

SEAFOOD TRADE, FISHERIES MANAGEMENT AND HUMAN LIVELIHOODS

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ABSTRACT

In 1976 global exports for fish and fisheries products was approximately \$8 billion. In 2000, global exports exceeded \$55 billion. The period between 1985 and 1995 witnessed the tripling of global fisheries exports. This represents more than half of total value of global fisheries production. Developing countries began to increase their share of this total during the 1990s and now account for more than half of global exports. In 2000 the net trade value (exports minus imports) for developing country seafood exports exceeded \$18 billion. Taken at face value these statistics suggest that the monetary benefits of fisheries trade have increased in the wake of EEZ extension with developing countries benefiting the most. These statistics fail to reflect some important costs, however. Such costs include subsidies to the fishing industry and a variety of social and environmental externalities associated with changes in fishing activity. They also tell us little about how both costs and benefits resulting from fisheries trade are distributed among a variety of affected stakeholders within fisheries and the communities that depend upon them. In particular, the trends depicted above have been criticized for adverse impacts on small-scale fishing communities and their historical institutional arrangements. This paper will explore the interplay between seafood trade, fisheries management and human livelihoods. The paper will argue that economic structure of a given fisheries sector, the political organization of its industry, and the institutional arrangements that govern it all play important roles in determining the size and distribution of costs and benefits associated with the expansion of seafood trade.

Keywords: fisheries management, seafood trade, institutions, property rights, equity

OVERVIEW

The codification of 200-mile exclusive economic zones (EEZs) at the Third Law of the Sea Convention (UNCLOS-III) inspired considerable optimism regarding the prospects for global fisheries and their potential to contribute to economic development in both developed and developing countries. EEZs were extended during a period of rapid technological change and easing of worldwide trade and investment barriers. This confluence of factors gave rise to the perception of significant development opportunities in coastal fisheries; opportunities best realized through industrial expansion, modernization and re-orientation toward export markets.

In 1976 global exports for fish and fisheries products was approximately \$8 billion. In 2000, global exports exceeded \$55 billion. The period between 1985 and 1995 witnessed the tripling of global fisheries exports. This represents more than half of total value of global fisheries production. Developing countries began to increase their share of this total during the 1990s and now account for more than half of global exports. In 2000 the net trade value (exports minus imports) for developing country seafood exports exceeded \$18 billion [1]. The contribution of the fisheries sector accounts for more than 5% of GDP for a number of small to medium size

developing countries and hard currency earnings from seafood export revenues covering the annual debt service for some of them [2,3].

Taken at face value these statistics suggest that the monetary benefits of fisheries trade have increased in the wake of EEZ extension with developing countries benefiting the most. These statistics fail to reflect some important costs, however. Such costs include subsidies to the fishing industry, depletion of fish stocks and despoilment and destruction of critical fisheries habitat. They also tell us little about how both costs and benefits resulting from fisheries trade are distributed among a variety of affected stakeholders within fisheries and the communities that depend upon them. The lion's share of fisheries rent can be captured by the owners of large firms that control exports, often foreign nationals. Local and domestic markets and the smaller-scale actors that comprise them can be adversely affected by commodity scarcities. And sector growth does not necessarily translate into improved employment opportunities when industrial capital displaces fisheries labor.

During the past ten years international organizations that play key roles in fisheries management, fisheries conservation and fisheries sector development have begun taking a closer look at both the positive and negative dimensions of international seafood trade. Extensive analyses have been conducted by a number of international organizations, both governmental and non-governmental [3, 4, 5, 6, 7, 8, 9, 10]. The resulting literature is instructive and it highlights the crucial role of institutions, governance and/or management regimes as intervening variables that play an important role in shaping the impacts of trade liberalization in the fisheries sector.

Attributes of what are commonly heralded as strong regimes include exclusive access rights, the absence of subsidies, ecologically responsible regulations and effective monitoring and enforcement mechanisms. Attributes of what are commonly considered to be weak regimes include open-access rules, extensive subsidies, inadequate regulations and poor monitoring and enforcement mechanisms. In addition to these themes, work that explicitly focuses on the artisanal sector in the context of poverty alleviation, food security and/or general equity concerns has elaborated on issues of marine tenure, regulatory decentralization and co-management, local and domestic market infrastructure, and other forms of directed technical, financial and/or organizational support [2, 3, 11, 12].

