing on these insights, this section builds a single model, each element of which is tied to the gaps identified in Sections 3.2 to 3.4.

Table 2. Collaborative Governance Model for Hormuz fisheries

Element	Specification
Actors	Fisheries authorities of Iran (Shilat) and Oman (Ministry of Agriculture, Fisheries and Water Resources); the RECOFI Secretariat and the FAO Regional Office for the Near East as neutral conveners; port authorities of both states; INTERPOL's environmental security programme; and coastal fisher groups on both sides of the strait.
Basis of authority	Iran's Temporary Regulations and Oman's Royal Decree No. 20/2019 for domestic action; the binding-recommendation procedure in Article III of the RECOFI Agreement for regional measures; the PSMA for Oman's (and any future Iranian) port-state duties; and UNCLOS Article 123, applicable to Oman as treaty law and to Iran through customary law.
Coordination mechanism	A standing RECOFI joint task force on IUU fishing and catch laundering, convened under FAO's neutral facilitation so that technical cooperation can proceed despite bilateral tension, modelled on the 2026 Iran–Oman navigation working group.
Data exchange	A RECOFI-hosted catch-documentation registry, building on the minimum data-reporting standard members agreed in 2012, and extended to vessel licensing and landing records so that catch origin can be cross-checked between Iranian and Omani ports.
Enforcement	Accelerated PSMA accession by Iran and the other Gulf states, using Oman's 2013 accession and Royal Decree No. 26/2013 as a template; in the interim, voluntary port-inspection cooperation between Iran and Oman modelled on PSMA minimum standards.
Traceability	A digital catch-documentation and vessel-tracking scheme adapted from traceability standards emerging in United States and European Union markets, designed from the outset to cover small-scale vessels as well as industrial fleets.
Community participation	Adaptation of Indonesia's Pokmaswas model to Hormozgan and Omani coastal communities, paired with formal digital marketing and origin-certification channels inspired by Indonesian artisanal platforms, to strengthen fishers' bargaining position and reduce reliance on informal channels.
Accountability	Periodic joint reporting to RECOFI's governing session, building on its existing but underused review function (FAO); the FAO Regional Office as independent monitor; and integration of the coastal food-security agenda into regional maritime-security dialogue.

Source: Synthesis of the legal instruments and cooperation precedents discussed in Sections 3.2 to 3.4.

The model is offered as a feasible institutional design grounded in mechanisms that already exist in the region, namely RECOFI's binding-recommendation procedure, Oman's PSMA accession and cooperation-mandated domestic law, and the 2026 Iran-Oman working group. It is not a call for an entirely new legal architecture. Its implementation nonetheless depends on the political will of Iran and the other non-PSMA Gulf states, which this study, resting on doctrinal and secondary data, can neither predict nor guarantee.

4. CONCLUSION

This article examined, through doctrinal legal research supported by contextual secondary data, how fragmentation within the regional legal regime governing the Strait of Hormuz shapes state obligations, enforcement gaps, and the institutional space in which illegal fishing and associated marketing activities may operate. Three conclusions emerge, each reflecting the level of confidence supported by the available evidence.

First, as a doctrinal finding, Iran remains outside both UNCLOS and the PSMA, whereas Oman is a party to both. RECOFI possesses a formal procedure for adopting binding recommendations that, based on the available evidence, remains under-institutionalised in practice. Second, as a working hypothesis, these normative and institutional gaps may create structural opportunities for unlicensed catches to enter formal supply chains with limited traceability. This hypothesis is consistent with global patterns of fisheries-related crime and evidence of declining trophic levels in the Strait of Hormuz. However, the structure, scale, and actors involved in any such network in the Strait have not been empirically documented and require dedicated field research. Third, as an inference, these dynamics may undermine the four pillars of coastal food security, with small-scale fishers facing disproportionate exposure, although Hormuz-specific food security data are unavailable to quantify these effects.

The exploratory scenarios indicate that, in the absence of collaborative reform, an escalating-risk trajectory is plausible. However, no probabilities are assigned, and the scenarios should not be interpreted as predictions. The proposed Collaborative Governance Model, which specifies actors, authority, coordination, data exchange, enforcement, traceability, community participation, and accountability, is grounded in mechanisms that already exist within the region.

The article contributes to the literature by integrating three strands of scholarship—the international law of the sea, Persian Gulf fisheries science, and transnational fisheries-crime law—into a single doctrinal framework centred on state obligations and legal regime fragmentation, with each claim aligned with its corresponding evidentiary tier. Future research should examine the hypotheses advanced in this article using vessel-tracking records, port-inspection logs, and interviews with fishers, intermediaries, and enforcement officials in Hormozgan and Omani coastal communities. Although such research remains challenging under current security conditions, it will be essential once conditions permit.

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