Transparency of Selected Inland and Marine Fisheries Management Systems

in the SADC and East African Region

SOUTHERN AFRICAN DEVELOPMENT COMMUNITY
SADC
TOWARDS A COMMON FUTURE

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Acronyms

ADNAP	National Fisheries Administration (Mozambique)
AIS	Automatic Identification System
ANM	National Assembly of Madagascar
BCC	Benguela Current Commission
BMU	Beach Management Unit
CAS	Catch Assessment Surveys
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CC/EC	Compliance Committee/Extended Commission
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CDS	Catch Documentation Scheme
CMM	Conservation and Management Measures
CNCSP	Centre National de Contrôle et de Surveillance des Pêches (Comoros)
COMESA	Common Market for Eastern and Southern Africa
CPC	Contracting Party and Cooperating Non-Contracting Party
DEFF	Department of Environment, Forestry and Fisheries (South Africa)
DGRH	Direction Générale des Ressources Halieutiques (Comoros)
DRC	Democratic Republic of Congo
DSFA	Deep Sea Fishing Authority (Tanzania)
EEZ	Exclusive Economic Zone
EU	European Union
FAO	Food and Agriculture Organization
FiTI	Fisheries Transparency Initiative
HCCM	High Constitutional Court of Madagascar
ICCAT	International Commission for the Conservation of Atlantic Tunas
IOC	Indian Ocean Commission
IOTC	Indian Ocean Tuna Commission
IUU	Illegal, Unreported and Unregulated (fishing)
KeFS	Kenya Fisheries Service
KMFRI	Kenyan Marine and Fisheries Research Institute
LKFRI	Lake Kariba Fisheries Research Institute
LTA	Lake Tanganyika Authority
LVFO	Lake Victoria Fisheries Organization
MAEP	Ministry of Agriculture, Livestock and Fisheries (Madagascar)
MALF	Ministry of Agriculture, Livestock and Fisheries (Kenya)

MANRLF	Zanzibar Ministry of Agriculture, Natural Resources, Livestock and Fisheries
MBEMRFS	Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (Mauritius)
MCS	Monitoring, Control and Surveillance
MEP	MacAlister Elliott and Partners Limited
MEECC	Ministry of Environment, Energy and Climate Science (Seychelles)
MFMR	Ministry of Fisheries and Marine Resources (Namibia)
MIMAIP	Ministry of the Sea, Inland Waters and Fisheries (Mozambique)
MLFD	Ministry of Livestock and Fisheries Development (Tanzania)
MOFA	Ministry of Fisheries and Agriculture (Seychelles)
MPA	Mauritius Ports Authority
MRAG	Marine Resources Assessment Group
MTE	Ministry of Labour and Employment (Madagascar)
NAMPORT	Namibian Ports Authority
NCU	National Coordination Unit
NPC	National Planning Commission (Namibia)
NGO	Non-governmental Organisation
PS	Purse Seine
PSMA	Port State Measures Agreement
REC	Regional Economic Community
RFB	Regional Fisheries Bodies
RFMO	Regional Fisheries Management Organisation
RMCSCC	Regional Monitoring, Control and Surveillance Coordination Centre
SADC	Southern African Development Community
SAFLII	Southern African Legal Information Institute
SDF	State Department of Fisheries (Kenya)
SEAFO	South East Atlantic Fisheries Organisation
SFA	Seychelles Fishing Authority
SIOFA	Southern Indian Ocean Fisheries Agreement
SWIOFC	Southwest Indian Ocean Fisheries Commission
TPA	Tanzania Ports Authority
UNCLOS	United Nations Convention on the Law of the Sea
USA	United States of America
VMS	Vessel Monitoring System
WIOMSA	Western Indian Ocean Marine Science Association
WWF	World Wide Fund For Nature
ZPWMA	Zimbabwe Parks and Wildlife Management Authority

1. CONTEXT AND SYNOPSIS

This study provides a baseline of the transparency of information deemed to be important for effective governance of inland and marine fisheries and licensing of fishing vessels in 13 countries in Africa: Mozambique, Seychelles, Mauritius, Comoros, Madagascar, Kenya, Tanzania, South Africa, Namibia, Malawi, Zambia, Zimbabwe and Democratic Republic of Congo.

The specific fisheries sectors included within the scope are:

- the inland (lake) fisheries of the Southern African Development Community (SADC) region, including fisheries on five (5) major lakes including Lake Victoria, Lake Tanganika, Lake Malawi (Niassa/ Nyasa), Lake Kariba and Cahora Bassa; and
- the marine industrial fisheries in the territorial seas and exclusive economic zones of the southern and eastern African countries included in the 2013 and 2016 Transparency Gap Analysis studies completed by MacAlister Elliott and Partners Limited (MEP) for World Wildlife Fund (WWF) USA.