The intent of this paper is to compliment the above work by elaborating upon some of the aforementioned themes with a more explicit focus on the interplay between economic structure and political institutions. The themes of the paper were developed in conjunction with a workshop held at Duke University in late 2003 on the same topic [13].¹ This paper builds upon the workshop discussions, memos and case studies prepared in conjunction with the workshop, and the aforementioned literature.

As a political scientist I seek to better understand the variation in the fisheries policies and associated outcomes we observe in the world in addition to facilitating the implementation of sustainable and/or responsible fisheries policies. Although some important differences of opinion exist within the academic and policy communities regarding specific attributes of ideal policies I believe that these differences pale in comparison to the gaps between agreed upon responsible fisheries policies and their implementation.

With respect to the poor record of implementation I contend that the fisheries policies we observe are less an expression of the preferences and wisdom of fisheries regulators and state leaders than they are the outcome of a political struggle among distinct types of actors operating in a complex institutional environment. Listing the attributes of a responsible fisheries policy that's tailored to the needs of a given fisheries sector is one thing. Implementing legislative and policy reforms in a politically constrained environment is another. Few academics and policymakers will dispute this contention. Still, with notable exception of the work of a few authors the academic and policy literature on fisheries economics and trade seems only remotely sensitive to the political dimensions of fisheries policies and the interplay between economics and politics.

The remainder of this paper offers some preliminary thoughts regarding such interplay. It outlines what I view to be the most important aspects of economic structure and political institutions, briefly considers how they interact with trade and trade liberalization, it offers some general conjectures regarding patterns of outcomes and behavior and it offers some initial guidance regarding institutional reforms in the sector.

INDUSTRY STRUCTURE

To understand how competing interests are distributed in the fisheries sector of a given nation-state, a profile of the industry structure is instructive. The basic components of such a profile should include an assessment of salient heterogeneities within the harvesting segment as well as an assessment of the vertical links between the harvesting segment and downstream segments of the industry. I discuss each of these in turn.

Heterogeneities within the Harvesting Sector

Perhaps the most salient distinction within the harvesting segment of the fishing industry is that between small and large scale fishers. These categorizations roughly correlate to FAO classifications of industrial and artisanal fishers although national classifications of small to medium scale fishers may not match what the FAO considers to be artisanal. While the FAO offers an aggregate estimate of the relative balance between artisanal and industrial fishing at the global level these estimates are not disaggregated and included within country fishery profiles. Assessing the balance between industrial and artisanal fishing in a given country is a crude but useful first cut in assessing heterogeneity within the harvesting sector. More precise classifications would distinguish between different gear types and vessel classes. Importantly, fleet structure needs to be understood beyond numbers of vessels for different gear and vessel classes. Each harvesting category needs to be linked to a proportion of landings and differentiated by species/fishery. When aggregating landings across species landed values are a more appropriate measure than landed weights. Finally, an understanding of the spatial dimension of the above heterogeneities is helpful both in terms of home ports and fishing grounds. A few exemplar profiles of harvesting sectors do exist [14, 15] but there seems to be no effort to systematically collect detailed information on harvesting sectors in multiple countries and to compile them in a single repository.

Vertical links and Commodity Chains

An extremely reliable indicator for the policy preferences of a given fisheries sector is the degree of vertical integration, measured as the proportion of landed value caught by harvesting vessels that are owned by processing firms and/or other downstream fishing interests [16]. Vertical integration is likely to correlate closely with industrial fishing but it is not automatic. Medium-scale harvesting vessels that are considered industrial can be independently owned and small-scale vessels that are not considered industrial can be owned and/or controlled by processing firms. As in the above case, differentiations across species/fisheries are essential and understanding the spatial dimension of vertically-integrated vs. non-vertically integrated actors is helpful. Beyond this initial estimate, a more robust understanding can arise from information on the links between the full spectrum of actors in the commodity chain in terms of contractual arrangements, market shares and price spreads. Links in this chain include those between harvesters, processors, distributors and retailers as well as additional actors that might play a role in brokering, exporting and/or importing seafood commodities. Work being conducted under the Sustainable Fisheries Livelihoods Program provides one example of the collection of micro-level data along these lines in the context of a poverty alleviation initiative [18]. Suggested frameworks exist for conducting assessments of the global fishing industry on the macro-level as well [19]. Meso-level data that focuses a suite of species-specific chains in a given country are less readily available.

