

Small-scale fisheries and access rights in Timor-Leste

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Abstract

The marine fishing fleet of Timor-Leste consists entirely of small scale and artisanal vessels. Compared to agriculture's contribution to domestic food supplies, income and employment, and to the contribution of oil and gas to public revenues and foreign exchange, fisheries play only a limited role in the national economy. Small-scale fisheries (SSFs) support livelihoods in coastal communities in terms of income and informal employment and increased resilience through diversification of production. In particular, in more remote coastal rural areas, fisheries are considered an important driver of local economies, and a major source of food security and nutrition.

This paper examines the different access regimes governing in the EEZs of the Northern and Southern coasts and the management issues and challenges they imply. Uniquely, in comparison to other fisheries, access to the entire Northern EEZ is granted exclusively to small scale and artisanal vessels; access to the Southern EEZ is structured following a conventional, albeit unenforced, zoning approach. A recent stakeholder consultation process confirmed implications for management of these different access regimes: in the Northern EEZ higher levels of environmental threats on mangroves, reefs, seagrass, and of pollution due to more population/resource pressure were recorded, with higher fishing pressure, particularly on reefs. In the Southern EEZ, IUU fishing by foreign semi-industrial fleets occurs, due to lack of monitoring, control and surveillance.

Based on these conclusions, the paper contemplates the extension of exclusive fishing rights for small scale and artisanal vessels to all of the Timorese EEZ, and discusses the legal, regulatory financial and development support requirements for improved sustainable resource use under this premise, including means necessary to ensure compliance. It further proposes technical assistance measures to increase small-scale and artisanal fish production within sustainable limits, for example by diversifying fishing grounds, vessels and gear, and improving effectiveness and efficiency of value chains.

1. INTRODUCTION

The Ministry of Agriculture and Fisheries (MAF) of the Government of the Democratic Republic of Timor-Leste (GoDRTL), through its General Directorate of Fisheries (DGP), is leading a consultative process of developing a new National Fisheries Strategy (NFS) for Timor-Leste. The aim of the NFS is to sustainably manage marine fisheries resources in Timor-Leste's EEZ, thereby increasing production sustainably and improving food and nutrition security, in particular for low-income households in rural areas. It is committed to principals of ecosystem-based fisheries management and an approach to sector governance that puts the sustainability of resource utilization and livelihoods and human rights of coastal fishers first. The theory of change projected in the NFS is shown in Box 1¹.

¹ National Fisheries Strategy for Timor-Leste, 2nd Draft, Dili. 2018.

Box 1. Theory of Change.

The **vision** proposed on **policy level**, i.e. the aspired future state of the fisheries sector of Timor-Leste is formulated as:

“Timor-Leste’s marine fisheries provide for sustainable livelihoods, incomes and employment, and contribute significantly to food and nutrition security while marine living aquatic resources and coastal environs are safeguarded for future generations”.

The **policy principles** underlying the vision are that:

- *All Timorese fisheries resources which can be caught by small scale and artisanal fishers should be caught by small scale and artisanal fishers.*
- *All Timorese fisheries resources which can be caught by Timorese fishers should be caught by Timorese fishers.*

On the strategy level, the **overall objective** to attain the vision is:

“Responsible, sustainable and equitable management of fisheries and living aquatic resources based on a co-management arrangement and complying with regional and international laws, voluntary instruments, agreements and covenants”.

Two **specific objectives** are formulated as:

“Co-management of marine resources by small scale and artisanal fishers, their families and communities represented socio-politically by legitimate basic democratic organizations, facilitating ownership and in compliance with legal and regulatory provisions, in concert with GoDRTL competent authorities”, and

“GoDRTL competent authorities exercise their sovereign function of providing and enforcing a legal and regulatory framework conducive to co-management of marine resources in the EEZ for the benefit of the Timorese people, together with artisanal fishers, their families and communities.”

Major **assumptions** are:

(i) The existence of political will to prioritize sustainable resource use over short term economic and political gains, and (ii) the continuing support of the donor community to improved governance of the fisheries sector. **Risks** include (i) negative impacts of climate change on coastal and marine environments, (ii) the unregulated development of coastal areas (e.g. by brackish water shrimp culture, infrastructure development) (iii) the unchecked/unlicensed entry of fishing capacity, in particular of semi-industrial and industrial vessels and (iv) the existing and potential future impacts of illegal fishing (by all fleet segments) on stock abundance and diversity.

The NFS identifies four **strategy areas**:

(i) Sector governance, (ii) fisheries management, (iii) protection of marine and coastal environs, and (iv) food and nutrition security, improving value chains and post-harvest. For each strategy area, the draft listed **strategic actions** is identified.

