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Organizations of fisheries governance in Bangladesh: A review of institutional governance

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Abstract

The fisheries sector in Bangladesh accounts for 2.08% of GDP, 21.83% of agricultural output, and 4.76 million metric tons of fish annually while providing over 60% of the animal protein intake in the country. This review draws on 14 peer-reviewed articles, government publications, and policy documents to frame the institutional and legal context of the sector. Under- and post-graduate colleges, and international agencies like FAO, World Bank, and USAID also contribute to the legal policy framework on fisheries in Bangladesh. Other relevant institutions include the Ministry of Fisheries and Livestock, Department of Fisheries, Bangladesh Fisheries Research Institute as well as law enforcement bodies the Navy and Coast Guard and local governments and NGOs such as BRAC and WorldFish. Other foundations include the Marine Fisheries Ordinance of 1983, the Inland Fisheries Ordinance of 1982, and the National Fisheries Policy of 1998 and the Fisheries Development Act of 2018, which all include marine and inland resources, but lack manpower, resulting in frequent breaches of seasonal bans and restrictive gear violations. This disconnect between policy and practice underscores a critical reality: legal frameworks alone are insufficient to safeguard fisheries resources. Meaningful progress will require integrated approaches that actively engage communities, align scientific knowledge with policymaking, and translate regulations into effective action.

Keywords: Fisheries governance, Institution, framework, management, conservation

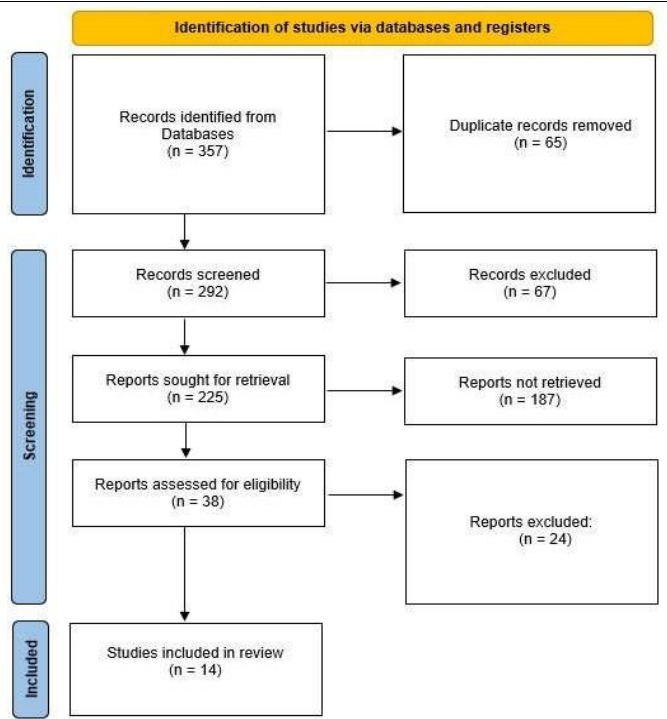
1. Introduction

Fisheries play a vital role in the economy, ecology, and nutrition of Bangladesh (Bangladesh Bureau of Statistics, 2023; FAO, 2022). The sector contributed approximately 2.08% to the country's GDP and 21.83% to the agricultural GDP, producing 4.76 million metric tons of fish in 2022 (Department of Fisheries Bangladesh, 2023; World Bank, 2023). Fisheries supply over 60% of the national animal protein and provide employment to more than 12 million people, predominantly in rural and coastal communities (FAO, 2022; Rahman, Hossain, & Islam, 2021) ^[14]. Established in 1973, the Department of Fisheries (DoF) and the Ministry of Fisheries and Livestock (MoFL) govern the sector's development and policy implementation, guided by legislative instruments such as the Inland Fisheries Ordinance of 1982, Marine Fisheries Ordinance of 1983, and the National Fisheries Policy of 1998 (MoFL, 2023; Chowdhury & Islam, 2020). More recently, amendments including the Fisheries Development Act of 2018 have aimed to curb illegal fishing activities and address unauthorized aquaculture (Hossain, Islam, & Parvez, 2019; Islam & Parvez, 2021) ^[14]. Conservation strategies—such as seasonal fishing bans, protected areas, and reserves have helped to sustain fish stocks; however, these measures often impose economic burdens on small-scale fishers due to inadequate compensation frameworks (Ahmed, Karim, & Uddin, 2022; Kabir, Khan, & Rahman, 2023) ^[5]. Longstanding governance challenges remain, including weak enforcement, competing jurisdictional claims, outdated legal frameworks, poor coordination between national and local bodies, and fragmented institutional structures (Sarker & Roy, 2020; Hasan, Sultana, & Rahman, 2023) ^[4, 11]. This review focuses on the boundaries of fisheries governance in Bangladesh by examining institutional roles, governance frameworks, and barriers, alongside strategies for integrated and sustainable management that balance ecosystem protection with socio- economic equity (Rahman & Alam, 2024; World Bank, 2023).

