Institute of Public Finance - Somalia

May 2026

CLOSING SOMALIA'S FISHERIES GOVERNANCE GAP:

A Policy Paper For Marine Biodiversity, Food Security And The Blue Economy

Authors

Khalid Mohamed Mohamud
Institute of Public Finance of Somalia (IPFS)

Yusuf Hassan Ali
Institute of Public Finance of Somalia (IPFS)

CLOSING SOMALIA'S FISHERIES GOVERNANCE GAP

A Policy Paper for Marine Biodiversity, Food Security and the Blue Economy

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Abstract

Somalia's marine fisheries are often discussed through the narrow lens of overfishing by foreign fleets, yet the more consequential policy problem is a governance gap: the country's marine endowment is large, while the institutions needed to convert that endowment into sustainable domestic welfare remain incomplete. This paper develops that argument using a desk-based policy analysis that updates an earlier author draft with recent evidence from FAO publications, World Bank project documents, official Somali fisheries materials and selected peer-reviewed scholarship published through early 2026. The study combines descriptive analysis of current sector indicators with a simple bio economic framing that distinguishes between ecological sustainability, domestic value capture, inclusion and state capability. The evidence shows a striking mismatch between potential and performance. In economic terms, this mismatch implies that a substantial share of Somalia's potential marine rents is not being converted into domestic income, employment, food access, or public revenue. Somalia has a coastline of roughly 3,333 km and an exclusive economic zone of more than 1.07 million km^2, yet recent official sources still describe domestic catches and fish consumption as low relative to resource potential. Per capita fish consumption remains far below African and global averages, while external actors continue to capture a significant share of fisheries rents through illegal, unreported and unregulated fishing and weakly institutionalized access arrangements. At the same time, a new federal fisheries law, the Fisheries Master Plan and the Badmaal project create a policy window for reform. The paper argues that Somalia should not begin with sophisticated tradable quota systems. A more feasible sequence is to build a minimum viable fisheries information system, secure inshore artisanal zones, upgrade landing and cold-chain infrastructure, digitize licensing and registries, pilot co-management and traceability, and only then consider more advanced rights-based instruments. This sequencing would better align marine biodiversity protection, food security and blue-economy development.

Keywords: Somalia; marine policy; fisheries governance; IUU fishing; food security; blue economy; Western Indian Ocean

1. Introduction

Marine ecosystems are under growing pressure from overexploitation, habitat degradation, climate stress and weak governance. The modern policy challenge is therefore not simply to maximize harvests, but to preserve the ecological functions, food-system benefits and social value of marine resources under conditions of intensifying use [1, 2].

Somalia provides an especially important policy case. The country has one of Africa's longest coastlines and an exclusive economic zone (EEZ) of approximately 1,072,789 km^2, yet its fisheries sector remains far below its ecological and economic potential [3]. Recent official project documents continue to describe the sector as largely untapped, with fisheries contributing only a small share of GDP despite their potential contribution to food security, livelihoods and domestic revenue mobilization. For Somalia, this means fisheries governance is not only a sectoral concern, but also part of the broader political economy of state-building, domestic revenue mobilization, and structural transformation. [3, 4].

This mismatch between marine abundance and domestic benefit is the central concern of this paper. While public debate in Somalia often emphasizes illegal foreign fishing and stock depletion, a narrower focus on resource predation risks missing the deeper institutional problem: the state, markets and coastal communities are not yet linked through a robust governance architecture capable of producing sustainable and equitable fisheries outcomes. Somalia's fisheries challenge is therefore as much about policy design, implementation and value capture as it is about biomass extraction [5, 6, 7].

The draft on which this manuscript builds correctly identifies the urgency of protecting marine life and reforming fisheries management, but it does not yet convert that concern into a full research argument supported by current evidence. The present paper updates and extends the draft by integrating recent FAO figures, World Bank project data, sector policy documents and peer-reviewed literature. In doing so, it reframes the problem from a general concern about overfishing into a more precise diagnosis of a fisheries governance gap [2, 4]. To preserve continuity with the earlier working materials, Appendix B reproduces the key contextual figures supplied for the draft version that motivated the paper's ecological framing.

The paper addresses three questions. First, what do the latest public data suggest about the scale and nature of the gap between Somalia's fisheries potential and current outcomes? Second, which elements of the governance gap are most binding: ecological uncertainty, weak enforcement, low domestic value addition, limited food-system integration, or slow institutional implementation?

Third, which reforms are realistic in the near term for a country seeking to expand a blue economy without reproducing the failures of open-access exploitation? The paper's argument is that policy sequencing matters. Somalia should begin with a minimum viable governance system that strengthens data, transparency, inshore protection, community participation and basic infrastructure before moving to more complex rights-based instruments.

2. Background and literature

2.1. Fisheries governance and the problem of common access

The classic fisheries governance problem is well established: when fish stocks are treated as open-access or weakly regulated common-property resources, individual fishers and fleets have incentives to harvest before others do, even when restraint would improve long-term welfare. Gordon's pioneering economic analysis demonstrated that unregulated fisheries tend toward excessive effort and dissipated rents, while later institutional scholarship showed that collective action and rule systems can, under the right conditions, stabilize resource use [6, 7].

Contemporary fisheries policy extends this insight in two directions. First, management systems that combine secure access, scientific monitoring and enforceable rules can simultaneously improve biomass, profits and long-term catches. Second, no single institutional template works everywhere; the effectiveness of rights-based management, co-management, territorial use systems or certification depends on state capacity, information quality, social legitimacy and the political economy of access [8].

These lessons are particularly relevant for fragile and post-conflict maritime states. In such settings, policy failure often reflects not only biological overexploitation but also fragmented authority, incomplete registries, weak surveillance, low compliance and underdeveloped landing infrastructure. Somalia fits this pattern. Pollnac and colleagues show that fishery governance in Somalia has re-emerged through a complex mixture of state rebuilding, donor involvement and community adaptation, but also remains shaped by conflict legacies and institutional unevenness [5].

2.2. Somalia's fisheries endowment and structural constraints

Somalia's marine resource base is substantial. Recent official documents describe a coastline of about 3,333 km and sustainable marine fisheries potential of well over 200,000 metric tons per year [9, 10]. Yet the same documents also highlight how small current domestic capture, processing and value addition remain. The sector is predominantly small-scale, and official estimates indicate that artisanal fishing accounts for roughly 57% of landings while industrial fishing accounts for about 43% [3, 9].

Available baseline estimates are uneven in date and quality, which is itself a policy problem. The World Bank's recent appraisal materials report 122 fish landing sites nationwide and estimate direct fishing employment at roughly 10,000–30,000 people, with perhaps 90,000 additional indirect jobs linked to the sector [4]. Older baseline figures cited in current project documents indicate about 4,300 fishing boats, 20,500 active fishers and an annual fish catch of 32,600 metric tons valued at US$36 million in 2006 [3]. These numbers should not be treated as precise current totals, but as indicators of how weak time-series monitoring remains.

Weak infrastructure compounds the information deficit. Fisheries that are biologically productive still generate limited domestic welfare when cold chains are absent, landing sites are poorly equipped, transport is unreliable, inspection systems are thin, and traders lack stable access to larger markets. The result is not only low value addition, but also a policy environment in which biomass, effort, compliance and rents cannot easily be measured or governed. Somalia's fisheries problem is therefore simultaneously ecological, institutional and logistical [4, 9].

2.3. A new policy window

Despite these constraints, the policy environment is changing. The World Bank's 2025 environmental and social review summary notes that a Federal Fisheries Law was adopted in March 2023 [3]. The project appraisal document further reports that the Somalia Fisheries Master Plan was endorsed in February 2024, giving the country a more coherent framework for sector development and governance [4].

This policy window matters because fisheries reform in Somalia can no longer be understood as a stand-alone conservation issue. The sector now sits at the intersection of marine biodiversity protection, livelihood recovery, state-building, foreign access regulation and blue-economy strategy. That broader frame is also consistent with the remit of marine policy scholarship, which emphasizes how institutional design and implementation shape the use of ocean resources [2, 8].

Table 1. Selected recent indicators for Somalia's marine fisheries sector.