1.1 Description of the fishery

The national marine fishing capacity is made up of small-scale and artisanal vessels. The small-scale and artisanal effort is restricted to shelf area of the country's EEZ, with focus on reef fisheries and fish aggregation devices (FADs). Reliable data on landings by small-scale and artisanal vessels are scarce. Available data, however, shows an increasing trend - from early FAO data of some 3.2 million metric tons based on MAF statistics, and more recent estimates of close to 5 metric tons. FAO reported the number of artisanal fishers reaching nearly 5 300 in 2009, using nearly 3 000 fishing vessels – this is up from 4 940 fishers and 2 230 fishing vessels in 2004.

Major deep-sea fishing grounds within Timor-Leste's EEZ are located South and Southwest of the mainland, with the shallow Sahul banks in the South considered the most productive. As Timor-Leste does not have a domestic commercial/offshore fishing fleet, these fishing grounds are reportedly fished by foreign commercial vessels, apparently illegally, as no licenses were issued (with one notable exception discussed in 2.2 below). In 2003, annual losses from illegal, unreported and unregulated (IUU) fishing were estimated at some USD 20 million/year²; in 2013 the National Plan of Action (NPOA) to combat IUU fishing³ estimated national losses from IUU fishing at some USD 40 million/year⁴.

1.2 Economic contribution and social implications of the fisheries

Compared with the contributions of agriculture to domestic food supplies, income and employment, and of gas and oil production to public revenues and foreign exchange generation, fisheries play only a limited role in the national economy, providing some 1.25% of GDP. However, SSFs and artisanal fisheries support livelihoods in coastal communities in terms of income, employment creation, diversification of production and livelihood resilience. In particular, in more remote coastal rural areas, coastal fisheries are considered an important driver of economic growth and a major source of food security and nutrition, both via markets and via direct consumption. Additionally, the widespread practice of gathering (gleaning) of marine aquatic organisms in shallow waters (including by women and youth) provides for supplementary household income, while improving household food and nutrition security.

The domestic market for fish remains stunted, however. While for consumers along the coast and in the capital Dili, fisheries are a major source of protein, average per capita consumption of fish and fishery product remains low at an estimated 4-6 kg/year. In many upland communities in the country's interior, and in spite of assumed demand, erratic supplies and high prices limit consumption. Deficient infrastructures, e.g. lack of processing and landing facilities exacerbate uncertainty of supplies. Insufficient availability of ice impacts the quality of fish and constrains consumption further. Together with a lack of consumer education and product promotion, these aspects perpetuate the marginal role of fish and fishery production in local diets.

2. MANAGEMENT OF THE FISHERY

2.1 Policy and legal frameworks

The policy framework of natural resource management is governed by the Constitution of the GoDRTL of 20th of May of 2002, which includes a fundamental objective to protect the environment and to preserve natural resources:

² FAO Fishery and Aquaculture Country Profiles, The Democratic Republic of Timor-Leste, Rome 2009.

³ MAF, National Plan of Action for combatting Illegal, Unreported and Unregulated Fishing (NPOA-IUU), Dili, 2013.

⁴ The NPOA makes reference to "Regular reports of illegal industrial fishing very close to the shore (within 1NM) are made by coastal communities on the South coast of Timor-Leste".

- “(i) Everyone has the right to a humane, healthy, and ecologically balanced environment and the duty to protect it and improve it for the benefit of future generations
- (ii) The State shall recognize the need to preserve and rationalize natural resources
- (iii) The State should promote actions aimed at protecting the environment and safeguarding the sustainable development of the economy.”⁵

A more specific vision with respect to the management of the marine environment and the most recent addition to the policy framework is the National Ocean Policy (NOP). This encourages: “A healthy and secure ocean that sustains the livelihoods, prosperity and social and cultural values of the people of Timor-Leste in a fair and equitable manner”⁶.

The Strategic Development Plan (SDP) 2011-2030 is the overarching policy that guides the development of all sectors of Timor-Leste’s economy. The SDP is the basis of MAF’s Strategic Programme for Promoting Agricultural Growth and Sustainable Food Security which includes, among its five strategic objectives, (i) sustainable increase in the production and productivity of selected crops, livestock species, fisheries and forestry subsectors and (ii) enhanced sustainable resource management, conservation and utilization.⁷

For 2016 to 2020, the Strategic Programme aims at improving management of coastal and inland fisheries, increasing the productivity of traditional fisheries, and expanding fishing beyond ten nautical miles by providing appropriate fishing gear, development of fish landing sites and market facilities. It considers the potential of offshore fishing oriented towards exports and the development of fishery centres along the southern coastline.