Materials and Methods

An extensive search was carried out in various electronic data sources such as Google Scholar, Science Direct, JSTOR, and ResearchGate for scholarly materials on the topic "Organizations of fisheries governance for Bangladesh". To get more relevant and wider search results, some Boolean operators and keywords were used. The search terms included combinations such as "Fisheries Governance" OR "Fisheries Management", "Institutional Framework" OR "Policy

Figure 1. Prisma Flow Diagram of the Search Strategy and Screening Process.



Structure” AND “Laws of Fishing Governance”. Studies not directly related to institutional or policy aspects of fisheries in Bangladesh were excluded. The search was restricted to studies focused exclusively on Bangladesh but not limited by

publication date. An initial pool of 357 documents was identified. Studies were screened based on relevance to the institutional, legal, or organizational aspects of fisheries governance in Bangladesh. Exclusion criteria included articles focusing solely on aquaculture production, freshwater contamination, or marine biodiversity without reference to governance. After applying these filters, 14 peer-reviewed articles, government reports, and policy reviews were included in this review. The flow of the process involved in selecting

Institutional Landscape of Fisheries Governance in Bangladesh

Fisheries governance in Bangladesh involves a multi-level network of ministries, regulatory bodies, research institutions, local governments, NGOs, and international donors. These actors operate at local to national scales, engaging in policy-making, regulation, enforcement, research, and community participation. Based on 14 studies, the following categorization outlines papers for the scoping review as outlined in a PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) diagram (Fig. 1). The PRISMA flow diagram offers a visual depiction of the summary of the screening process, thereby offering documentation in a transparent manner the number of articles encountered, included and excluded. These published articles comprised of a combination of conceptual, empirical and review papers. key institutions, their functions, and governance gaps shaping the sector:

Government Organizations

1. Ministry of Fisheries and Livestock (MoFL)

The Ministry of Fisheries and Livestock (MoFL) is the most senior government agency that is responsible for regulating, governing, and developing Bangladesh's fisheries and aquaculture sectors. MoFL's role is to draft and actualize national strategy and policy towards sustainable fisheries and aquaculture development.

Table 2: Strategic Focus Areas of MoFL in Bangladesh

Framework	Description	Purpose & Impact
Co-Management (e.g., Hilsa Sanctuaries)	Joint resource management involving fishers, local communities, and government bodies.	Promotes stakeholder ownership, compliance, and protection of critical breeding grounds like hilsa habitats.
Integrated Coastal Zone Management (ICZM)	Cross-sectoral coordination for sustainable use of coastal resources.	Ensures ecological health, protects coastal fisheries livelihoods, and mitigates climate-related vulnerabilities.
Ecosystem-Based Fisheries Management (EBFM)	Holistic approach considering ecosystems, habitats, and all species interactions.	Supports long-term sustainability by maintaining ecological balance and resilience of marine ecosystems.

The table presents three key frameworks in fisheries management:

- Co-Management involves collaboration among fishers, local communities, and government to manage resources. It enhances stakeholder ownership and helps protect critical breeding areas like hilsa sanctuaries.
- Integrated Coastal Zone Management (ICZM) coordinates multiple sectors to sustainably manage coastal resources, ensuring ecological health, protecting fisheries livelihoods, and addressing climate

vulnerabilities.

- Ecosystem-Based Fisheries Management (EBFM) takes a holistic approach by considering entire ecosystems and species interactions to maintain ecological balance and promote long-term marine sustainability.