The study was requested by WWF Mozambique and the SADC.[1] The SADC Protocol on Fisheries encourages the exchange of information essential for ensuring sustainable utilisation of the aquatic resources and ecosystems in the SADC region and provides for the enhanced participation of internal and external stakeholders in the management of fisheries resources in the region.

To support better information exchange, the Regional Monitoring, Control and Surveillance Coordination Centre (RMCSCC) has been established by SADC (although not operationalised) and seeks to establish a mechanism for ensuring effective exchange of fisheries-related information within the SADC region.

1 https://www.sadc.int/files/8214/7306/3295/SADC_Protocol_on_Fisheries.pdf

This study was intended to support the RMCSCC by establishing a baseline for the exchange of fisheries information between SADC member states, as well as other stakeholders from which to measure progress, and by considering how countries included in a previous MEP study for WWF have progressed in terms of transparency in the interim period.

A modified approach was applied that broadly reflects the requirements of the Fisheries Transparency Initiative (FiTI) Standard, which is increasingly recognised as the most comprehensive transparency standard. The FiTI Standard was modified by MEP for this study. This is because we have included consideration of information sharing between nations or with regional fisheries management organisations (RFMOs), as we argue that this is one step towards transparency even if the information is not made public. This does not diminish the fact that public availability of fisheries data and information remains the ultimate objective, but if there is evidence of information sharing, we argue that this is a positive step.

The study also included a stakeholder identification and mapping component (covered by section 3) to identify which stakeholders have a legitimate role in implementing fisheries transparency, how useful the information held is thought to be, and what influence the stakeholder might have in enabling or blocking transparency efforts.

The study was desk-based and a questionnaire was distributed to strengthen confidence in the results presented herein. Questionnaire returns were low and the level of transparency found, broadly speaking, was also low. There are, therefore, many uncertainties and information gaps. However, the study does provide the baseline required and the provision of the methodologies applied provides researchers with the capacity to repeat or evolve the approach to improve the baseline in future iterations.

2. STAKEHOLDER MAPPING

2.1 OVERVIEW

The objective of the stakeholder mapping task was to identify national and regional stakeholders with a legitimate interest and stake in fisheries transparency in the countries included in the study. This was achieved using a structured approach, detailed below, and relying on information published on the internet. The focus was on the identification of stakeholders pertinent to marine industrial fisheries and lake fisheries. In the case of marine fisheries, although the focus was specifically on industrial fisheries, as per the scope of work, there are inevitable overlaps with at least some small-scale fishing sector stakeholders.

As the mapping was desk-based and a structured approach was applied to reduce subjectivity and increase the transparency of ascribing scores to the metrics used to measure how relevant stakeholders are relative to implementing transparency. The methodology provided here enables repeatability, and the national profiles could be revisited with improved information or knowledge.

2.2 METHODOLOGY

A stakeholder in this instance was defined as an organisation or group with a legitimate claim or stake in fisheries transparency AND one that can affect and/or is affected by fisheries transparency. Stakeholders were identified by searching through lists of attendees at recent fisheries-related national and international workshops and conferences and by searching through tables of acronyms in published reports on national fisheries sectors.

These searches were supplemented by the consultants' knowledge of fisheries management stakeholders in the region, and WWF's review of the national reports. Once stakeholders were identified, a mapping exercise was completed to measure the degree to which managers/decision-makers need to give priority to competing stakeholder claims (known as stakeholder salience (Bammer, 2019; Mitchell et al, 1997).

The mapping exercise applied a methodology, adapted from the management theory of stakeholder salience, to systematically measure the role of each stakeholder in future efforts to implement fisheries transparency, using three metrics – influence, legitimacy and contribution. These metrics are defined in Table 1. Legitimacy was defined for this exercise as a perception or assumption that the actions of the entity are desirable, proper or appropriate within the context of fisheries transparency.

The 3 metrics were each scored from 0 (low) to 3 (high):

i) Influence: the stakeholders' power to influence fisheries transparency

ii) Legitimacy: the legitimacy of the stakeholders' relationship with fisheries transparency;

iii) Contribution: the importance of the information held by the stakeholders with respect to fisheries transparency.

The scoring rationale is defined in Table 1.

Table 1. Definitions and scoring criteria applied to the three metrics used to measure stakeholder salience.