Indicator	Latest cited value	Reference year in source	Policy relevance
Coastline length	3,333 km	2024	Large coastal exposure raises both opportunity and monitoring costs.
Exclusive economic zone	1,072,789 km^2	2025	Very large maritime domain relative to current enforcement capacity.
Estimated sustainable marine potential	>200,000 metric tons/year	2024	Indicates high latent resource value if governed sustainably.
Annual fish catch	32,600 metric tons	2006 baseline cited in recent docs	Shows how dated many official baseline statistics still are.
Estimated value of catch	US$36 million	2006 baseline cited in recent docs	Suggests historically small monetized sector relative to potential.
Domestic fisheries sector value	US$135 million	2015/16	Shows the scale of current domestic economic activity.
Estimated IUU-related benefits captured elsewhere	US$306 million	2015/16 estimate cited in 2024 ESMF	Illustrates large external leakage of marine rents.
Potential annual government revenue from regulated fishing	US$4–17 million/year	2024 document estimate	Signals room to improve public revenue through legal access management.
Artisanal share of landings	57%	Recent official documents	Confirms the centrality of small-scale fisheries to sector policy.
Industrial share of production/landings	43%	Recent official documents	Shows that industrial activity remains policy relevant despite artisanal dominance.

Industrial share of production/landings	43%	Recent official documents	Shows that industrial activity remains policy relevant despite artisanal dominance.
Direct fishing employment	10,000–30,000 fishers	2024	Demonstrates social significance but also uncertainty in workforce estimates.
Indirect employment	≈90,000 jobs	2024	Indicates wider livelihood dependence beyond boat crews.
Fish landing sites identified	122	2024	Useful baseline for sequencing infrastructure and monitoring investments.
Per capita fish consumption in Somalia	3.3 kg	2024	Highlights the domestic nutrition gap.
Per capita fish consumption in Africa	9.1 kg	2024	Regional benchmark for the domestic consumption gap.
Global per capita aquatic-food consumption	20.7 kg	2022 reported in 2024	Global benchmark for food-system underperformance.
Industrial share of production/landings	43%	Recent official documents	Shows that industrial activity remains policy relevant despite artisanal dominance.
Direct fishing employment	10,000–30,000 fishers	2024	Demonstrates social significance but also uncertainty in workforce estimates.
Indirect employment	≈90,000 jobs	2024	Indicates wider livelihood dependence beyond boat crews.
Fish landing sites identified	122	2024	Useful baseline for sequencing infrastructure and monitoring investments.

Notes: Indicators come from different official sources and reference years. They should be read as a current policy baseline rather than a single harmonized statistical series. Sources: [3, 4, 9, 10, 11, 2].

A political-economy perspective further suggests that weak fisheries governance may persist not only because of limited technical capacity, but also because fragmented authority, opaque access arrangements, and unrecorded rents create incentives for some actors to resist tighter regulation. Reform is therefore not purely a technical exercise; it also requires changing the incentive structure around access, monitoring, and rent distribution.

3. Data and analytical approach

This paper is based on a structured desk review of public sources published between 2015 and early 2026. The evidence base combines peer-reviewed literature on fisheries governance with recent institutional documents from the World Bank, the Food and Agriculture Organization (FAO), official Somali fisheries materials and related policy sources. The resulting dataset is not a stock-assessment database in the formal biological sense; rather, it is a policy evidence file used to assemble comparable indicators on resource potential, domestic benefit capture, regulatory change and implementation progress [2, 4, 12, 13].

The analysis proceeds in two steps. First, the paper compiles descriptive indicators that speak to four dimensions of fisheries performance: (i) ecological potential and pressure, (ii) domestic value capture, (iii) inclusion and food-system benefits, and (iv) state capability. Second, it interprets these indicators through a simple bioeconomic lens rooted in the Gordon–Schaefer tradition. The purpose of the bioeconomic lens is not to estimate precise stock parameters for Somalia's waters—current public data are too fragmented for that—but to clarify the difference between potential sustainable rents and observed outcomes under weak governance [6, 14].

The concept of a fisheries governance gap is therefore used in a specific sense in this paper. It refers to the distance between what Somalia's marine endowment could generate under credible sustainable management and what the country presently captures in terms of food, jobs, fiscal revenue, biodiversity protection and legal oversight. This framing helps reconcile apparently contradictory facts: the country can be simultaneously underexploiting domestic value chains, overexposing itself to external rent extraction, and lacking the information needed to judge stock conditions with confidence.

This approach has limitations. Some sector figures refer to older baseline years, others are project indicators rather than national statistics, and official numbers are not always directly comparable. For that reason, the paper does not claim to produce a new fishery stock assessment. Instead, it offers a policy diagnosis grounded in the best current public evidence and points to the institutional reforms most likely to improve the quality of future data [3, 4, 12].

The absence of reliable fisheries data therefore carries an economic cost of its own, because it prevents policymakers from distinguishing between sustainable harvest, forgone rents, and value losses associated with weak monitoring and post-harvest inefficiency.

4. Results: diagnosing Somalia's fisheries governance gap

4.1. Resource potential remains large while domestic capture remains low

The first result is the scale of the gap between estimated resource potential and currently documented harvest. Official Somali and international sources continue to describe sustainable marine potential as well above 200,000 metric tons per year [9, 10]. By contrast, the U.S. International Trade Administration reports that in 2022 local artisanal fishers using small vessels caught about 6,000 metric tons, while industrial foreign vessels were estimated to harvest around 13,000 metric tons annually, for a combined documented total of roughly 19,000 metric tons [10]. Even allowing for underreporting and measurement uncertainty, the gap is large enough to matter for policy.

This contrast should not be misread as evidence that Somalia ought simply to increase catches rapidly. The policy significance is different: a country with a large marine endowment is still failing to build the domestic institutions and infrastructure required to turn that endowment into accountable, sustainable and nationally retained value. Under current conditions, low domestic harvest does not necessarily mean low pressure on the ecosystem; it can also mean that significant fishing effort and value are occurring beyond effective domestic observation and control [3, 9].

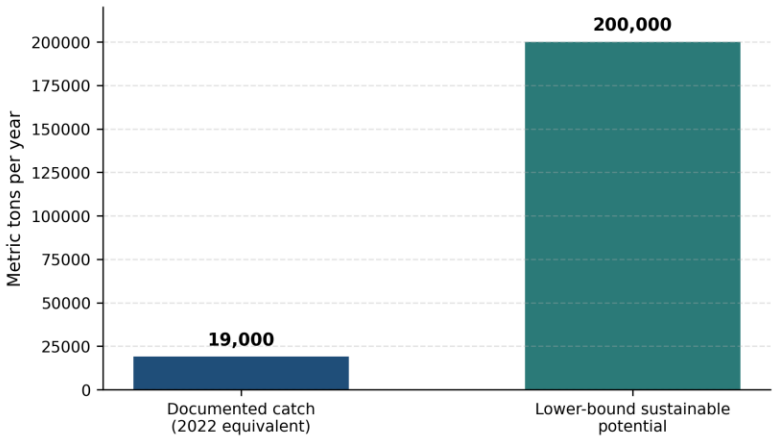


Figure 1. Documented catch in Somali waters versus a conservative lower-bound estimate of sustainable potential.

Note: *The potential benchmark uses the lower bound of official estimates described as 'well over 200,000 metric tons per year.' Documented catch combines 2022 artisanal catch with the estimated catch of industrial foreign vessels. Sources: [9, 10].F*

The infrastructure plans under the Badmaal project underscore the same diagnosis. The project aims to support 12 small-scale fisheries infrastructure facilities and three more complex facilities, such as jetties, yet recent implementation reporting shows that infrastructure delivery was still at a very early stage by April 2025 [4, 12]. In other words, the physical platform needed to reduce post-harvest losses, improve monitoring and support domestic value addition is only beginning to emerge.

4.2. A marine-rich country still faces a fish-consumption gap

he second result is a food-security paradox. Somalia is a marine-rich country, but per capita fish consumption remains low by both regional and global standards. FAO's evaluation of its Somalia country portfolio reports per capita fish consumption of 3.3 kg, compared with 9.1 kg for the rest of Africa, while FAO's flagship global fisheries report places global per capita apparent consumption of aquatic animal foods at 20.7 kg in 2022 [11, 2].

This gap matters for policy because fisheries in Somalia are often discussed as an export or licensing issue when they are equally a domestic nutrition and market-access issue. Low fish consumption can reflect consumer preferences, but in Somalia it also reflects constraints in preservation, transport, processing and market integration. Where cold-chain systems are weak and inland distribution is costly, coastal harvests do not translate into broad-based dietary improvement. Fisheries policy is therefore inseparable from food-system policy [3, 11].

In this sense, the consumption gap reflects a domestic market-integration failure, where marine abundance does not translate into broad-based welfare because distribution, storage, and affordability constraints remain binding.