Each framework contributes to sustainable fisheries through shared governance, integrated planning, and ecosystem-focused strategies.

Table 3: Legislative Instruments Implemented by the Ministry of Fisheries and Livestock in Bangladesh

Legal Framework	Key Focus
Protection and Conservation of Fish Act 1950	Bans destructive fishing, sets sanctuaries, regulates fishing seasons.
Fisheries Act 2010	Promotes sustainable aquaculture and community-based co-management.
National Fisheries Policy 1998	Guides sustainable fishing, aquaculture growth, and fisherfolk welfare.
Fisheries Sector Road Map 2022	Targets climate resilience, value chain development, and innovation.
Marine Fisheries Policy 2015	marine resource sustainability, IUU fishing, and quota control.

The legal framework for fisheries management consists of several key laws and policies aimed at sustainable use and conservation:

- The Protection and Conservation of Fish Act 1950 bans destructive fishing methods, establishes fish sanctuaries, and regulates fishing seasons to protect fish populations.
- The Fisheries Act 2010 focuses on promoting sustainable aquaculture and supports community-based co-management of fisheries resources.
- The National Fisheries Policy 1998 provides guidance for sustainable fishing practices, aquaculture development, and the welfare of fisherfolk.
- The Fisheries Sector Road Map 2022 emphasizes building climate resilience, improving the fisheries value chain, and fostering innovation in the sector.
- The Marine Fisheries Policy 2015 aims to ensure marine resource sustainability, combat illegal, unreported, and

unregulated (IUU) fishing, and implement fishing quota controls.

Together, these laws and policies create a comprehensive legal framework for sustainable fisheries and aquaculture management.

Department of Fisheries (DoF)

The Department of Fisheries (DoF) is under the Ministry of Fisheries and Livestock (MoFL) and has the task of executing and enforcing fisheries policy and laws in Bangladesh. Its primary function is the day-to-day management of the fisheries sector to bring the national plans and legislative tools to reality on the ground.

Table 4: Key Functions and Responsibilities of DoF

Function Area	Specific Responsibilities
Regulatory Management	<div><div>i. Licensing fishing operations.</div><div>ii. Monitoring and enforcement of fishing activities.</div><div>iii. Ensuring compliance with national fishery laws.</div><div>iv. Enforcing legislations (e.g., Fisheries Act 2010, Protection and Conservation of Fish Act 1950, National Fisheries Policy 1998)</div><div>v. Ensuring sustainable aquaculture operations (water quality, disease avoidance, judicious use of inputs).</div></div>
Data Collection & Research	<div><div>i. Conducting occasional surveys and inventories to monitor fish stocks, fisheries production, and water environment.</div><div>ii. Formulating policy, regulating catches, and ensuring sustainable fishing based on data.</div><div>iii. Conducting research with institutions (BFRI, universities) to improve fisheries management and aquaculture techniques.</div></div>
Enforcement	<div><div>i. Enforcing fishery laws such as seasonal closure, size limits, and gear bans.</div><div>ii. Working in coordination with local law enforcement agencies and the judiciary to ensure enforcement of sanctions.</div></div>
Extension Services	Providing technical support and training for fishers, aquaculture farmers, and local communities.
Community Participation	<div><div>i. Working with local governments, fishers' cooperatives, and communities for co-management and participatory decision-making.</div><div>ii. Facilitating community-based co-management systems for local- scale fisheries management (fishing rights, conservation, resource utilization).</div></div>
International Cooperation	Collaborating with organizations (FAO) and international development partners (USAID, World Bank, GIZ) on fisheries management projects, coastal livelihoods, and aquaculture development.

The function areas in fisheries management cover several key responsibilities:

- Regulatory Management includes licensing fishing operations, monitoring activities, enforcing laws (e.g., Fisheries Act 2010), and ensuring sustainable aquaculture practices.
- Data Collection & Research involves conducting surveys to monitor fish stocks, formulating policies based on data, and collaborating with research institutions to improve management.
- Enforcement focuses on applying fishery laws, such as seasonal closures and gear restrictions, in coordination

with law enforcement and the judiciary.