Externalities and Equity

The above information provides a multi-dimensional assessment of the economic structure of a given country's fisheries sector. It alerts analysts to potential conflicts of interests, including externalities and equity issues. The spatial distribution of different vessel classes, gear types and species targets is a key determinant of negative externalities while the vertical links between the harvesters and downstream segments of the industry are a key determinant of rent distribution and associated equity concerns. This latter point is occasionally lost on some observers who neglect to consider the relevance of bargaining power for rent distribution.

POLITICAL ORGANIZATION

While the above indicators serve as useful rough estimates of the raw distribution of competing interests in a given fisheries sector, the political organization of these interests provides a crucial vehicle for converting them into political influence. There are a myriad of ways of combining the converging and conflicting interests depicted in the above fisheries production profile as attested to by the considerable variation in organized interest groups that lobby over fisheries policies.

Internal Organization

Given the impact of politics and policy on the distribution of benefits from fisheries across the commodity chain it should come as little surprise that actors within fisheries sectors often organize themselves around different components of the chain: harvesters, processors, distributors and retailers usually have independent organizations that represent their interests. Within the harvesting sector different organizations can exist for each of the salient interests

identified in the previous section with organizations for different vessel classes and gear types being the most common. Sometimes fisheries sector interests are organized around separate groups that represent crewmembers or fishworkers (fisheries labor) in relation to boat owners or companies (fisheries capital). Organizations are also frequently based upon the species/fishery and spatial/regional dimensions discussed earlier. In some coastal states the most salient interest groups operate at the national level while in others regional or local groups are more relevant. Some organizations remain interest-specific while others aggregate combinations of interests at different scales, while others serve as an umbrella organization for articulating the interests of the fishing industry as a whole. Some organizations have long political histories while others arise in response to a specific issue or policy debate and dissolve quickly after its resolution. Fission and fusion among different interest groups within fisheries sectors is commonplace. In short, there are numerous overlapping and conflicting interests within fisheries sectors and the political organization of the industry largely determines how those interests are aggregated and articulated in policy debates and political arenas. Asymmetries in the ability of different segments of the fishing industry to collectively organize can not only lead to inequitable policies but it can also impede attempts to introduce reforms that would address the inequities as champions of such policies find insufficient political support. Political balance by no means guarantees adoption of responsible fisheries policies (it can result in political deadlock that preserves the status quo) but responsible policies become especially difficult to introduce when the major beneficiaries are not politically organized.

External Links

In addition to understanding how different segments of the fisheries sector are politically organized it is also important to note the salient links between fisheries-based organizations and broader-based interest groups and social movements that span across multiple economic sectors. Examples could include national labor organizations, political parties, indigenous rights movements, capitalists and/or industrialists and elite societal segments.

INSTITUTIONAL FRAMEWORK

In this paper I use the term “institutions” to broadly denote formal and informal rule systems. This usage overlaps with common used terms such as governance and/or management regimes but it departs from common parlance that equates institutions with organizations [20].

To best understand the institutional framework affecting its fisheries sector I suggest starting with an assessment of the property rights system that governs the harvesting sector. Subsequently, one can then try to understand how the property rights system is linked and/or nested within a broader set of regulations that affect the harvesting, sale and/or export of seafood products. Finally, it is often instructive to understand the relationship between fisheries policies and broader national economic policies and strategies as well as overarching political structures.