The legal framework of the marine fisheries of Timor-Leste is constituted presently⁸ by the Decree-Law No. 6/2004 of 21 April 2004 and the Government Decree No 5/2004 of July 2004, General Fisheries Regulations. The Law decrees that “aquatic biological resources are the property of the State and their exploitation shall be conducted in accordance with the present decree-law and applicable regulations.”

As a main instrument for the utilization and sustainable development of the sector, a fisheries management plan is postulated, to be developed in consultation with fishing communities, the fishing associations and other social, professional and economic partners associated with the sector. It is to be implemented on the basis of available scientific and technical data. The Law specifies that the fisheries management plan needs to (i) manage the economic exploitation of fishing resources in a sustainable manner, respect the principle of precaution and only authorize measures, methods and fishing gear that do not cause harm or damage to the preservation of species, to the ecosystems or to the protection of the marine and aquatic habitats, (ii) bear in mind the policies and practices of countries in the region as well as the relevant international and regional recommendations, and (iii) involve other services, public institutions and private entities, whose function or activity is associated with or affects the sector.

The Law emphasizes the need to promote and support measures that encourage the development of small-scale fishing, bearing in mind its important social, economic and professional roles, particularly to the lives of the fishing communities. It exempts subsistence fishing from licensing but stipulates that small-scale fishing may be subject to monitoring, surveillance and access limitations. These are in accordance with local customs or internal rules of functioning and management of fishing communities and their associations.

⁵ Constitution of the Democratic Republic of Timor-Leste (2002), Section 61 (Environment).

⁶ MAF/PEMSEA, National Oceans Policy of the Democratic Republic of Timor-Leste, Dili, May 2017.

⁷ Timor-Leste Strategic Development Plan 2011-2030 (Version submitted to the National Parliament).

⁸ The legal framework is presently in the process of being revised.

A significant provision of the Law concerns possible co-management arrangements: in order to ensure better management of the fishing resources, co-management committees or similar bodies shall be created and their functions, composition, functioning and jurisdiction shall be established by specific regulation. In the context of co-management, it makes particular reference to the customary approach to natural resource management of tara bandu, a traditional decision-making system based on social/kinship relations.

An in-depth assessment of the policy and legal frameworks was carried out in the course of the 2017 scoping mission.⁹ It contained an analysis assessing the political, economic, social, technical, legal and environmental (PESTLE) dimensions of the sector and a summary of pros and cons. At the policy level, pros were listed as:

- The clear dominance of the goals of sustainability of resource utilization, preservation of species diversity and protection of coastal and marine environments, e.g. by banning destructive fishing including trawling
- The *de facto* and *de jure* preservation of Timor-Leste's Northern EEZ for small scale and artisanal fishing as the major positive policy decision for maintaining the contribution of small-scale artisanal fisheries to income and employment, sustainable livelihoods and local economies, and food security and nutrition;
- Political will to join regional and international efforts focused on transboundary/regional management of fisheries;
- Increased consideration of international laws, covenants, agreements and voluntary instruments;
- In this context, the formulation of a NPOA IUU and signing the respective Regional Plan of Action (RPOA-IUU).

Meanwhile, cons were listed as:

- No effective law enforcement.
- Insufficient inter-ministerial coordination.
- Limited capacities for implementation of policies at central and local levels, which will be further challenged by decentralization and deconcentration.
- Lack of continuity of policy implementation induced by assistance projects, e.g. vessels registration and catch monitoring systems.

For the legal framework governing the fisheries sector of Timor-Leste, several pros and cons can be identified. Pros include:

- Provisions for co-management arrangements allowing full participation of communities and other stakeholders in resource management.
- Clearly defined exclusive fishing zones, including the obligation for semi-industrial and industrial vessels to install and operate VMS (vessel monitoring systems) onboard of semi-industrial and industrial vessels, are in place, as well as the mandate for GoDRTL to implement a satellite system for vessel monitoring.

Cons include:

- The Law governing the sector includes inconsistencies and contradictions.

⁹ Ulrich W. Schmidt, Strategy for the development and management of the fisheries of Timor-Leste, Dili, October 2017.

- Legal and regulatory provisions are not enforced.
- Some provisions do not take the reality of the sector into account, e.g. the prohibition of reef fishing.
- The inadequacy, at least for demersal multispecies tropical fisheries, of management instruments such as TACs (total allowable catch) and quota that is proposed.
- The NPOA IUU fishing is not yet implemented.