- Extension Services provide technical support and training to fishers, aquaculture farmers, and communities.
- Community Participation emphasizes working with local governments and cooperatives to promote co-management and participatory decision-making.
- International Cooperation involves collaboration with organizations like FAO and development partners to support fisheries and aquaculture projects.

These function areas collectively ensure effective, sustainable, and inclusive fisheries management. The fisheries

management function areas encompass key responsibilities such as licensing and regulating fishing activities, enforcing fishery laws, and ensuring sustainable aquaculture under Regulatory Management. Data Collection & Research involves stock monitoring, policy formulation, and collaborative research to improve management practices. Enforcement ensures compliance with regulations through coordination with law enforcement and judiciary. Extension

Services provide technical training and support to fishers and farmers. Community Participation promotes local governance and co-management with fishers and communities. International Cooperation partners with global organizations and donors to advance fisheries and aquaculture development. These areas together support sustainable, participatory, and well-regulated fisheries management.

Table 5: Key Legislations and Policies Guiding DoF

Legislation/Policy	Relevance to DoF
The Fisheries Act 2010	Provides the legal framework for sustainable fisheries management, including regulations on fishing practices, conservation, and protection of fish stocks. The DoF is responsible for enforcing these regulations.
The Protection and Conservation of Fish Act 1950	Focuses on the protection of fish species and regulates harmful fishing practices like using poisons or explosives. The DoF enforces these laws to protect aquatic biodiversity.
The National Fisheries Policy 1998	Outlines strategies for sustainable fisheries management and economic development in the sector. Provides guidance for the DoF in its planning, projects, and initiatives.

The Fisheries Act 2010 provides the legal framework for sustainable fisheries management, regulating fishing practices and conservation, with enforcement by the Department of Fisheries (DoF). The Protection and Conservation of Fish Act 1950 focuses on protecting fish species and banning harmful fishing methods, enforced by the DoF to safeguard aquatic biodiversity. The National Fisheries Policy 1998 offers strategic guidance for sustainable fisheries and sector development, supporting the DoF's planning and initiatives.

Bangladesh Fisheries Research Institute (BFRI)

The Bangladesh Fisheries Research Institute (BFRI) is a key organization dedicated to the development of scientific information and promoting sustainable practices in Bangladesh's aquaculture and fisheries sectors. Under the Ministry of Fisheries and Livestock, BFRI plays a key role of generating research and technological innovations that guide policies, regulatory measures, and industry standards.

Table 6: BFRI's Key Research Areas

Research Area	Key Focus	Impact
Fish Biology & Breeding	Indigenous and exotic species, reproductive cycles	Improved breeding techniques for carp, hilsa, etc.
Fish Health Management	Disease diagnosis, vaccine development	Reduced mortality in aquaculture, disease-resistant fish stocks
Water Quality & Feed	Optimization of feed, water systems	Enhanced productivity and environmental sustainability
Habitat Conservation	Wetlands, rivers, coastal ecosystems	Protection of biodiversity and fish habitats
Climate Change Adaptation	Climate-resilient species, adaptive systems	Resilience against environmental shocks

Research areas in fisheries focus on improving production and sustainability:

- Fish Biology & Breeding studies species and reproductive cycles to enhance breeding techniques for important fish like carp and hilsa.
- Fish Health Management focuses on disease diagnosis and vaccine development to reduce mortality and build disease-resistant stocks.
- Water Quality & Feed research aims to optimize feeding and water systems for better productivity and environmental sustainability.
- Habitat Conservation protects biodiversity by preserving wetlands, rivers, and coastal ecosystems critical for fish.
- Climate Change Adaptation develops climate-resilient species and adaptive systems to increase resilience against environmental shocks.

These research efforts collectively support sustainable aquaculture and fishery development. The frameworks

mentioned contribute to sustainable fisheries management in complementary ways:

Co-Management involves shared governance among fishers, local communities, and governments to protect critical breeding grounds, such as hilsa sanctuaries, increasing compliance and conservation ownership.

Integrated Coastal Zone Management (ICZM) ensures coordinated, cross-sectoral planning for sustainable coastal resource use, protecting ecological health and vulnerable coastal livelihoods, and addressing climate risks.

Ecosystem-Based Fisheries Management (EBFM) adopts a holistic view of marine ecosystems, focusing on species interactions and habitat health to maintain long-term ecological balance and fishery sustainability.