Property Rights and/or Marine Tenure

Property rights regimes and/or marine tenure arrangements appear to be the most significant determinant of the efficiency and equity outcomes associated with resource exploitation in a

given fishery. Understandably, the ultimate impacts of trade liberalization and increased trade in seafood markets on the range of actors operating in a given fisheries sector are to a large degree shaped by such regimes. It is well established in the fisheries economics literature that trade liberalization and increased trade in fisheries with open-access regimes will often exacerbate resource exploitation [9]. Open-access conditions are also likely to magnify externalities and inequities among fisheries beneficiaries.

While it is well understood that a lack of exclusive access rights will inevitably lead to adverse outcomes in the presence of open-access regimes there is less precision in the literature with respect to how different forms of property rights and marine tenure systems affect impact sustainability, efficiency and equity outcomes in broad terms as well as externalities more specifically. Much of the theoretical literature that addresses the role of property rights and the interplay between trade, property rights and sustainability/efficiency/equity outcomes considers property rights vs. open-access regimes in dichotomous terms. In practice there is tremendous variation among marine tenure arrangements with respect to whom has access to which fisheries and under what conditions. Marine tenure arrangements in developing countries with large coastal populations often involve exclusive rights to specific spaces (territory) at specific times with specific fishing gear. Marine tenure arrangements in developed countries have been moving more toward exclusive rights to specific quotas of fish with arguably less emphasis on territorial and/or gear restrictions. Within the family of IFQ systems there is considerable variation with respect to program eligibility, ownership and/or transferability restrictions and the durability of quota rights. Subtle variations in these marine tenure arrangements can have important implications for the impacts of seafood trade on human livelihoods especially in light of the heterogeneities discussed in the previous section.

While progress has been made in cataloging marine tenure systems in different countries these efforts have been patchy and poorly coordinated. Systematic, detailed information on property rights and/or marine tenure is essential for assessing the impacts of seafood trade on human livelihoods with any degree of precision.

Regulatory Structure and Process

I will refrain from commenting extensively in this section given the fact that good information on fisheries regulations, regulatory structure and regulatory procedures is fairly accessible through national regulatory authorities in addition to FAO country profiles. Of particular relevance is the degree of centralization/decentralization as well as the degree to which various stakeholders are able to participate in the regulatory process. This theme has received considerable attention in the contemporary literature and it would appear that most governments are moving in the direction of greater decentralization and co-management. This is commendable but it is important to note that the impacts of greater involvement on the part of previously marginalized stakeholders are conditioned and constrained by their particular capacities as well as political and economic conditions that transcend the regulatory process.

Seafood Marketing and Trade Policies

Legislation and associated regulations pertaining to seafood marketing and trade of fisheries commodities may be considered part of the fisheries regulatory regime but it is sometimes

omitted in country assessments and fisheries sector profiles. Such policies have a significant impact on the price spreads across a seafood commodity chain and are important component of a thorough assessment.

Nested Relationships

Fisheries policies and associated reforms of fisheries regulations are often undertaken in the context of a broader economic strategy and associated policies. These can include efforts to rationalize and/or reduce subsidization of a range of economic sectors, efforts to modernize and attract private and/or foreign investment, and initiatives to expand social welfare programs and/or reduce poverty. Because these broader initiatives impact the rule systems in the fisheries sector I consider them to be an instructive aspect of the institutional framework affecting fisheries. A lack of coherence between fisheries policies and those in other sectors can be an important determinant of the externalities and inequities that arise in fisheries sectors in conjunction with trade expansion.

Finally, the broader set of political institutions in which fisheries sectors are embedded have considerable influence on the political dynamics affecting fisheries sectors and the development of fisheries policies. Countries with federal government structures often grant autonomy in devising fisheries regulations to regional and/or provincial governments. As a result there is often considerable regional variation in fisheries policies under federal governments and less coherence at the national level. Another salient aspect of political institutions is the degree to which they can be characterized as pluralist vs. corporatist. Pluralist systems afford greater voice in the policymaking process to a broader range of interest groups. Corporatist systems which tend to broker agreements among peak associations representing broader aggregations of fishing industry interests. A related dimension of the political structure that can affect fisheries is the nature of the relationship between the executive and legislative branches of government. Pluralism and strong legislatures tend to result in piecemeal approaches to fisheries policies that are exposed to vested interests and parochial concerns. Corporatism and strong executives increase the likelihood of grand political bargains and comprehensive policy reforms but they are also more likely to marginalize those segments of the fisheries sector that do not have adequate representation in the political process [16].