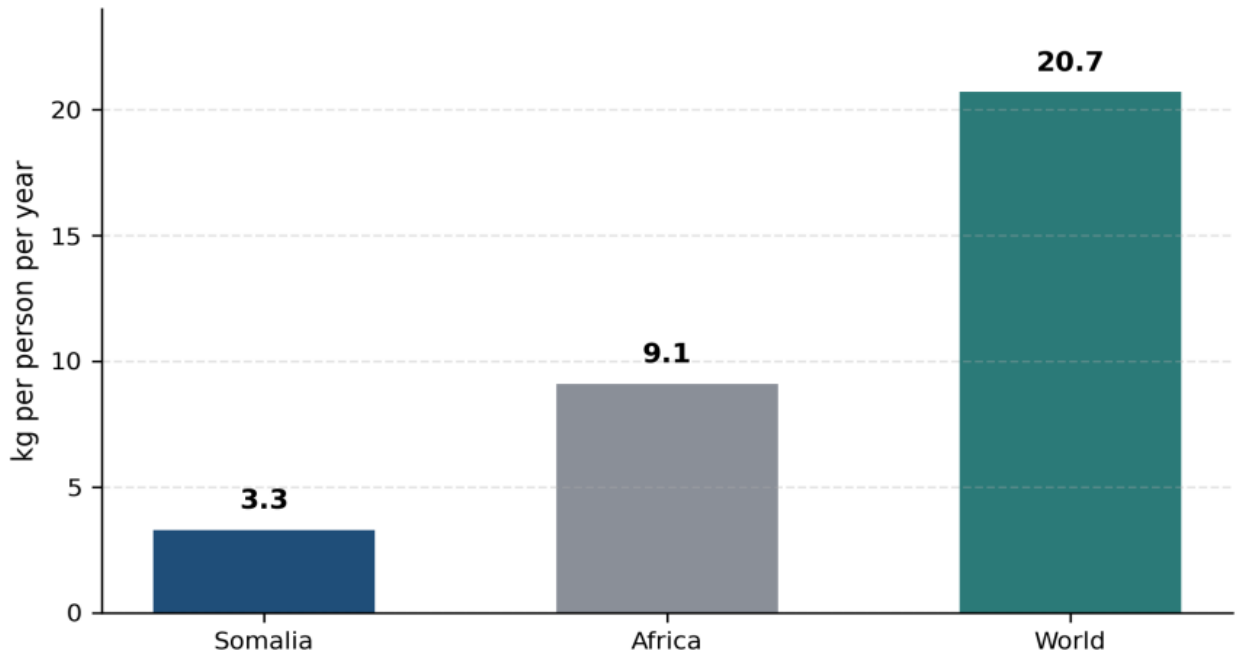


Figure 2. Per capita aquatic-food consumption: Somalia, Africa and the world.
Sources: [11, 2].

The consumption gap also helps explain why a simple strategy of maximizing landings would be insufficient. What matters is not only how much is caught, but how much is safely landed, stored, processed, transported and sold through domestic channels. Without that chain, fisheries remain disconnected from the nutrition and welfare gains that often justify public investment in the sector.

4.3. Large value leakages persist through weakly governed access

The third result concerns rent capture. According to the 2024 ESMF prepared for the Badmaal project, the domestic fisheries sector was worth about US$135 million in 2015/16, while benefits from illegal, unreported and unregulated (IUU) fishing accruing to other economies were estimated at US$306 million [9]. The same source estimates that better regulated fishing could generate roughly US$4–17 million annually in government revenue [9].

These figures should be interpreted carefully, but their policy signal is clear: Somalia's main fisheries problem is not merely low production, but leakage of value. That leakage occurs in several forms: unlicensed or poorly monitored fishing, opaque access arrangements, underdeveloped domestic processing, limited traceability and weak tax or fee collection. From a governance perspective, IUU fishing and administrative under-capacity are two expressions of the same problem—the state does not yet observe and price access to a major national asset effectively [9, 15].

The core economic issue is therefore not only illegal extraction, but the fact that a large share of fisheries rents is captured outside formal Somali institutions, weakening both public revenue and incentives for domestic value addition.

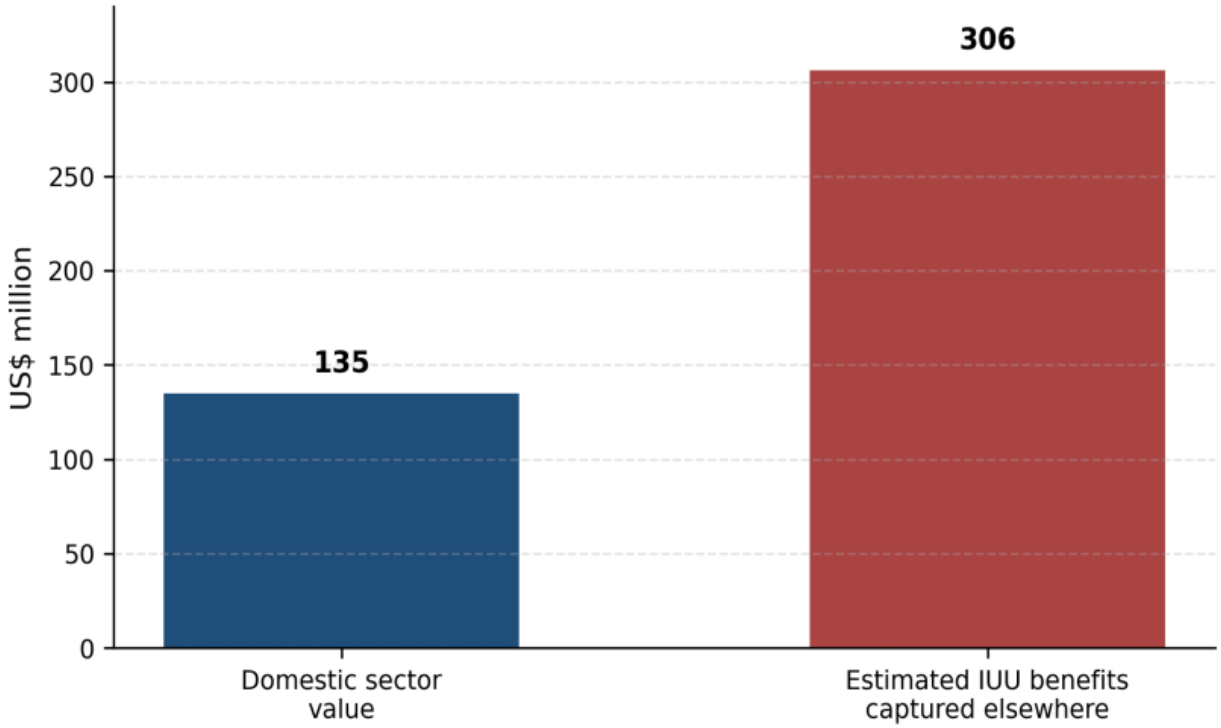


Figure 1. Documented catch in Somali waters versus a conservative lower-bound estimate of sustainable potential.

The recent offshore licensing record further illustrates the instability of rent capture. The World Bank's project appraisal document reports that Somalia licensed 30 Chinese longliners in 2019, generating approximately US$4 million in annual revenue. It then reports that no offshore fishing licenses were issued from 2020 to 2023, before 19 offshore licenses were granted in March 2024, generating about US$1 million [4]. A licensing system that oscillates between short-lived revenue episodes and prolonged interruptions does not provide a strong foundation for either sustainable management or predictable fiscal planning.