Together, these approaches promote effective conservation, stakeholder participation, and resilience within fisheries and coastal environments.

Table 7: Legal and Policy Integration

Legal Framework/Policy	BFRI's Role
National Fisheries Policy 1998	Scientific input into sustainable fishery strategies
Fisheries Act 2010	Data-driven regulations on aquaculture and capture fisheries
Protection and Conservation of Fish Act 1950	Supports enforcement with research on fish stocks and sanctuaries

Research Areas and Contributions of BFRI Department of Environment (DoE)

DoE oversees the environmental dimensions of aquaculture, including:

- Issuing Environmental Impact Assessments (EIA) and clearances for large-scale aquaculture operations.
- Monitoring effluent discharge, wetland encroachment, and biodiversity loss in waterbodies.

- Coordinating with the DoF and Ministry of Water Resources on integrated water resource management.

Regulatory overlaps with DoF sometimes create institutional frictions, especially regarding aquaculture intensification near ecologically sensitive areas.

Table 8: DoE's Functional Areas

Functional Area	Key Focus	Impact
Environmental Regulation	Monitoring and enforcing pollution control laws	Improved air, water, and soil quality
Environmental Clearance	Issuing Environmental Impact Assessments (EIA)	Reduced ecological damage from development projects
Climate Change Management	National Adaptation Plans, carbon emissions monitoring	Increased resilience to climate impacts
Waste and Hazard Control	Managing hazardous and industrial waste	Safer waste disposal and public health
Environmental Awareness	Public campaigns, education, observance of Environment Day	Raised awareness and community engagement

The functional areas in environmental management focus on key responsibilities to protect ecosystems and public health:

- Environmental Regulation monitors and enforces pollution control laws to improve air, water, and soil quality.
- Environmental Clearance involves issuing Environmental Impact Assessments (EIA) to minimize ecological damage from development projects.
- Climate Change Management implements national adaptation plans and monitors carbon emissions to boost climate resilience.

- Waste and Hazard Control manages hazardous and industrial waste to ensure safe disposal and protect public health.
- Environmental Awareness conducts public campaigns and education to raise community engagement and promote environmental stewardship.

These areas collectively support sustainable environmental protection and awareness.

Table 9: Legal and Policy Framework

Legal Instrument / Policy	DoE's Role
Environment Conservation Act 1995 (ECA)	Principal authority for enforcement and regulation
Environment Conservation Rules 1997	Operationalizes ECA; defines clearance categories
National Environment Policy 2018	Policy implementation and monitoring
Bangladesh Climate Change Strategy & Action Plan	Technical support for implementation

The Environment Conservation Act 1995 (ECA) designates the Department of Environment (DoE) as the principal authority for enforcement and regulation. The Environment Conservation Rules 1997 operationalize the Act by defining clearance categories. The National Environment Policy 2018 guides policy implementation and monitoring by the DoE. The Bangladesh Climate Change Strategy & Action Plan provides technical support for climate-related initiatives. Together, these legal instruments shape DoE's role in environmental conservation and climate action. The frameworks presented focus on sustainable fisheries and coastal management through different approaches:

- Co-Management engages fishers, local communities, and government bodies in joint resource management, promoting stakeholder ownership and protecting critical breeding grounds like hilsa habitats.
- Integrated Coastal Zone Management (ICZM) ensures cross-sectoral coordination for sustainable use and ecological health of coastal resources, supporting fisheries livelihoods and mitigating climate vulnerabilities.

- Ecosystem-Based Fisheries Management (EBFM) adopts a holistic view, considering ecosystems, habitats, and species interactions to sustain ecological balance and marine ecosystem resilience.

Together, these frameworks enhance conservation, community participation, and long-term sustainability in fisheries management.