SOME GENERAL CONJECTURES

The outcomes that result from the interplay between trade liberalization, industry structure, political organization and institutional frameworks are highly variable from country to country. That said there are some general conjectures that can be advanced in response to a review of my own research along with the findings contained in the literature referred to above.

Industry Structure

The significance of industry structure can be observed in the contrasting experiences of coastal states with significant artisanal, small-scale fishers and those where such actors are less significant. In most cases the combination of trade liberalization and fisheries development tends to introduce capital-intensive technologies and new forms of economic organization (vertically-integrated firms) into sectors that are heavily populated with actors that are adversely

impacted by such changes. Robust small-scale segments of a fishing industry are often found in coastal states with wide continental shelves which can amplify spatial conflicts among fleet segments although wide continental shelves are not a necessary condition for such conflicts. These dynamics play out repeatedly in numerous countries around the world, in both developed as well as developing countries [2, 3, 4, 5, 6, 7, 13, 16, 21]. In coastal states where small-scale fleet segments are less significant introduction of capital-intensive technologies and vertically-integrated firms engenders far fewer equity concerns due to the fact that these firms and technologies are filling a void as opposed to displacing and/or disrupting existing communities and their institutional arrangements. Fisheries management and development success stories like New Zealand and Namibia occurred within the context of an industry structure that was highly amenable to the policies that were put in place [22, 23]. Iceland is another country that is often looked upon as highly progressive in terms of its export orientation and domestic management regimes. Notably, Iceland's rather unique economic history allowed for widespread vertical integration across its fisheries sector prior to the introduction of its export policies and ITQ policies. This lessened the equity implications of adopting its current policies although the transition was not without political conflict between the core of the industry and those segments that were not vertically-integrated [24].

Political Organization and Institutional Structure

While the political organization of the fishing industry plays an important role in aggregating interests that arise from distinct economic structures and influencing policy outcomes it is itself shaped by regulatory and political frameworks. It is shaped by both the opportunities and constraints that arise from the institutional structure and the content of policies.

One notable empirical generalization stems from this observation in terms of the link between the scope and scale of fisherman's organizations and the nature of regulatory decision-making. Successful collective action within the fisheries sector tends to coalesce around the most salient decision-making bodies. In smaller countries and/or those with centralized regulatory authority greater effort is usually made to organize distinct fishing interests at the national level. In larger countries with decentralized regulatory authority fishermen's organizations are less likely to have a national scope. Norway and the United States are good examples of the two extremes in industrialized developed countries with Norway having one umbrella fisherman's association that has long dominated fisheries politics and the United States being characterized by fishermen's associations that rarely expand beyond the scope of the eight fisheries management councils that govern them [16].

In developing countries the political organization of artisanal fishermen tends to be resource constrained. The numbers of viable organizations that operate at the national level are few and far between when regulatory decisions are centralized under a national authority. Links between artisanal fishermen and broader social movements are more commonplace in developing countries perhaps as a reflection for the need to look beyond the fisheries sector in an attempt to obtain a political voice within it. The most frequent coalitions occur among artisanal fishermen, labor parties and indigenous rights movements. Industrial fishing interests in developing countries are more likely to have direct connections with regulatory authorities outside of organizational representation and/or be a part of business organizations that represent multiple industries.

Aside from these cursory generalizations about the political organization of fishing interests my primary points concern the highly variable nature and their relevance for translating distinct interests into political influence. Despite its importance efforts to catalog and track the political organization of distinct segments of the fishing industry are not part of mainstream fisheries data collection efforts.