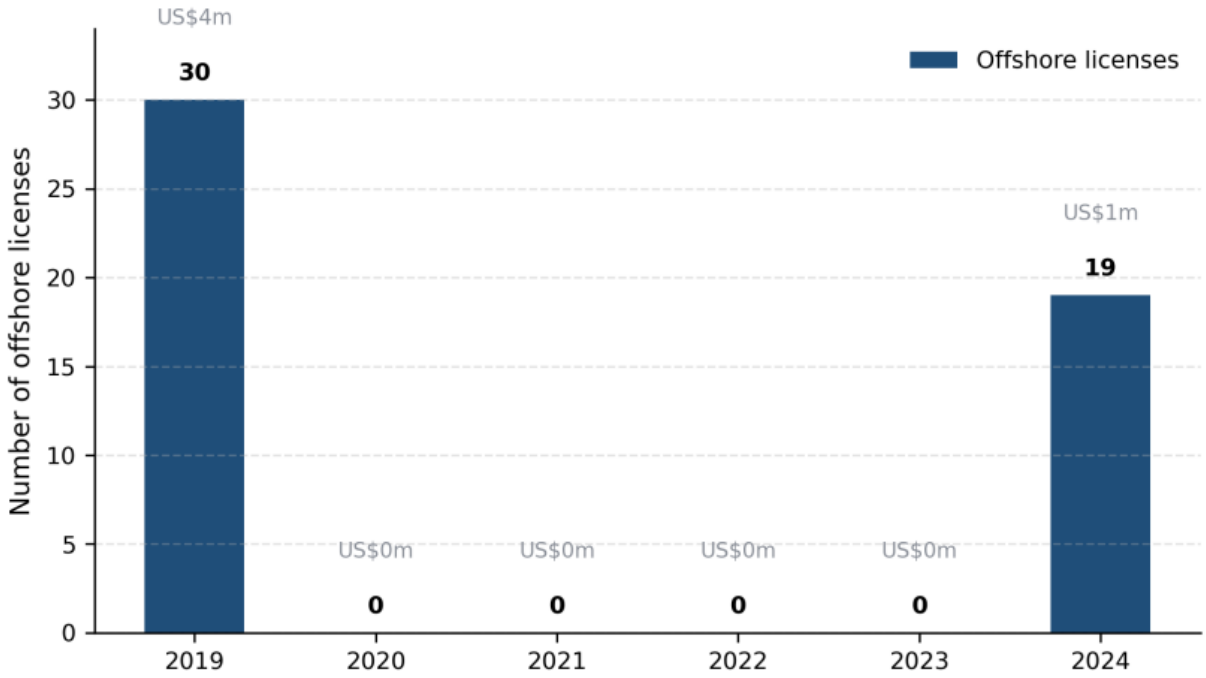


Figure 4. Offshore fishing licenses and associated revenue signals, 2019–2024.

Note: 2020–2023 are shown as zero because the project appraisal document reports that no offshore licenses were grantedin those years. Revenue labels indicate approximate annual receipts reported by the World Bank. Sources: [4].

There is also a broader security dimension. Recent research finds that IUU fishing can contribute to conditions associated with piracy through both grievance and opportunity channels [15]. This does not imply that all fisheries grievances produce maritime crime, but it reinforces the point that fisheries governance in Somalia cannot be separated from coastal stability, legitimacy and the distribution of marine rents.

4.4. Implementation lags remain a major bottleneck

The fourth result is that Somalia now has more policy architecture than implementation depth. Institutional progress is real: the 2023 Federal Fisheries Law, the 2024 Fisheries Master Plan and the launch of the Badmaal project provide an enabling framework for reform [3, 4]. Yet the April 2025 World Bank implementation report shows that most operational indicators remained far from their end targets.

Table 2. Major legal and program milestones in Somalia's fisheries governance, 2016–2026.

Year	Milestone	Why it matters	Year
2016	Review of Somalia's fisheries law (updating the 1985 legal framework).	Marked an early post-conflict effort to modernize the legal basis for fisheries governance.	2016
March 2023	Federal Fisheries Law adopted.	Created a more current national legal anchor for fisheries regulation and coordination.	March 2023
February 2024	Somalia Fisheries Master Plan endorsed.	Provided a strategic framework for sector reform and investment sequencing.	February 2024
May–September 2024	Badmaal project appraised, approved and became effective.	Created a major implementation vehicle for governance, infrastructure and value-chain reform.	May–September 2024
April 2025	World Bank ISR recorded slow but ongoing implementation, with many key indicators still near zero.	Showed that institutional architecture exists, but operational execution remains the main bottleneck.	April 2025
February 2026	National biodiversity conservation programme launched to establish and strengthen 11 terrestrial and marine protected areas.	Signals growing policy attention to conservation, climate resilience and protected-area governance.	February 2026
2016	Review of Somalia's fisheries law (updating the 1985 legal framework).	Marked an early post-conflict effort to modernize the legal basis for fisheries governance.	2016
March 2023	Federal Fisheries Law adopted.	Created a more current national legal anchor for fisheries regulation and coordination.	March 2023
February 2024	Somalia Fisheries Master Plan endorsed.	Provided a strategic framework for sector reform and investment sequencing.	February 2024

Sources: [16, 3, 4, 12, 13].

As of 10 April 2025, the project had supported two climate-informed fisheries management plans out of a target of twenty, while several other core indicators—including climate-resilient infrastructure in operation, stock-status determinations, patrol days, and operational registers of fishers, vessels and licenses—were still recorded at zero [12]. Disbursement also remained low, at 4.0% for the associated trust fund and 4.62% for the IDA financing window [12].

Table 3. Selected Badmaal implementation indicators as of April 2025.

Indicator	Actual as of Apr 2025	End target	Interpretation
Climate-informed fisheries management plans developed/implemented	2	20	Progress started but remains far from scale.
Fisheries Management and Development Council meetings	5	26	Coordination mechanism is functioning but still early-stage.
Fishing communities with improved capacity	0	12	Community-level benefits had not yet materialized.
Climate-resilient fisheries infrastructure operational	0	15	Physical delivery remained pending.
Targeted MSMEs benefiting from value-chain improvement plans	0	100	Private-sector spillovers had not yet started.
Fish stocks with status determined	0	6	Scientific baseline work remained absent.
Co-management arrangements with at least 10% women's participation	0	8	Inclusion and local governance targets were not yet operational.
Patrol days to enforce fisheries regulations	0	760	Monitoring and surveillance remained extremely weak.
Operational registers of fishers, vessels and licenses	0	3	Core administrative control systems were not yet in place.
Policies/legal/regulatory texts adopted	0	34	Formal rule production was still at an early stage.

Source: [12].

Low implementation in the early phase of a project is not unusual, especially in fragile settings. The concern is not that all indicators should already have been met, but that the most foundational governance tools—registries, patrols, stock status work and operational management plans—were still largely absent. Without these tools, more ambitious reforms such as tradable quotas, large certification schemes or performance-based access contracts will rest on weak informational foundations.

4.5. Biodiversity protection is gaining attention, but fisheries reform remains essential

Recent developments in protected-area policy are encouraging. Earlier project documents noted that Somalia had no effectively established marine protected area framework in practice [9].

By February 2026, however, UNDP reported the launch of a national biodiversity conservation programme intended to establish and strengthen 11 terrestrial and marine protected areas covering about 387,000 hectares [13].

This shift creates an important opportunity, but protected-area designation alone cannot solve fisheries governance problems. Marine protected areas are most effective when they are integrated with fisheries management, local participation, compliance systems and climate resilience planning [1, 13]. In Somalia's case, conservation measures should complement—rather than substitute for—basic progress on zoning, monitoring, licensing transparency and artisanal value chains.

From an economic perspective, biodiversity protection is not separate from development, because ecosystem degradation reduces the long-term asset value of the fishery and weakens the sustainability of future income streams.

4.6. Somalia's urgency is reinforced by global stock trends

Somalia's governance challenges are unfolding against a deteriorating global backdrop. FAO reports that the share of marine fishery stocks within biologically sustainable levels declined from 64.6% in 2019 to 62.3% in 2021 [2]. At the same time, the literature shows that better management can reverse biological decline and increase long-run profits and catch [8].

These global pressures also increase the risk that weakly governed fisheries such as Somalia's become more vulnerable to displacement effects from overcapitalized external fleets seeking access to under-regulated waters.