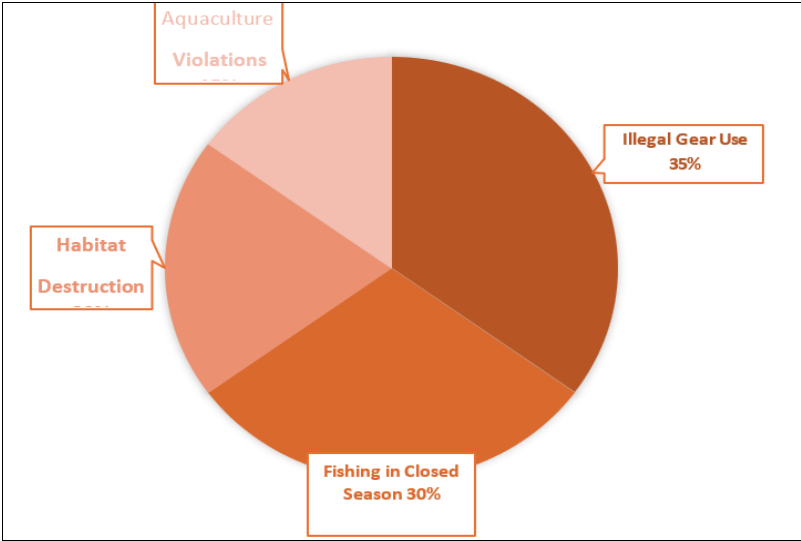
Judiciary (Environmental and Fisheries Courts)

Environmental courts and designated magistrates handle violations of fisheries and conservation laws. Environmental courts and magistrates, though empowered to enforce fisheries laws through fines or imprisonment, are underutilized due to weak investigative support, slow prosecutions, and low legal awareness among fishers. The exclusion of local dispute resolution systems further limits effectiveness. Surveys show most cases involve illegal gear use (35%), closed-season fishing (30%), habitat destruction (20%), and aquaculture violations (15%).

Table 10: Role of Environmental and Fisheries Courts in Bangladesh

Court Type	Jurisdiction & Function	Role in Fisheries Governance
Environmental Court	Operates under the Environment Conservation Act 1995; addresses pollution and habitat loss	Acts against industrial pollution, wetland degradation, and other ecological threats to fisheries
Fisheries Court	Formed under Fish Act 1950 and Fisheries Act 2010; handles fishing violations	Penalizes illegal gear use, banned season fishing, and unlicensed aquaculture

This table outlines the jurisdiction, legal basis, and specific roles of Environmental and Fisheries Courts in the context of fisheries governance in Bangladesh.



Bangladesh Navy and Coast Guard

These security agencies play a crucial role in offshore enforcement, especially in the Exclusive Economic Zone (EEZ), by:

- Monitoring illegal, unreported, and unregulated (IUU)

- fishing.
- Enforcing marine fishing bans (e.g., during spawning seasons).
- Responding to transboundary fishing conflicts.

Table 11: Roles and Responsibilities Chart

Organization	Roles
Bangladesh Navy	Enforcement of Fisheries Laws, Anti-IUU Operations, Special Operations, Blue Economy Initiatives
Bangladesh Coast Guard	Fisheries Protection, Maritime Security, Environmental Protection, Disaster Response

The Bangladesh Navy plays a key role in enforcing fisheries laws, conducting anti-illegal, unreported, and unregulated (IUU) fishing operations, special maritime operations, and supporting blue economy initiatives. The Bangladesh Coast

Guard focuses on fisheries protection, maritime security, environmental protection, and disaster response. Both organizations contribute to safeguarding marine resources and maritime safety in Bangladesh waters.

Table 12: Joint Initiatives in Fisheries Governance

Initiative	Stakeholders
Joint Coordination Center	Navy, Coast Guard, Dept. of Fisheries
Sustainable Fisheries Project	Local Fishermen, Navy, Coast Guard
Community Engagement Programs	Local Communities, NGOs, Govt. Agencies

The Joint Coordination Center involves the Navy, Coast Guard, and Department of Fisheries working together for coordinated fisheries management and enforcement. The Sustainable Fisheries Project engages local fishermen along with the Navy and Coast Guard to promote sustainable fishing practices. Community Engagement Programs include local communities, NGOs, and government agencies collaborating to enhance awareness, participation, and resource conservation.

Local Government Institutions (Union and Upazila Parishads)

Local Government Institutions (LGIs), including Union and

Upazila Parishads, play a supporting role in fisheries governance at the sub-district and community levels in Bangladesh. Their responsibilities include registering small-scale fishers for subsidies and emergency relief, resolving local conflicts over fishing access and public water body (jalmahal) leasing, and participating in co-management structures like the Hilsa Fisheries Management Committees. Despite these important roles, their impact is often constrained by unclear mandates, limited resources, and insufficient technical capacity, weakening their potential in decentralized, participatory governance.