Category	National authority (1) International authority (2) Industry (3) Regional body (4) Non-governmental organisation (NGO) (5) Research (6) Local authority (7)
Stakeholder Type	■ **Regulator** critical source of decision-making, monitoring, control and surveillance (MCS), and repository of data ■ **Co-management** co-management role with potential to provide information and also representative of associated fishers ■ **Data provider** other source of data relevant to transparency criteria not covered under regulator or fishing industry ■ **End user** stakeholder with legitimate interest in transparency data and/or information ■ **Fishing industry** aspects of fishing industry ranging from catching sector through to trade; critical source of information regarding transparency criteria; legal operators in theory benefit from transparency ■ **Control and enforcement** supports regulator with MCS and Compliance and Enforcement capacity, contributes to data ■ **Promoter** body with active interest in transparency and campaigns for transparency
Contribution	Relative to implementing fisheries transparency, does the stakeholder have information, counsel, or expertise that is: essential (3), important (2), useful (1), or none/unknown (0)?
Legitimacy	How legitimate is the stakeholder's claim to engagement in the process of making fisheries information transparent? high (3), medium (2), low (1), none/unknown (0)?
Influence	How much influence does this stakeholder have over the provision of or access to information critical to fisheries transparency? Is this agent's participation critical in implementing fisheries transparency? Could this agent derail or delegitimise efforts to implement fisheries transparency if they are not included? Key stakeholder, critical to include, ■ Could derail efforts (3); ■ Important stakeholder, important to include, could weaken efforts (2); ■ Neutral importance, not critical to include, unlikely to impact efforts (1); ■ None/unknown (0)

2.3 RESULTS

The results discussed below should be read in conjunction with the tabulated results for each country/lake that are included in the data annex: *Stakeholder Mapping results.*

The results can be used by WWF/SADC to prioritise which stakeholders to engage with and to examine which stakeholders may be important but may lack the power to contribute to or influence efforts to implement fisheries transparency. That the results are reliant on a desk study and could usefully be reviewed by national authorities to verify or revise the salience metrics scores.

Stakeholders include regulators represented by national fisheries authorities, regional bodies where transboundary management is relevant, NGOs and research bodies, and the fishing industry which comprises industrial and small-scale operators and post-harvest interests. Additional stakeholders identified include authorities with the capacity to support fisheries management transparency, for example port authorities and maritime safety institutions. Based on the availability of online information, institutions with a role in the management of marine fisheries were generally more prominent than those involved in lake fisheries. Information for lake fisheries is particularly scarce.

In all cases, unsurprisingly, stakeholders with the highest salience (the sum of contribution, legitimacy and influence) are stakeholders with a direct role in fisheries regulation and roles implementing fisheries legislation. This reflects the legal obligations the national authorities have to implement sustainable fisheries and resource use and their capacity to contribute to the availability and quality of information critical to the transparency of sustainable fisheries management. Other national authorities with an important but less critical role in enabling transparency include, for example, port authorities, which have a remit to inspect vessels in port and hence are important actors in implementing measures that are vital to fisheries management transparency, such as the Port State Measures Agreement (PSMA).

Regional bodies, mainly represented by RFMOs, are mid-ranking, with high legitimacy due to the legal obligations that they expect member states to adhere to and the potential to enable data sharing that benefits regional and national transparency. For example, the Indian Ocean Tuna Commission (IOTC) requires that members submit landings data that are then available through IOTC. Influence was scored lower than for national fishing authorities, as it is the fishing authorities that would need to enforce regional body requirements. In other words, national authorities have greater capacity to influence transparency than regional bodies.

Industry, not including the fishers themselves, is also a highly salient stakeholder, reflecting the potential contribution that could be provided in terms of data and information, in terms of legitimacy by having a direct stake in the sustainability of the resource, and in terms of influence by potentially having the capacity to oppose increased transparency. Influence was scored lower than the fisheries authorities, however, as in theory, if authorities implemented measures that require accurate and timely provision of catch data, industry would have to comply. In practice, however, there are numerous examples worldwide of the political lobbying power of industry that have influenced or prevented transparency-enabling measures coming into force.

The views of fishers are considered to be included within the industry and small-scale fishing representative bodies. However, fishers have an equally legitimate claim to transparency. Fishers were not included as a stakeholder group here, as there are a multitude of perspectives, e.g. small-scale versus industrial fisher, vessel owner versus crew, sole fisher versus crew fisher. The critical difference in terms of small-scale fishers is the relative lack of agency, rights and security that individuals have. Co-management bodies are important stakeholders that provide fishers with a voice, particularly in lake fisheries. However, the influence of such agencies was assumed to be middling, as evidence suggests many such bodies are limited in terms of being able to influence policy or regulations.

The processing industry is of lower salience than the catching sector. The catching sector has the most critical information, but the processing industry, if required to submit processing data, could be a useful source of data to cross-reference or verify catching records.

However, experience from the European Union (EU) shows that even if there are requirements for processors to provide data and information, unless this is coherently linked to catch data, catch data and processing data may not align. This means that, without a clear national strategy that links sources of data, different data sources are unlikely to be complementary to transparency needs.

3. INFORMATION SHARING ASSESSMENT

3.1 METHODOLOGY

The transparency baseline was generated by creating an assessment and scoring template that guided the searches for information and data that are publicly available. Once collated, the information was analysed against the four transparency concepts: accessibility, completeness, best available, and whether it is collated for publication. Outreach to relevant stakeholders using a structured questionnaire was undertaken to verify the results of the desk assessment, although engagement by stakeholders was very low. In addition, focused emails were sent to regional party representatives to supplement information gathered on regional information exchange. Again, response rates were very low.
The methodology is detailed in the following sections.