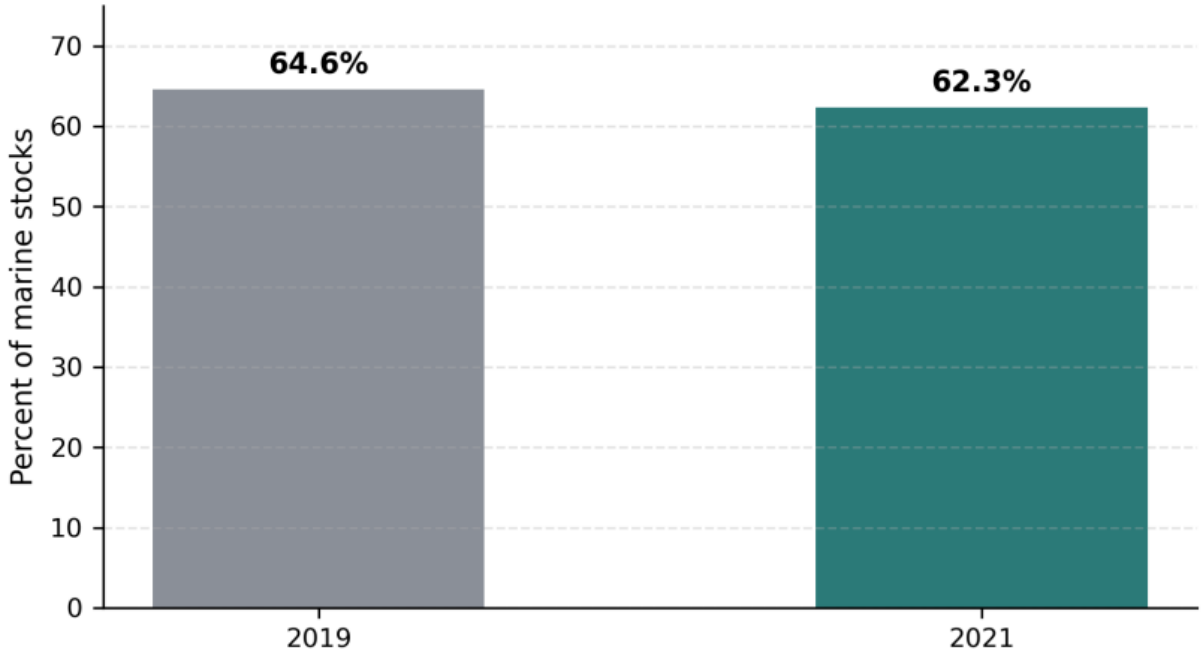


Figure 5. Global share of marine fishery stocks within biologically sustainable levels. Source: [2].

The implication for Somalia is straightforward: waiting for perfect data before building governance systems is risky, but scaling fishing effort without governance is riskier still. The policy objective should therefore be institutional acceleration, not harvest acceleration.

5. Discussion

5.1. Somalia's fisheries problem is best understood as a governance gap

Taken together, the results suggest that Somalia's fisheries challenge is not adequately described either as simple overfishing or as simple underdevelopment. It is a governance gap composed of four mutually reinforcing deficits: limited knowledge of actual fishing effort and stock conditions, weak domestic value capture, incomplete integration of fisheries into food systems, and low state capability for enforcement and coordination. Because these deficits interact, partial reforms are likely to underperform.

For example, investment in landing sites without catch documentation may increase throughput but not accountability. Licensing foreign fleets without transparent contracts or monitoring may raise some short-term revenue but not improve sustainability. Certification without traceability and cold-chain reliability may exclude small-scale fishers rather than empower them. And conservation zones without community buy-in may fail in practice. The policy lesson is that fisheries development and fisheries governance cannot be sequenced as separate agendas; they must be built together [7, 8].

5.2. Why full tradable quota systems are premature

The original draft proposed reconsidering tradable fishing rights. That instinct is analytically sound in one respect: secure and transferable rights can reduce race-to-fish incentives and improve long-run performance in some fisheries. Yet in Somalia, a sophisticated system of individual tradable quotas would currently be premature. Such systems require reliable stock assessment, credible catch accounting, legal predictability, safeguards against concentration, and an enforcement architecture capable of verifying landings and preventing quota evasion [6, 8].

A more realistic path is to begin with simpler rights-based elements. These could include legally protected inshore zones for small-scale fishing, spatial access restrictions for industrial vessels, transparent annual access agreements for offshore fleets, and co-managed local harvesting rules linked to landing-site monitoring. In other words, Somalia should begin by creating secure use rights where monitoring is feasible and social legitimacy is highest, rather than importing a complex quota market before the preconditions exist [5, 7].

5.3. Certification can help, but only after basic traceability is built

The draft also suggested certification as a positive incentive for compliance. Here again, the basic policy direction is promising but requires sequencing. Sustainability certification can create price premiums, improve buyer confidence and differentiate legal from illegal supply. However, certification is unlikely to be transformative in a setting where chain-of-custody systems, hygienic handling, cold storage and routine inspections are still limited. For many small-scale fishers, the first binding constraint is not the absence of an eco-label but the absence of infrastructure and traceability [4, 11].

Certification is therefore best treated as a medium-term instrument. Somalia could pilot certification or verified traceability first in selected value chains where landing points are concentrated and monitoring is manageable. That would allow policymakers to learn what works without imposing blanket compliance burdens on a heterogeneous small-scale sector.

5.4. Co-management is likely to be more feasible than command-and-control alone

Co-management deserves a more central role than the original draft allowed. The evidence from Somalia's own governance history suggests that local organization and negotiated rule systems already matter in practice [5]. This does not mean romanticizing community governance; elite capture, exclusion and weak legal backing are real risks. But in a context where the formal state cannot monitor every vessel and landing site, a purely centralized command-and-control model is unlikely to be effective on its own.

A stronger approach would combine federal rules, federal member state implementation, landing-site committees, trader engagement and gender-inclusive representation. The Badmaal project's target of co-management arrangements with at least 10% women's participation points in the right direction, but such arrangements must be linked to actual decision rights and local data collection to become meaningful [12].

5.3. Certification can help, but only after basic traceability is built

Enforcement in Somalia is often framed as a shortage of patrol vessels. That is true, but incomplete. Effective monitoring, control and surveillance (MCS) requires a layered system: vessel registries, digital licensing, risk-based inspection, AIS or VMS monitoring for larger vessels, landing documentation, public reporting of access contracts, and targeted patrols where deterrence value is highest. In low-capacity environments, transparency can substitute for some enforcement weakness by making non-compliance easier to detect and harder to normalize [4, 12].

This is also where donor-funded projects can either help or hinder. If projects create parallel systems that disappear when funding ends, governance gains will be fragile. If instead they embed registries, inspection routines, data protocols and intergovernmental coordination mechanisms in ordinary public administration, they can leave behind durable state capability. The design choice matters as much as the funding volume.

5.6. Blue-economy strategy should be judged by value retained domestically

The language of the blue economy is now central to Somalia's fisheries policy discourse. Yet blue-economy rhetoric only becomes meaningful when it can be tied to measurable domestic outcomes: more legal landings, lower post-harvest losses, higher fisher incomes, greater women's participation in processing and trade, more transparent access fees, better dietary outcomes, and improved stock information. Otherwise the term risks describing aspiration rather than transformation.

A practical benchmark is value retained domestically. If foreign vessels continue to extract large rents while domestic landing, processing and fiscal systems remain weak, the sector may grow in nominal importance without becoming more developmentally effective. The objective should therefore be not just a larger fisheries sector, but a more governable and more inclusive one.

The evidence suggests that Somalia's most binding fisheries constraint is not the absence of policy ambition, but the lack of a basic governance platform that can reduce uncertainty, secure artisanal access, improve value retention, and generate credible information for future management. In this sense, the sector's challenge is less one of advanced policy design than of foundational institutional economics.

6. Policy implications and sequencing

Somalia's fisheries reform agenda should be sequenced around feasibility. The sector does not need every advanced policy instrument at once; it needs a coherent order of operations. The first-order task is to create a minimum viable governance system that can observe who is fishing, where, with what authorization, and through which landing channels. Only after that foundation exists should policymakers move toward more demanding mechanisms such as differentiated access pricing, large-scale certification or quota trading.

6.1. First phase: establish a minimum viable control system

In the first 12 to 18 months, priority actions should include a national digital registry of fishers, vessels and licenses; publication of offshore fishing licenses and basic contract terms; standardized landing-site logbooks; and a risk-based MCS protocol for industrial and semi-industrial vessels. These reforms are administratively modest relative to their impact because they improve visibility across the sector and create the information backbone needed for later reforms [12, 4].

6.2. Second phase: invest in value-chain infrastructure that also improves governance

The next phase should target landing infrastructure, ice, hygienic handling, cold storage and transport links in priority fisheries corridors. These are not only commercial investments; they are also governance investments because better landing points make inspection, enumeration, traceability and local rule enforcement easier. Public infrastructure should therefore be selected partly on governance criteria, not only on throughput potential [4, 11].

6.3. Third phase: secure artisanal space and pilot co-management

Once registries and landing systems are operating, Somalia should formalize inshore artisanal protection zones, pilot co-management arrangements at priority landing sites, and link community rules to state-recognized reporting and sanction mechanisms. This is the stage at which women's participation targets, trader engagement and local accountability mechanisms become especially important. Co-management should not be symbolic; it should shape effort rules, local surveillance and dispute resolution [5, 12].