Table 13: Role of Local Government Institutions in Fisheries Governance

Function	Details
Fisher Registration	Registers small-scale fishers to enable access to subsidies and disaster aid.
Conflict Mediation	Resolves disputes over access to fishing grounds and leases for public waters (jalmahals).
Participation in Co- Management Challenges	Engages in local fisheries committees like Hilsa and Upazila Fisheries Committees. Lack of clear mandates, technical expertise, and financial or human resources.

Bangladesh Planning Commission & Ministry of Planning

These bodies integrate fisheries into national development agendas, including:

- The *8th Five-Year Plan (2020-2025)*, which prioritizes the Blue Economy.

- Donor coordination mechanisms to align external funding with national priorities.

Evaluation of long-term strategies like the *Delta Plan 2100*, which includes climate- resilient fisheries components.



Key Roles of Bangladeshi Universities in Fisheries Governance

Various universities and institutions in Bangladesh contribute significantly to fisheries and environmental research:

- Bangladesh Agricultural University (BAU) leads in freshwater aquaculture research and policy advice.
- Khulna University focuses on coastal ecosystem management and community fisheries.
- Chittagong University studies marine biodiversity and socio-economic issues of coastal fishers.
- Sylhet Agricultural University works on rural aquaculture and food security.
- University of Dhaka (Zoology Dept.) specializes in fish biology and hilsa migration.
- Noakhali Science and Technology University (NSTU) researches estuarine biodiversity and fish health.
- Chittagong Veterinary and Animal Sciences University addresses seafood quality and disease diagnosis.
- Patuakhali Science and Technology University (PSTU) studies shrimp culture and climate adaptation.

Private universities like North South University, Independent University Bangladesh, BRAC University, Ahsanullah University, and ULAB engage in environmental science, marine biology, climate resilience, and sustainable development research.

These institutions collectively advance knowledge and support sustainable fisheries and coastal management. The table outlines three key fisheries management frameworks:

- Co-Management involves joint resource management by fishers, local communities, and government bodies, promoting stakeholder ownership and protection of critical breeding grounds like hilsa sanctuaries.
- Integrated Coastal Zone Management (ICZM) ensures cross-sectoral coordination for sustainable use of coastal resources, maintaining ecological health, supporting fisheries livelihoods, and mitigating climate-related vulnerabilities.
- Ecosystem-Based Fisheries Management (EBFM) adopts a holistic ecosystem approach, considering habitats and species interactions to support long-term sustainability by maintaining ecological balance and marine ecosystem resilience.

Together, these frameworks promote sustainable fisheries through participatory governance, integrated planning, and ecosystem conservation.

Non-Governmental Organizations and Cooperatives WorldFish

These NGOs operate at the grassroots level, offering:

- Livelihood alternatives to fishing (e.g., poultry, handicrafts).
- Access to microcredit and savings schemes.
- Awareness campaigns on legal compliance and sustainable fishing.
- Support for women's empowerment and inclusion in aquaculture.

Contributions of National NGOs to Fisheries Governance in Bangladesh

Key NGOs working in fisheries and livelihoods include:

- BRAC promotes livelihood alternatives, aquaculture, and women's empowerment nationally, developing small-scale aquaculture models and training rural women.
- CNRS focuses on community-based fisheries management and floodplain restoration in haor areas of North-Central Bangladesh, demonstrating successful participatory management.
- CARE Bangladesh runs legal awareness campaigns and income diversification in coastal and inland regions, improving fishing ban compliance and household incomes.
- Banchte Shekha supports microcredit, savings groups, and gender-focused training in fisheries in South-Western Bangladesh, enhancing women's financial inclusion in fisheries livelihoods.