Two information sharing aspects were tested:
1) fisheries information and data shared in the public domain (online) and
2) fisheries information and data shared between parties (between countries and from countries to regional bodies, such as RFMOs).

This second information sharing aspect is supplementary to the Fisheries Transparency Initiative (FiTI), which does not consider sharing between parties to constitute transparency. For this reason, the two aspects (public and non-public) were assessed independently.
A country's level of information exchange with regional parties does not influence the assessment and scoring of public data provision.

3.1.1 Public data sharing

Most of the efforts made to search for evidence involved interrogating formal sources of information, e.g. national authority websites. Recent literature and FAO Country Profiles were reviewed in order to identify key designated fisheries authorities in each country. In some cases, this was the website for the designated government fisheries authority or fisheries research institution. Other national authorities included port and maritime authorities and statistics authorities designated under the relevant ministry or otherwise.

Once sources of evidence had been identified, more detailed searches were completed to identify the presence/absence of data and information relative to the transparency criteria defined (Table 2). It is recognised that the FiTI Standard refers explicitly to marine fisheries (e.g. for access agreements in marine jurisdictional waters) but the same categories have been used for the assessment of lake fisheries for the purposes of this study.

As information and datasets were found, they were added to a spreadsheet inventory (sent as a separate document to WWF). The inventory formed the evidence base from which the assessment was completed and which enabled the development of the scorecard (explained in section 3.1.4).

For each country, information was collated in the spreadsheet as follows:

- **Is the category relevant to the country?**
  The category is only considered irrelevant if it can be established that the lack of information relates to data that cannot be collected. For example, a country may not have a national marine industrial fishery, so the publication of information on this part of the fisheries sector is not relevant. Publication of information relating to the activities of foreign marine industrial fisheries that are known to operate in national waters would still be relevant.

Relevance leads to further assessment of the information found in the scorecard.

A category is still considered to be relevant if the information is not yet collected but could feasibly be collected if resources, political will or legality were not limiting factors. For example, if a country has a national marine industrial fishery, but does not yet have any resources to collect any information on this fishery, then the category is still considered relevant, as information could be made available on this fishery.

When countries sign up to the Fisheries Transparency Initiative, they can still be considered compliant with the FiTI Standard even if information is not published, and it is not mandatory that countries must publish complete data on all of the transparency requirements from the beginning.

In fact, establishing that the country does not have information is an important finding in itself, which contributes to both transparency and debates for improved fisheries management. However, this situation cannot last indefinitely. Where information is not collated, the reasons for this are asked of national authorities and FiTI supports the authorities in improving the situation. The questionnaire designed for this study specifically asked questions relating to factors limiting the provision of information.

- **URL links to official national authority information**
  The fisheries information provided by key nationally designated fisheries authorities (as described above)
- **URL links to non-official information**
  The fisheries information provided by other non-official sources (NGOs, consultancy/research reports, RFMOs, etc).
- **Does the information provided meet international transparency standards?**
  This is a key part of the scorecard (see below) and relates to the quality of the information provided. Commonly, transparency is simply equated to visibility (whether or not certain types of data are in the public domain) but inferability is also important, whereby the information provided should allow someone to draw reliable conclusions from it[2] Information should be accessible and complete.

2 https://fisheriestransparency.org/wp-content/uploads/2020/02/FiTI_tBrief01_EN.pdf

Table 2. Transparency scoring criteria derived from Fisheries Transparency Initiative transparency requirements, applied to assess the state of transparency of the fisheries management systems included in the study.