6.4. Fourth phase: use traceability to unlock better market access

After minimum traceability is functioning, Somalia can begin piloting verified legal-sourcing schemes or sustainability certification in selected fisheries. This phase should be intentionally selective. It is better to certify a narrow, manageable value chain well than to announce a national certification ambition without chain-of-custody integrity. By then, buyers, authorities and producers will have stronger incentives to invest in quality and compliance.

6.5. Fifth phase: move from ad hoc access deals to performance-based access arrangements

The final step is to replace episodic offshore access arrangements with transparent and performance-based licensing. Access fees, monitoring requirements, bycatch conditions, observer provisions, landing obligations and sanctions should be standardized and publicly reportable. This is also the stage at which more advanced rights-based reforms may become credible for selected fisheries. Until then, the policy emphasis should remain on transparency, observation and domestic capability rather than on sophisticated allocation models.

Table 4. *Sequenced policy roadmap for Somalia's fisheries governance reform.*

Time horizon	Priority action	Expected payoff	Main implementation risk
0–12 months	Create national digital registries for fishers, vessels and licenses; publish offshore license list.	Improves visibility, legality and basic control over access.	Fragmented authority across institutions and federal member states.
0–18 months	Standardize landing-site logbooks and inspection routines at priority sites.	Generates first reliable catch and effort records.	Low compliance if reporting is burdensome or unsupported.
1–3 years	Invest in ice, hygienic handling, cold storage and transport at high-priority landing corridors.	Reduces post-harvest loss and supports both value addition and traceability.	Infrastructure may be built faster than management systems.
1–3 years	Legally secure inshore artisanal zones and restrict industrial encroachment.	Protects small-scale livelihoods and reduces conflict over space.	Weak enforcement at sea without layered MCS.
2–4 years	Pilot co-management committees with clear reporting and sanction roles, including women's participation targets.	Builds legitimacy, local surveillance and adaptive rule-making.	Risk of elite capture or token participation.
2–4 years	Pilot verified legal-sourcing or certification in selected value chains.	Tests market incentives for compliance without overburdening the whole sector.	Traceability may remain incomplete if upstream data systems are weak.

3–5 years	Shift offshore access from episodic deals to transparent performance-based contracts.	Improves fiscal predictability and accountability.	Contract opacity and weak negotiation capacity could persist.
3–5 years	Integrate fisheries reform with emerging protected-area and climate-resilience planning.	Aligns biodiversity protection with long-term stock recovery.	Protected-area policy may advance faster than fisheries enforcement.

Source: Author synthesis based on [6, 7, 8, 4, 12, 13].

Across all phases, biodiversity protection should be treated as a cross-cutting objective. Protected areas, seasonal closures, habitat restoration and climate resilience planning should be designed to reinforce fisheries recovery rather than compete with fisheries policy for administrative attention [13, 2].

7. Conclusion

This paper has argued that the assault on marine life in Somalia is best understood not simply as a problem of too many fish being caught, but as a problem of too little governance being applied to a valuable marine domain. Recent public evidence shows a persistent gap between Somalia's marine potential and the domestic benefits the country currently captures. The gap is visible in low fish consumption, weak value addition, unstable licensing revenues, high estimated IUU leakage and slow implementation of basic governance tools.

The central policy implication is that Somalia should avoid false choices. It does not need to choose between conservation and development, between artisanal livelihoods and state revenue, or between domestic markets and export ambition. It needs institutions capable of aligning these goals. That means building the informational and administrative foundations of fisheries governance first, and only then moving toward more sophisticated allocation and market instruments.

The paper's conclusions are necessarily limited by the uneven quality of public data. Even so, the direction of reform is clear. Somalia does not lack marine opportunity; it lacks a sufficiently mature governance system for converting marine abundance into sustainable national welfare. Closing that governance gap is the policy task that should define the next phase of fisheries reform.

Appendix A. *Bio economic Note on Fisheries Management*

A simple fishery model helps explain the main economic message of this paper. Fish are a renewable resource, which means that, if managed properly, they can reproduce and continue to generate food, income, and employment over time. The natural growth of the fish stock can be expressed as:

$$\dot{S} = G(S) = gS\left(1 - \frac{S}{S_{max}}\right)$$

where **S** is the fish stock, **g** is the natural growth rate, and **Smax** is the maximum stock the environment can support. This equation means that fish stocks grow naturally, but growth is not constant. It is low when the stock is very small, highest at an intermediate level, and low again when the stock approaches the environmental limit.

Fishing reduces the stock, so the overall change in the fishery is given by:

$$\dot{S} = G(S) - H$$

where **H** is harvest. This means that the stock increases through natural growth and falls through fishing. A fishery is sustainable only when harvest does not exceed the stock's regenerative capacity over time.

Harvest itself depends on both the size of the stock and the amount of fishing effort:

$$H = eES$$

where E is fishing effort and e reflects catch efficiency. In practical terms, this means that catch depends on how many fish are available, how many boats and workers are fishing, and how effective the technology is. When fish stocks are healthy, catch is easier and cheaper. When fish stocks are depleted, more effort may be needed to catch fewer fish.

A central biological benchmark is Maximum Sustainable Yield (MSY), which refers to the largest catch that can be taken repeatedly without exhausting the stock. However, from an economic perspective, the objective is not only to sustain harvest, but also to sustain value. For this reason, fisheries economics considers profit as well as stock dynamics. A simple profit function can be written as:

$$\Pi = PH - wE$$

where Π is profit, P is the price of fish, and wE is the cost of fishing effort. This highlights an important point: a fishery may remain biologically sustainable yet still be economically inefficient if excessive labor, fuel, and capital are used to generate the catch.

The main economic problem arises under open access, where entry into the fishery is weakly controlled. In such a setting, fishers continue entering as long as profits exist, and entry stops only when profits are driven to zero:

$$PH - wE = 0$$

This is the classic "tragedy of the commons." Because access is poorly regulated, each fisher has an incentive to catch as much as possible before others do. The result is often excessive effort, rent dissipation, low profitability, and growing pressure on the stock. In this sense, the main loss under open access is not only ecological; it is also economic, because the fishery fails to generate the full income and welfare it could otherwise provide.

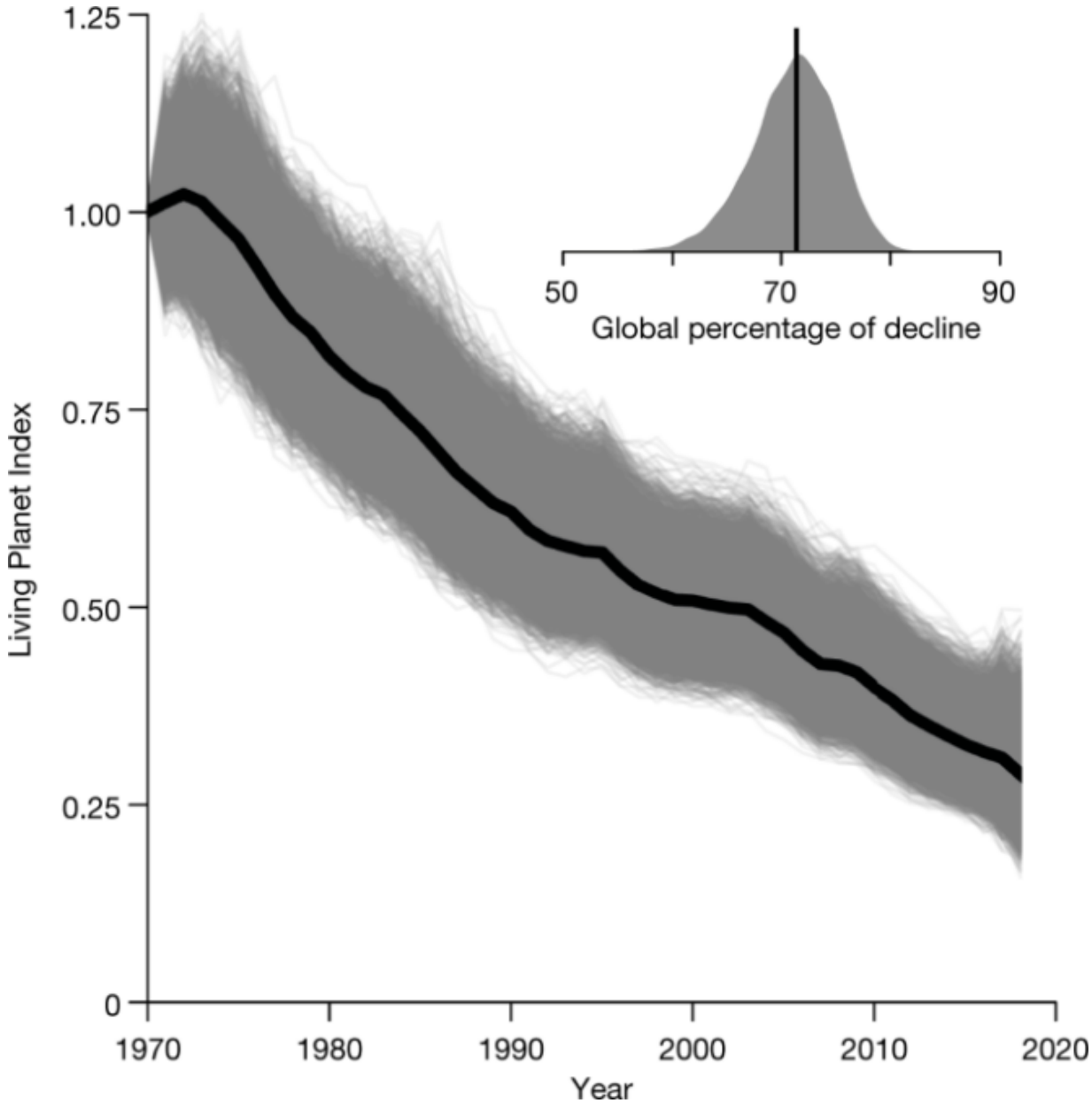
The policy implication is that good fisheries management should aim not simply to maximize catch, but to maximize long-term sustainable value. This usually requires keeping fishing effort below the open-access level, maintaining a healthier stock, lowering the cost of harvest, and preserving fisheries rents for domestic use. In many cases, the economically preferred stock level is higher than the stock level associated with maximum catch alone.