The present sector planning framework is confronted with two further issues: (i) the GoDRTL decentralization and deconcentration initiative which will place management and development functions with local governments diluting already limited capacities on central level further, and (ii) the past lack of political commitment to and sufficient means for MCS (monitoring, control and surveillance), which resulted in the unchecked loss of national resources following the licensing of foreign vessels (see below).

2.2 Access regimes: allocation and characteristics

Regulations of access to Timor-Leste's marine fishery resources are decidedly different for the Northern and Southern EEZs. Uniquely in the world, small-scale and artisanal fisheries are given *de facto* exclusive access to the fishery resources of all of the Northern EEZ whereas access to the Southern EEZ is regulated by the zoning of fishing grounds, restricting access of semi-industrial and industrial vessels.

Implications of this dichotomy of management regimes identified by observers and resource persons were, for the Northern EEZ, higher levels of environmental threats on mangroves, reefs, seagrass, and of pollution due to higher population pressure. Meanwhile, there was higher overall higher fishing pressure, in particular on reefs. In the Southern EEZ, and beyond the small-scale and artisanal effort, IUU fishing by foreign semi-industrial fleets is assumed. This assumption is supported by the fact that semi-industrial and industrial fishing is regularly observed, although there are no semi-industrial Timorese vessels operating at present and no licenses have been/are being issued to foreign vessels, with the exception discussed below.

Higher resource pressure in the Northern EEZ was confirmed at a recent TWG meeting on the NFS. Participants ranked mangroves as the most threatened critical habitat. Threat levels were considered highest (most threatened) in the North, and lower (threatened) in the South and the Atauro Island (see map). Seagrass beds were considered the second most critical habitat, ranked second most threatened in the North and the Atauro Island, and least threatened in the South. Reefs came third in the ranking of critical habitats, with the reefs of the Northern EEZ and Atauro Island believed most threatened and those of the South least.

Correlating threats to critical habitats with fishing pressure, it is more likely that fishing impacts reefs most. Given the prevalence of passive gear used by small scale and artisanal effort, it is less likely that fishing is effecting seagrass beds (except, maybe, compressor diving). Threats to mangroves are likely to be land-based, linked to deforestation and the collection of firewood. These assumptions are based more on anecdotal evidence than on hard data - there was a clear consensus among the participants that the state of coastal and marine habitats is still poorly known due to lack of data and information. This appears to be the case in particular with respect to fishery resources, where no comprehensive assessments of abundance and diversity are available at present.¹⁰

In spite of uncertainties, stakeholders were overwhelmingly in favour of extending exclusive access by small-scale and artisanal vessels - already in place for the Northern EEZ - also to the marine resources to the Southern EEZ. Reasons given were the absence of conflicts and a notable decrease in destructive

¹⁰ The catch monitoring carried out with assistance by the Government of Spain/FAO Regional Fisheries Livelihoods Programme was discontinued after the termination of the Programme.

fishing practices, such as the use of poison and explosives in the North. They emphasized, however, the long term need for regulating access (including by technical measures as spatial and temporal restrictions) and functioning MCS.

The choice of stakeholders to opt for preferential access of small-scale and artisanal fishing to the Southern EEZ, and the emphasis on the need for functioning MCS, was most probably influenced by a past policy decision they considered detrimental to national interests and to resource sustainability. In 2016, fishing licenses were issued to a foreign (Chinese) semi-industrial fishing fleet, in spite of the fact that the company operating the vessels was found guilty of IUU fishing in neighbouring countries and beyond. When the vessels were found to be fishing selectively (and illegally) for shark, in breach of zoning regulations and prohibition of transshipments in 2017, licenses were suspended, and the vessels were retained. In 2018, however, the vessels were released to leave Timorese jurisdiction, complete with the illegal catch¹¹. Since then, no other licenses were granted to foreign vessels.

Reflecting on these experiences, the NFS has been formulated based on the policy principles cited above, i.e. (i) that all Timorese fisheries resources which can be caught by small-scale and artisanal fishers should be caught by small-scale and artisanal fishers. If the resource cannot be caught by the national fleet, and licensing foreign fleets can lead to national benefit, then foreign fleets might be permitted, provided they are legal and sustainable.

3. MAIN CHALLENGES AND WAY FORWARD

3.1 Challenges for the fishery

Whatever the choice of stakeholders and decision-makers will be, the postulate of sustainability of resource use, as it is manifested in the existing legal and regulatory frameworks that will most certainly also be the cornerstone of the revised Fisheries Law, is in full consideration of FAO's Code of Conduct Art:

*"6.1: States and users of living aquatic resources should conserve aquatic ecosystems. The right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources."*¹²

However, the need for ensuring responsible and sustainable fisheries as the essential precondition for maintaining the contribution of fisheries to livelihoods and local economies must be balanced with the human rights-based policy objectives.