B.1.1 Public Registry of National Fisheries Laws, Regulations and Official Policy Documents	At a minimum, copies of national laws, decrees and policy documents on fisheries management, trade and investment, as well as fisheries management plans must be included.
B.1.2 Fisheries Tenure Agreements – a summary description of laws relating to the following:	A description of the rights and authorisations applicable by law or decree, including those based on individual or quota systems, for commercial, recreational, scientific or exploratory fisheries, for cultural use, for access to and use of traditional sites, for landing fish, for temporary fish camps, for fish processing, or for other traditional uses.
	The fees, duration, transferability and divisibility of such rights and authorisations.
	The persons that are legally entitled to issue access rights and fishing authorisations, the mandatory administrative procedures required to determine their issue, and the nature of any oversight or public consultation process involved.
	The conditions applied to fishing authorisations, including those relating to fishing effort and ecosystem impact, landings, transhipping and catch reporting.
	The procedures and rules for authorising a nationally flagged vessel to fish in a third country or on the high seas, including the fees paid to the national government for providing this authorisation, reporting requirements and the provisions for terminating such authorisations.
B.1.3 Foreign Fishing Access Agreements	Agreements that allow access of foreign vessels into a country's marine jurisdictional waters.
	Agreements that allow nationally flagged vessels to fish in a third country.
B.1.4 The State of Fisheries Resources	Recent national reports on the state of fish stocks – trends and conclusions on the reasons for change. Studies or reports undertaken by national authorities that assess the sustainability of fishing – methods and data used must be described. Information on efforts to update and expand fish stock assessments must be described.
B.1.5 Large-Scale Fisheries	Up-to-date registry of nationally flagged and foreign flagged vessels authorised to fish in marine jurisdictional waters.
	Up-to-date registry of nationally flagged vessels authorised to fish in third countries' marine jurisdictional waters and on the high seas.
	Complete information on payments made by each authorised vessel.
	Annual recorded retained catch of nationally flagged vessels in all areas of operation.
	Annual recorded retained catch for foreign flagged vessels authorised to fish in marine jurisdictional waters.
	Annual recorded landings in national ports.
	Annual recorded landings in foreign ports by nationally flagged and foreign-flagged vessels.
	Annual recorded transhipments at sea by nationally flagged and foreign-flagged vessels.
	Information on quantities of discards and how information is collected, if available.
	The most recent studies and reports on recorded fishing effort if available.
	Evaluations or audits of the economic, social and food security contribution made by the large-scale fishing sector.

B.1.6 Small-Scale Fisheries	Number of small-scale fishing vessels.
	Number of fishing licences.
	Number of fishers and proportions that are engaged in full-time work, seasonal or part-time work, occasional fishing or recreational fishing.
	Number of payments relating to fishing authorisations, catches and landings.
	Quantity of catches.
	Total volume of discards.
	Evaluations of audits of economic, social and food security contribution made by the small-scale fisheries sector.
B.1.7 Post-Harvest Sector and Fish Trade	Total quantity of fish and fish products produced.
	Total quantity of imports and fish products, indicating their country of origin.
	Total quantity of exports and fish products, indicating their country of destination.
	Total number of people employed in the commercial fisheries sectors – including the number of men and women in specific sub-sectors.
	Total number of people employed in informal fisheries sectors – including the number of men and women in specific sub-sectors.
	IF PROVIDED: reports or studies on wages in the post-harvest sector.
B.1.8 Fisheries Law Enforcement	National activities and strategies used for ensuring compliance of fishing vessels and the post-harvest sector with national legislation.
	The financial and human resources deployed by the government to ensure compliance with national legislation.
	Total number of inspections of fishing vessels at sea and in ports.
	Record of convictions for major offences in the fisheries sector.
B.1.9 Labour Standards	A summary description of national laws on labour standards applicable to national and foreign workers employed in the fishing sector at sea and in the post-harvest fisheries sector.
	The public authorities responsible for monitoring and enforcing laws on labour standards.
	Documents, including policy statements and evaluations, regarding a national strategy, if applicable, or related activities for enforcing the laws on labour standards in the fisheries sector, including total figures on the financial and human resources deployed by the government.
	The role and legal standing of any body that has a governmental mandate to receive labour-related complaints from workers in the fishing sector and in the post-harvest sector.
	Total number of offences committed by employers in the fisheries sector that have been resolved by the authorities.
B.1.10 Fisheries Subsidies	Type, values and recipients of government financial transfers or subsidies to the fisheries sector – average annual value of any fuel subsidies.
B.1.11 Official Development Assistance	Information on public sector projects, funded by bilateral, multilateral and private donors – projects' value, purpose and output, corresponding project evaluations.
B.1.12 Beneficial Ownership	The legal basis for beneficial ownership transparency in the country.
	The country's legal definition of beneficial ownership.
	The availability of a public register of beneficial owners.
	The rules and procedures for incorporating beneficial ownership in filings by companies to corporate regulators, stock exchanges or agencies regulating the access to fisheries.
	The current status and discussions around beneficial ownership transparency in fisheries.

Accessible information

Information is considered accessible if it is freely available, published online by national authorities and easy to find. Information is not accessible if it is only available in hardcopy, or if access to an online source is restricted on condition of payment or justification by the person requesting the information. Furthermore, information is not accessible if it is released in proprietary format. For information to be considered accessible it must also be straightforward for anyone to find it. Some information on fisheries may be contained in publicly available documents but finding these documents may require specialist knowledge. For example, information on a fisheries access agreement might be found in a country assessment prepared by a development agency, and these documents are usually publicly accessible through the agency's website and may also be found through a national authority's website. However, it is unlikely that a member of the public would look for such documents to find out information on fisheries access agreements in their country. If this was the only way a member of the public could locate this information, then the information might be considered difficult to find, even though it might be easy for a specialist to find.

For information to be accessible, it should also be judged whether it is comprehensible. This is ultimately subjective; however, it should be highlighted where information published by authorities is ambiguous, or complex, meaning non-specialist members of the public are unlikely to understand it.