For Somalia, the relevance of this model is straightforward. The challenge is not only whether fish exist in Somali waters, but whether the country has the institutions needed to measure stocks, monitor vessel activity, record landings, regulate access, and enforce compliance. Without these foundations, Somalia risks losing a large share of the value of its marine resources through weak control, inefficient extraction, and limited domestic rent capture.

The central lesson is simple: a fishery is both a natural resource and an economic asset. If it is poorly governed, effort can become excessive, profits can disappear, and the stock may decline. If it is well managed, the fishery can become a lasting source of food, employment, income, and national welfare.

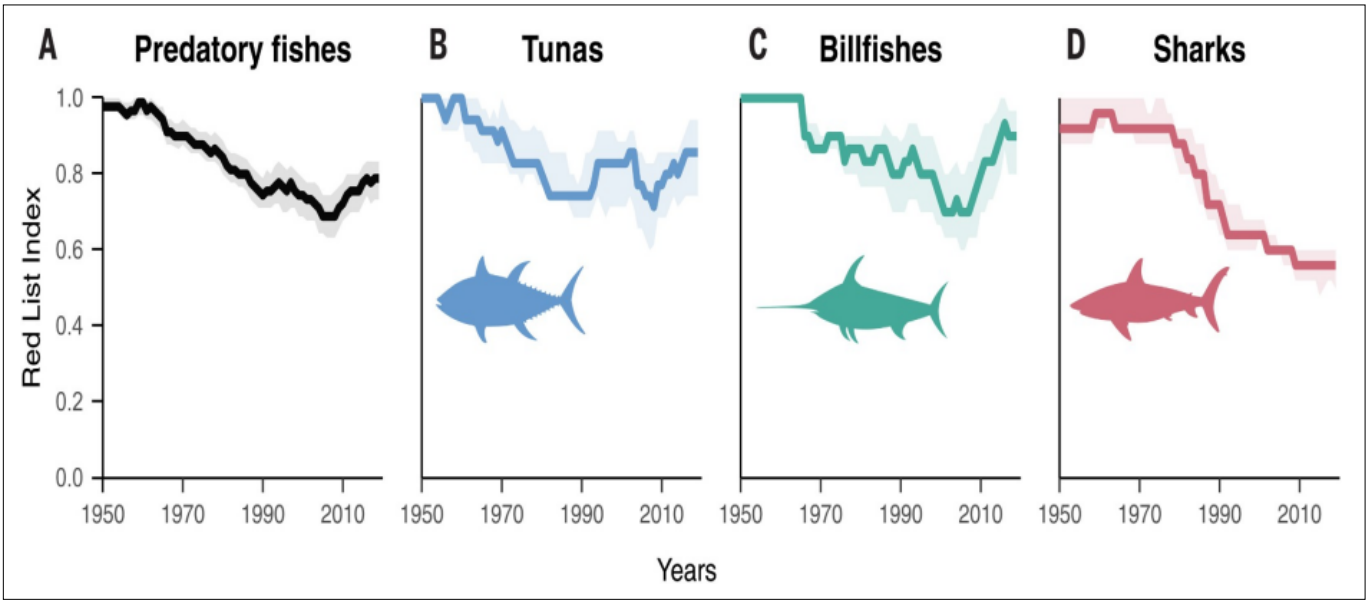
Appendix B. Contextual figures retained from the earlier draft

This appendix incorporates the key figures supplied in the earlier Somalia fisheries draft and related working materials. They are retained here to preserve the ecological context that informed the argument. For formal journal submission, these visuals should be redrawn, adapted, or permission-cleared if the journal requires original figure files.



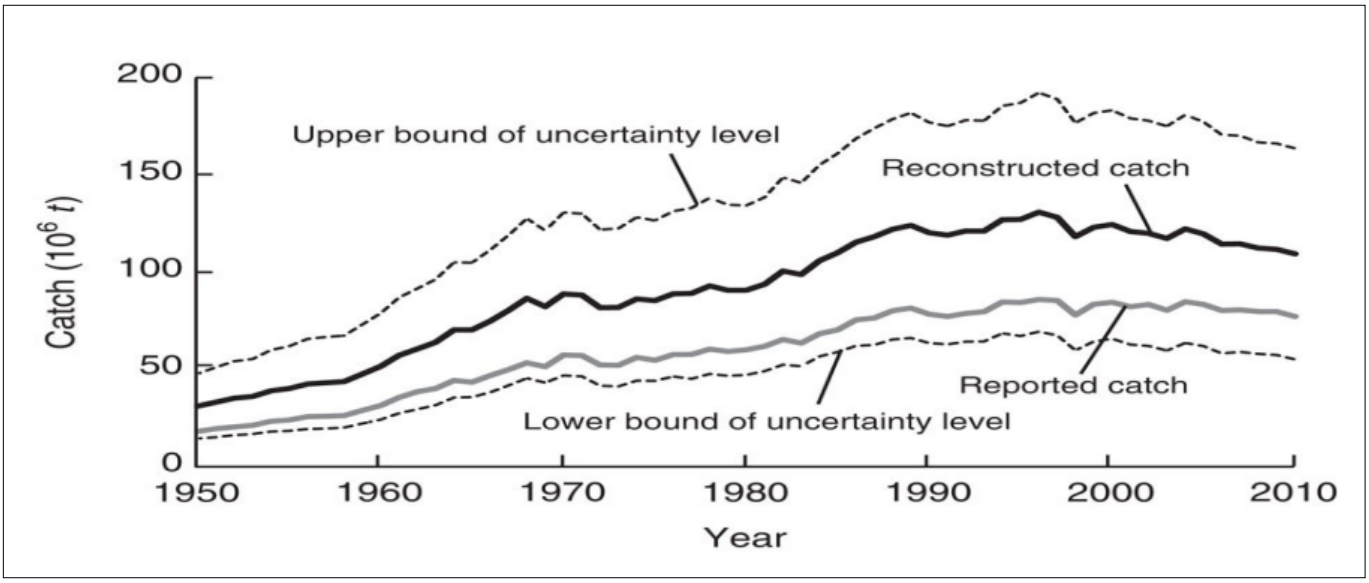
Appendix Figure B1. Long-run decline in the marine Living Planet Index, shown as a contextual figure retained from the earlier working materials.

Source note for drafting package: author-supplied contextual figure retained from earlier working materials.