This is expressed in the relevant SDGs and in FAO's Small-Scale Fisheries Guidelines:

*"enhancing the contribution of small-scale fisheries to global food security and nutrition through the promotion of a human rights-based approach, by empowering small-scale fishing communities, including both men and women, to participate in decision-making processes, and to assume responsibilities for sustainable use of fishery resources, and placing emphasis on the needs of developing countries and for the benefit of vulnerable and marginalized groups."*¹³

In the particular context of Timor-Leste's marine fisheries, the policy choices discussed above have different implications:

¹¹ <http://www.abc.net.au/news/2018-06-30/million-dollar-illegal-catch-forgotten/9925890>

¹² FAO Code of Conduct for Responsible Fisheries, Rome 1995.

¹³ FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, Rome 2015.

- Maintaining exclusive access of small scale and artisanal fisheries to the Northern EEZ and, possibly, extending their *de jure* and ensuring their *de facto* exclusive access beyond present zoning, would yield optimal socio-economic benefits in terms of coastal livelihoods and spurring of local economies. At the same time, this policy would foster chances of improving food security and nutrition benefits are given that, in all likelihood, catches would be landed in the supply of domestic markets.
- Compared to this, licensing either domestic or foreign semi-industrial and/or industrial vessels, even under the conditions pointed out in the diagram above, would yield no such positive impacts. As the Timorese market provides few incentives for foreign vessels in particular to land their catches, semi-industrial or industrial fishing will create neither significant impacts in terms of local supplies, food security and nutrition, nor provide income and employment onshore. At the same time, effective and sustained MCS effort would be required, incurring substantial investment and recurrent costs. Thus, while causing probable damage to resource sustainability and aquatic ecosystems, the only benefits from semi-industrial and/or industrial fishing would be state revenue from license fees. As shown from experience with licensing semi-industrial vessels outlined above, such revenues would not be in balance with the economic and ecological costs incurred to the Timorese economy.¹⁴

3.2 Improving fishery sustainability in the future

The NFS embraces these challenges by endorsing preferential access of small-scale and artisanal vessels in all waters under Timorese jurisdiction. The implementation of the NFS envisages, under the respective strategic areas of intervention, strategic actions that include:

- Formulating a national fisheries management plan reconfirming exclusive access of small-scale and artisanal vessels to the Northern EEZ, and extending preferential access of small-scale and artisanal fishing to the Southern EEZ, based on revised zoning.
- Mapping and ranking factors and aspects critical for resource sustainability at present and in the future e.g. anthropogenic threats to critical habitats, institutional challenges, competition for coastal resources, pollution (including by plastic waste) and related to climate change as a starting point of an Ecosystem Approach Fisheries Management (EAFM).
- Planning and carrying out exploratory fishing, vessel and gear trials at representative samples of fishing grounds in both the Northern and the Southern EEZs, to identify potentials for diversifying small-scale and artisanal fishing and increasing sustainable production.
- Developing and implementing local area, species and/or gear specific fisheries management plans, including spatial and temporal restrictions of fishing effort and appropriate technical measures.
- Assessing infrastructure needs e.g. boatyards, engine repair shops, to support diversified and increased production.
- Assessing present value chains from catch to markets and consumers, while identifying and ranking critical paths and structural constraints and identifying scope for improvement.
- Formulating and implementing a plan to build technical and entrepreneurial capacities on appropriate fishing/gear technology, handling and storage of catches on board, navigation and safety at sea.
- Identifying and facilitating efforts and inputs necessary to improve value chains e.g. technical assistance to SMSEs and SMEs and training in basic business and entrepreneurial skills.

¹⁴ The case of the Chinese vessels shows the gross imbalance between benefits to the Timorese economy. The license fees amounted to USD 500 000/year for the entire fleet of 15 vessels while revenues to the company were claimed, by the company, to be in the vicinity of USD 1 million per vessel.

- Assess the technical/financial feasibility of fisheries-specific credit lines and, in case outcomes are positive, design of approach and methodology for access to credit.

Regarding the policy option of licensing either domestic or foreign semi-industrial or industrial vessels, this paper urges the need to base policy decisions on the outcome of the assessment of its socio-, micro- and macroeconomic costs, including costs of building and maintaining effective and efficient MCS enforcement. Only if benefits clearly outweigh all costs should this option be considered.

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