Additionally, the purpose of the FiTI is to ensure national authorities publish information on their fisheries sector. It is not sufficient to meet the transparency requirements of the FiTI if any of the information requested in the FiTI Standard is only published by a third party (for example a consultant or NGO), even if this information is derived from information provided by national authorities. For information to be judged as accessible for the FiTI it must be published on a website of a national authority, such as the fisheries ministry or authority, or published in the FiTI Report as an interim measure.

Finally, if information is also made available through non-online sources, such as conferences, national newspapers, radio broadcasts or TV, under the FiTI this counts as evidence of measures taken by national authorities to disseminate information to the public or specific target audiences.

Complete information

Where information is published by national authorities, information is considered complete if there is no reasonable evidence to suggest that information is missing. For example, a public registry of fishing vessels would not be considered complete if there was evidence that one or more authorised fishing vessels were not included in this registry. Also, information cannot be considered complete if it is missing for the reporting period (e.g. where the FiTI Standard specifies information should be published according to certain timescales, such as annually).

Best available information

Some information might be based on estimates and can therefore be produced through different methods of data gathering. For example, information on stock assessments is based on sampling, extrapolation of data and the identification and control of variables in order to assess historical trends in stocks of fish. Similarly, public authorities often base their information on small-scale fisheries and their catch using different methods of research.

There may be instances where information used by national authorities is clearly misleading. For example, a national authority may rely on its own data regarding the scale of the small-scale fisheries sector, but a more comprehensive and recent study by another organisation demonstrates that this information substantially underestimates the number of small-scale fishers and fish workers or does not include large numbers of part-time or seasonal fishers.

The consultants have attempted to obtain these alternative sources of information, which might include studies by NGOs, the private sector or academic institutions.

3.1.2 Non-public data sharing

The desk review focused on searching for details of regional party data sharing requirements that contracting parties/member countries should adhere to. Official websites of regional parties and relevant literature were reviewed to identify any regulations relating to information sharing. If available, reports of countries' compliance with such regulations were also reviewed. Appendix 2 provides this information in detail. The following list (which is not exhaustive[3]) of relevant regional fisheries bodies (RFBs)/fishery agreements/regional economic communities (RECs)/RFMOs was included in the review, which relates to key regional information exchanges between the 13 countries in the study:

- Benguela Current Commission (BCC)
- Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)
- Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
- Common Market for Eastern and Southern Africa (COMESA)
- Food and Agriculture Organization (FAO Compliance Agreement, Global Record and general)
- FISH-i Africa
- International Commission for the Conservation of Atlantic Tunas (ICCAT)
- Indian Ocean Commission (IOC)
- Indian Ocean Tuna Commission (IOTC)
- Lake Tanganyika Authority (LTA)
- Lake Victoria Fisheries Organization (LVFO)
- Port State Measures Agreement (PSMA)
- Southern African Development Community (SADC)
- South East Atlantic Fisheries Organisation (SEAFO)
- Southern Indian Ocean Fisheries Agreement (SIOFA)
- Southwest Indian Ocean Fisheries Commission (SWIOFC)
- UN Fish Stocks Agreement
- United Nations Convention on the Law of the Sea (UNCLOS)
- Western Indian Ocean Marine Science Association (WIOMSA)

The questionnaire (refereed to on section 3.1.3) was intended to collect current information on information sharing between parties. However, only 4 responses in total were received, so to further verify information found online, focused emails were sent to regional party representatives from the above list. Representatives were asked to fill in a table relating to data sharing requirements, regulations and compliance. Responses were received from IOTC, ICCAT, SIOFA, CCSBT, FISH-i Africa and COMESA.

3 Private fishing companies, NGOs , etc. are not included.

3.1.3 Questionnaire

The questionnaire was designed to supplement information found online, and to ensure the correct websites and information had been located and analysed. Questions related to the types and extent of data sharing in the public domain, between parties and upon request, but also related to the factors that may be preventing the collection or provision of information on the fisheries sector (legal or financial). The questionnaire was uploaded to Google Sheets in French, Portuguese and English so it could be shared and filled in online[4]. A Word version was also distributed as several respondents highlighted that after a few hours of inactivity, the questionnaire timed out and responses were lost. Questionnaires were distributed to identified country representatives, and as requested by WWF, a deadline of 2 weeks was set for responses. This was extended by 1 week given reported online issues and a lack of responses.

Another study on fisheries transparency (requested by SWIOFC), running concurrently with this study, was also scheduled to be finalised by the end of December 2020. During the inception phase, MEP were introduced to the consultant involved who subsequently provided their terms of reference and data collection questionnaires. Similar questions relating to public data sharing were asked to overlapping country contacts (8 of the same countries were covered by both studies) so this was acknowledged when sending out questionnaires to respondents. The consultants also requested the results of the SWIOFC questionnaire responses for comparative purposes; they also requested details of cases where there was no response from any of these countries. The SWIOFC questionnaire only focuses on FiTI, therefore information only relates to what is shared in the public domain.