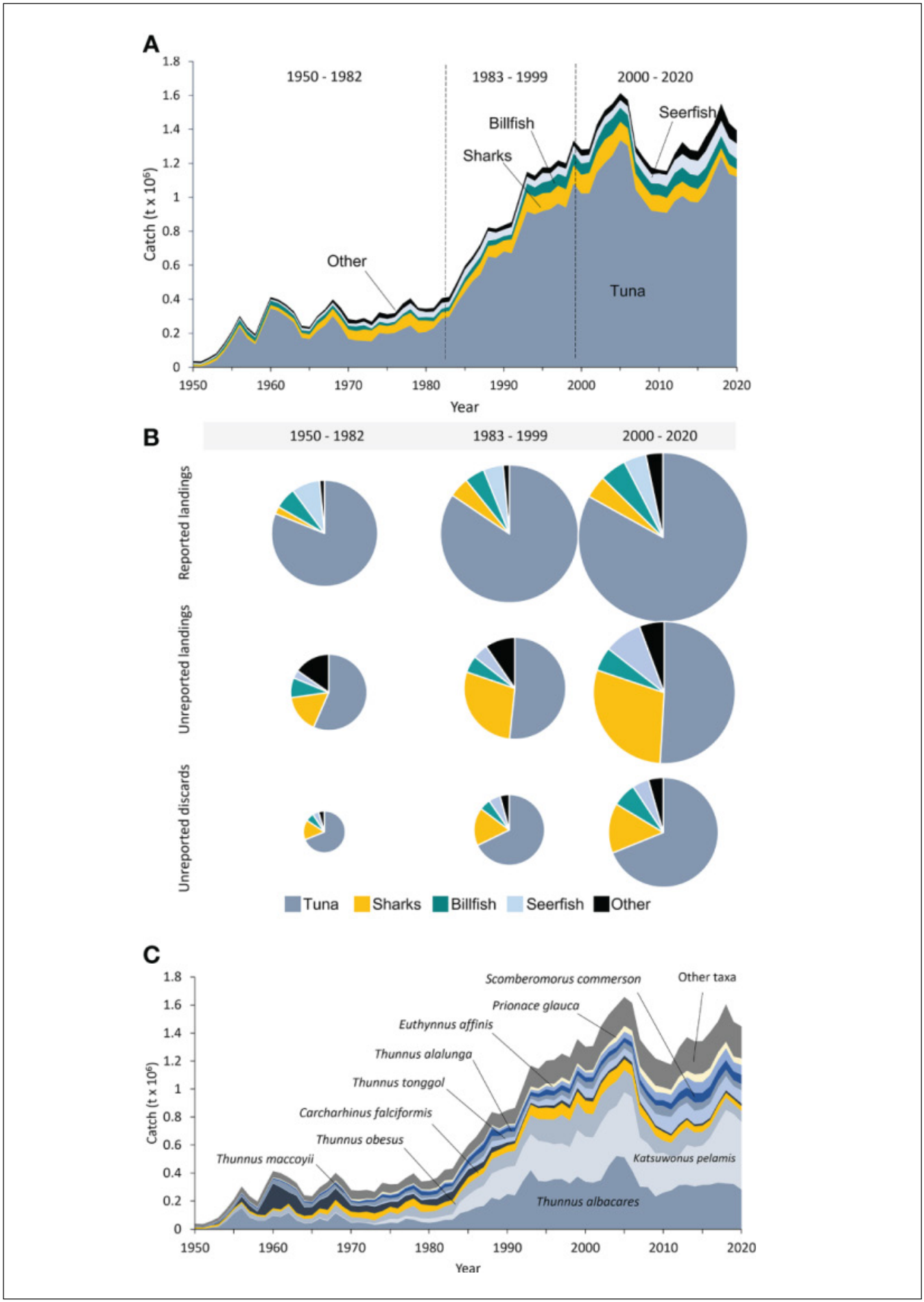
Appendix Figure B2. Red List Index trajectories for predatory fishes, tunas, billfishes, and sharks, included as a contextual figure for the working draft.

Source note for drafting package: author-supplied contextual figure retained from earlier working materials.



Appendix Figure B3. Illustrative comparison of reconstructed and reported marine catches, included here as a contextual figure from the supporting literature.

Source note for drafting package: author-supplied contextual figure.



Appendix Figure B4. Reconstructed large pelagic catches in the Indian Ocean by species group and reporting status, retained as a contextual figure for the draft package.

Source note for drafting package: author-supplied contextual figure retained from earlier working materials.

Data availability

All data used in this paper are drawn from publicly available reports, official web materials and peer-reviewed sources cited in the reference list and figure/table notes. No proprietary dataset was used.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Declaration of generative AI and AI-assisted technologies in the manuscript preparation process

During the preparation of this manuscript, the authors used an AI-assisted language tool to support drafting, restructuring and language refinement. The authors subsequently reviewed, edited and validated the manuscript and took full responsibility for the content of the submitted work.

References

[1] D.J. McCauley, M.L. Pinsky, S.R. Palumbi, J.A. Estes, F.H. Joyce, R.R. Warner, Marine defaunation: animal loss in the global ocean, Science 347(6219) (2015) 1255641. https://doi.org/10.1126/science.1255641.

[2] FAO, The State of World Fisheries and Aquaculture 2024 – Blue Transformation in Action, Food and Agriculture Organization of the United Nations, Rome, 2024. https://doi.org/10.4060/cd0683en.

[3] World Bank, Appraisal Environmental and Social Review Summary: Somali Sustainable Fisheries Development Project – Badmaal (P178032), Report No. ESRSA03348, World Bank, Washington, DC, 2025.

[4] World Bank, Project Appraisal Document on a Proposed Grant and Co-Financed Grant to the Federal Republic of Somalia for the Somali Sustainable Fisheries Development "Badmaal" Project (P178032), Report No. PAD00140, World Bank, Washington, DC, 2024.

[5] R.B. Pollnac, K.W. Hagos, B.R. Crawford, A.M. Dahir, H.H. Yusuf, A.M. Hussein, Chaos, conflict and change: The reemergence and evolution of fishery governance in the small-scale fisheries of Somalia, Ocean Coast. Manage. 162 (2018) 193–201. https://doi.org/10.1016/j.ocecoaman.2017.09.004.

[6] H.S. Gordon, The economic theory of a common-property resource: The fishery, J. Polit. Econ. 62(2) (1954) 124–142. https://doi.org/10.1086/257497.

[7] E. Ostrom, Governing the Commons: The Evolution of Institutions for Collective Action, Cambridge University Press, Cambridge, 1990.

[8] C. Costello, D. Ovando, T. Clavelle, C.K. Strauss, R. Hilborn, M.C. Melnychuk, T.A. Branch, S.D. Gaines, C.S. Szuwalski, R.B. Cabral, D.N. Rader, A. Leland, Global fishery prospects under contrasting management regimes, Proc. Natl. Acad. Sci. U.S.A. 113(18) (2016) 5125–5129. https://doi.org/10.1073/pnas.1520420113.

[9] Federal Republic of Somalia, Ministry of Fisheries and Blue Economy, Somali Sustainable Fisheries and Blue Economy Development Project – Badmaal (P178032): Environment and Social Management Framework (ESMF), final, Mogadishu, August 2024.

[10] International Trade Administration, Somalia Country Commercial Guide: Fisheries and Blue Economy, U.S. Department of Commerce, Washington, DC, 2024 (accessed 6 March 2026).

[11] FAO, Evaluation of FAO's Country Portfolio in Somalia (2018–2022), Food and Agriculture Organization of the United Nations, Rome, 2024.

[12] World Bank, Implementation Status & Results Report: Somali Sustainable Fisheries Development Project – Badmaal (P178032), Seq. No. 2, ISR03617, archived 15 April 2025, World Bank, Washington, DC, 2025.

[13] UNDP, Somalia launches national biodiversity conservation programme to strengthen protected areas and boost climate resilience, 10 February 2026 (accessed 6 March 2026).

[14] M.B. Schaefer, Some considerations of population dynamics and economics in relation to the management of the commercial marine fisheries, J. Fish. Res. Board Can. 14 (1957) 669–681. https://doi.org/10.1139/f57-025.

[15] S.M. Mitchell, C.J. Schmidt, Insecure fisheries: How illegal, unreported, and unregulated fishing affects piracy, Conflict Manag. Peace Sci. 41(3) (2024) 313–338. https://doi.org/10.1177/07388942231174174.

[16] Federal Republic of Somalia, Ministry of Fisheries and Marine Resources, A Review of the Somali Fisheries Law (Law No. 23 of November 30, 1985), Mogadishu, 19 March 2016.

Institute of Public
Finance - Somalia