INSTITUTIONAL REFORMS

Harnessing international trade in a manner that minimizes externalities and improves human livelihoods remains a daunting challenge. Few would argue with the proposition that the combination of export-led fisheries development and open-access fisheries is a recipe for disaster. We have witnessed this scenario in a number of countries and the results are neither efficient, equitable or sustainable. The design template for economically efficient fisheries institutions is readily available in a particular form of property rights – individual transferable quotas. Other forms of exclusive community and/or territorial use rights may be more suitable for many of the world's fisheries for a number of practical as well as normative reasons. These alternative forms of property rights and marine tenure may sacrifice some potential efficiency but they are clearly an improvement from open-access conditions. Embedding exclusive property rights in an ecologically responsible set of regulations is also a fairly easy task, at least in principle. Equity, however, involves both real and perceived distributive outcomes that are heavily influenced by industry structure. Designing fisheries policy reforms that are equitable – or at least politically feasible – involves considerable calibration and fine tuning that is responsive to both industry structure as well as the broader political institutions that impact the fisheries sector. This cannot be done in the absence of a detailed structural assessment that illuminates the salient heterogeneities in a given fisheries sector, the manner in which distinct interests in the sector organize themselves politically, and the broader institutional framework that defines and shapes the rules that govern the sector.

Robust structural assessments set the stage for calibrating reforms. All too often reforms are introduced to one component of the institutional framework without sufficient attention to other components that are crucial to its success. We often see this in the form of changes to the regulatory structure and process that are not supported by the rest of the institutional framework. Changes to property rights and/or marine tenure systems are often the most crucial aspect of developing sustainable governance regimes and can sometimes be sufficient without any changes to regulatory/management processes. More often a combination of reforms involving decentralization/co-management and changes to property rights/marine tenure arrangements will be more advisable. Reforms targeting post-harvest commodity chains should also be maintained within the set of options that are considered. Sales, marketing and trade laws can have a strong impact on the distribution of benefits from the fisheries sector and it these may present a more pragmatic route for addressing equity concerns than marine tenure arrangements and/or management structures. Again, linking reforms across all three of these institutional framework components will likely offer the best recipe for achieving desired outcomes. Ensuring that coherence exists between fisheries sector reforms and economic policies in other sectors and ensuring that the reforms can be supported and enforced within the prevailing political institutions are additional necessary conditions for successful fisheries sector reforms.

Two implicit points warrant additional comments with regard to institutional reforms. The first is capacity. We can modify institutional frameworks to create opportunities within governance regimes for previously marginalized actors to manage fisheries resources and share in the benefits of trade liberalization. However, multiple dimensions of capacity are necessary to take advantage of such opportunities. These include but are not limited to technical, financial, administrative and political capacities. In those areas of the world where large communities have severe capacity deficiencies capacity building efforts will likely be a prerequisite to successful governance reforms. This might include political capacity building whereby fisherfolk organizations are not only created but linked together to form a network with sufficient organizational capacity and political influence to ensure that subsequent reforms are implemented by appropriate political authorities. Some initial reforms will no doubt complement capacity building efforts but it likely will be necessary to ensure that the sequence of reforms does not set these communities up for failure by placing the cart of legal authority and/or management responsibility before the cart of organizational capacity and/or political empowerment.

The second point concerns political negotiation. Negotiation does not ensure consensus regarding policy reforms. Nor does it ensure acceptance let alone endorsement. However, the prevailing political conditions are an important part of the reality that those seeking fisheries sector reforms have to confront. In most countries, both developed as well as developing, there are certain organized interests and/or elite groups that have the political power to undermine the reform efforts of the most strong-minded of individual leaders – even those at the top branches of government. In such cases it political negotiation with politically influential interest groups is essential. Some degree of reform is usually better than none and modest reforms that are implemented have much greater impact than bold reforms that only exist on paper. In cases were government leaders retain the political strength to implement reforms in the face of strident opposition negotiation remains advisable as the act of consultation will more often than not enhance perceptions of legitimacy and lessen the costs of implementing and enforcing policy reforms. Many academics and policymakers are attracted to notions of broad stakeholder participation in the management process but many forget about the importance of applying these same principles to fisheries policy reform efforts in developing countries.

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ENDNOTES

¹ Assessing the Performance of EEZs: Seafood Trade, Fisheries Management and Human Livelihoods was a workshop held from November 7-8, 2003 at Duke University. Funding for the workshop was provided by Duke's Center for Environmental Solutions and the Institutional Dimensions of Global Environmental Change project.