3.1.4 Analysis

At the inception phase, it was originally planned to develop two scorecards to represent separate assessments of public and non-public data sharing. However, no scorecard was developed for non-public data sharing for the following reasons:

- Over the course of the study there was a general lack of responses to questions on non-public regional data sharing requirements (via questionnaires and focused emails to regional parties). This is likely due to the short timeframe of the study and other commitments preventing timely responses. As a result, there are limited means of verifying the compliance of member states with various data sharing protocols, which would constitute a key part of the scoring.
- There is no international standard for non-public data sharing. Each party (particularly the RFMOs) have their own specific reporting requirements and compliance assessments in place.
- It was often not clear what the national requirements for fisheries data sharing were, as fisheries protocols or policies could not be found online.

Nevertheless, an inventory of relevant regional data sharing requirements, associated policies/agreements/legislation and (where known) the status of compliance of various countries with these policies have been provided, which gives a baseline of information from which SADC and WWF can provide follow-up.

4 https://docs.google.com/forms/d/e/1FAIpQLScW3mDAjni_2stu_AjAF9UEjZnkRDIop1oUtCpQI8uaufr2Bg/viewform

Public data sharing scorecard

The public data sharing scorecard assesses a country's provision of data by national authorities against requirements specified by the FiTI Standard. There are 12 requirements, each with specific pieces of information that should be published. How the information should be presented, and how regularly the information should be updated is also specified in the FiTI Standard. It should be noted that at present, the FiTI does not score countries against its Standard.

The scorecard applied in this assessment is designed to be very simplistic, so that anyone wishing to replicate, interpret or use these results, can do so easily. There are three levels on which the piece of information is scored, and the maximum score obtained per criterion is 5:

- **Available** = is there any evidence (reports, articles, data) to suggest that information is collected on this category? Yes (score = 2), partially (score = 1), no (score = 0).
- **Accessible** = did the consultant manage to access a dataset/document relating to this category on the national authority website? Yes (score= 1) or no (score = 0).
- **Complete** = did the dataset/document meet the requirements specified by the transparency standard? Yes, all criteria were met (score = 2), partially, some criteria were met (score = 1), no, none or most of the criteria were not met (score = 0).

Total scores are calculated as a percentage of the maximum score, representing the proportion of information that has been provided online versus what is required by the FiTI Standard. If a data category is not considered relevant, then the maximum score does not take this into account and the maximum score is lower. Scores are displayed as radar plots as shown in section 4.

4. RESULTS: PUBLIC DATA SHARING ASSESSMENT

According to the transparency criteria applied (noting that these reflect the FiTI Standard, which defines what information should be in the public domain), all countries in this assessment provided less than half of the information required.

The scores for each country are presented graphically, showing marine only or marine and lake fisheries (Figure 1) and countries with only lake fisheries (Figure 2). Percentages represent the total information available for all criteria. For example, in the Seychelles, information is available for about 35% of the criteria. Where categories were not applicable to a country, the percentages discount these criteria. Scores presented in this way are not intended to rank countries against each other but should be used to guide future intervention where it is deemed to be most needed, on a country-by-country basis.

Figure 1: Proportion of fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by country where marine and selected lake fisheries (as per scope of work) are active.

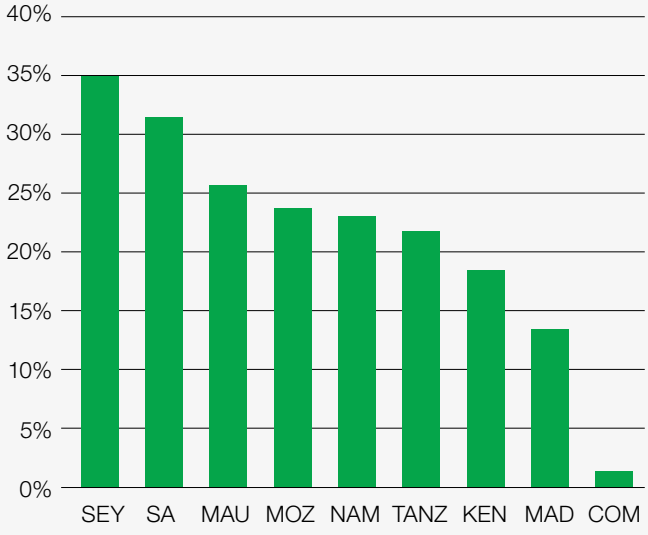


Figure 2: Proportion of fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by country where only selected lake fisheries (as per scope of work) operate.