These NGOs contribute significantly to sustainable fisheries and community empowerment. The table describes three fisheries management frameworks:

- Co-Management involves collaborative resource management among fishers, local communities, and government bodies. It fosters stakeholder ownership, compliance, and protection of key breeding grounds like hilsa sanctuaries.
- Integrated Coastal Zone Management (ICZM) coordinates multiple sectors for sustainable coastal resource use. It ensures ecological health, safeguards coastal fisheries livelihoods, and addresses climate vulnerabilities.
- Ecosystem-Based Fisheries Management (EBFM) takes a holistic approach by considering entire ecosystems, habitats, and species interactions. It supports long-term sustainability by maintaining ecological balance and resilience in marine environments.

These frameworks collectively promote sustainable fisheries through participatory governance, integrated planning, and ecosystem conservation

International Donors and Development

Table 15: Donor Contributions in Fisheries Governance in Bangladesh

Donor Agency	Project/Initiative	Focus Area	Implementation Period
World Bank	Bangladesh Sustainable Coastal and Marine Fisheries Project (BSCMFP)	Fisheries management systems, infrastructure, value chain investments, community co-management	2018-2025
USAID	Enhanced Coastal Fisheries in Bangladesh (ECOFISH I & II)	Hilsa conservation, adaptive co-management, community resilience, women's empowerment	2014-2025
FAO & Norway	Ecosystem Approach to Fisheries Management via EAF-Nansen Programme	Marine resource assessment, capacity building, climate and pollution impact studies	2017-2021
GEF & FAO	Community-based Climate Resilient Fisheries and Aquaculture Development	Climate change adaptation, community-based fisheries and aquaculture development	Approved in 2016
UNDP & GEF	Community-based Management of Tanguar Haor Wetland and Ecosystem-based Management in Ecologically Critical Areas	Biodiversity conservation, sustainable wetland management, community-driven initiatives	Launched in 2024
Denmark	Fish marketing scheme and boat building mechanization agreements	Fisheries infrastructure development, market access enhancement	1975-1978

Key donor agencies supporting fisheries initiatives in Bangladesh include:

- The World Bank's Bangladesh Sustainable Coastal and Marine Fisheries Project (2018-2025) focuses on fisheries management systems, infrastructure, value chain investments, and community co-management.
- USAID's Enhanced Coastal Fisheries (ECOFISH I & II, 2014-2025) supports hilsa conservation, adaptive co-management, community resilience, and women's empowerment.
- FAO and Norway's EAF-Nansen Programme (2017-2021) targets marine resource assessment, capacity building, and climate and pollution impact studies using an ecosystem approach.
- GEF and FAO's Community-based Climate Resilient Fisheries project (approved 2016) emphasizes climate adaptation and community-based fisheries and aquaculture development.
- UNDP and GEF's Community-based Management of Tanguar Haor (launched 2024) promotes biodiversity conservation, sustainable wetland management, and community-driven initiatives.
- Denmark supported fisheries infrastructure and market access through fish marketing and boat mechanization schemes from 1975-1978.

These donor-funded projects enhance fisheries sustainability, resilience, and community participation in Bangladesh.

Conclusion

This study critically examined the institutional and legal landscape of fisheries governance in Bangladesh, with a focus on the interplay among state bodies, research institutions, NGOs, and community-level actors. It contributes to the field by systematically mapping the relationships between legal frameworks (e.g., Marine Fisheries Ordinance 1983, Inland Fisheries Ordinance 1982, National Fisheries Policy 1998) and the operational roles of institutions such as the Department of Fisheries (DoF), Ministry of Fisheries and Livestock (MoFL), Bangladesh Fisheries Research Institute (BFRI), local governments, NGOs like BRAC and WorldFish, and academic institutions including Khulna University and University of Dhaka. By assembling and verifying empirical

data from credible sources, the study fills a critical gap in the literature where institutional specificity and legal consistency have often been overlooked.

The research affirms that although Bangladesh has developed a relatively comprehensive legal framework, enforcement mechanisms remain weak, coordination is fragmented. This underscores the broader relevance of the study to global discussions on institutional resilience, co-management, and community empowerment in fisheries governance. By addressing the research question "How do institutional arrangements and legal frameworks shape fisheries governance outcomes in Bangladesh?" the study finds that fragmented mandates, outdated legal instruments, and inconsistent research-policy linkages are primary barriers to effective governance. Overall, the interpretation of results points to a nuanced relationship: while national policies provide a structural backbone, governance outcomes are significantly influenced by local

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