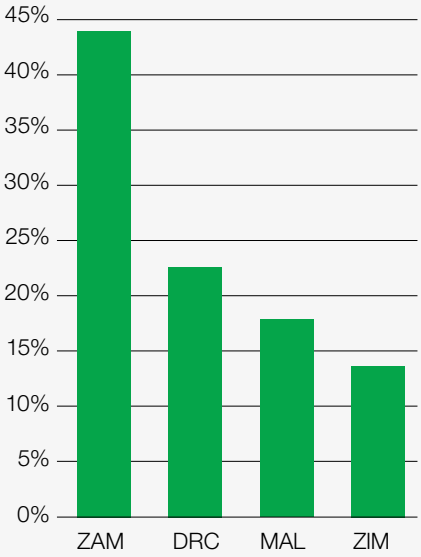


Figure 3: Proportion of fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category.

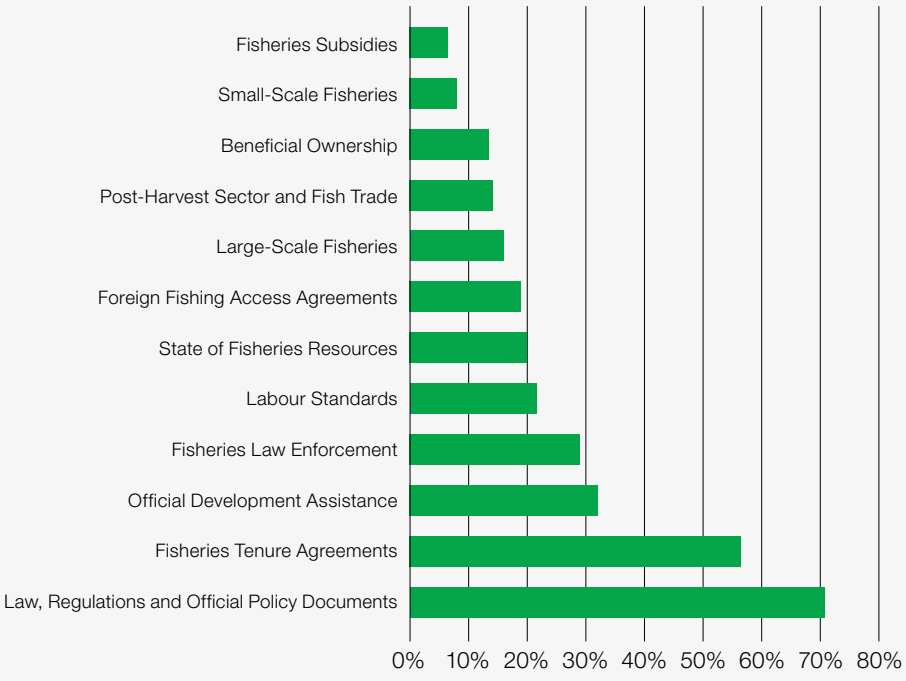


Figure 4. Proportion of fisheries information, by data categories found on national authority websites versus what should be provided according to the FiTI Standard, across all countries. Red cells indicate less than 50 % of required information according to the standard has been provided.

in %	SA	SEY	NAM	MAD	MAU	TANZ	MOZ	KEN	COM	DRC	MAL	ZAM	ZIM
1. Laws, Regulations and Official Policy Documents													
1.1 Fisheries law and policy documents	100	60	100	60	100	100	60	80	0	100	60	40	60
2. Fisheries Tenure Agreements													
2.1. Description of fisheries rights	100	20	100	60	60	80	60	80	0	80	60	60	80
2.2. Fees, duration, divisability of rights	100	20	80	0	60	80	100	40	0	80	60	60	20
2.3 Persons issuing rights and process	100	20	80	60	100	100	80	80	0	100	100	60	60
2.4 Conditions applied to fishing	100	20	80	60	60	80	80	80	0	60	60	60	60
2.5. Rules for authorising national vessels to fish outside exclusive economic zones (EEZ)	60	20	40	0	60	0	60	40	0	60	0	60	0
3. Foreign Fishing Access Agreements													
3.1. Foreign vessels in national waters	20	20		0	60	60	0	40	0	20	60	60	0
3.2. National vessels outside EEZ	20	20		0	0	0	0	0		20	0	60	0
4. State of Fisheries Resources													
4.1 State of national fish stocks	60	60	0	60	0	0	0	40	0	0	0	20	20
5. Large-Acale Fisheries													
5.1 Registry of authorised vessels in EEZ	20	60	0	0	0	0	100	0	0		0		
5.2 Registry of national vessels outside EEZ	20	60		0	0	0	0	0					
5.3. Vessel payments	20	60	0	0	0	0	0	0	0		0		
5.4. Catch of national vessels	60	60	0	0	60	60	0	40			0		
5.5. Catch of foreign vessels in EEZ	60	60		0	0	0	0	0	0				
5.6. Annual landings in national ports	40	60	100	0	0	0	0	0			0		
5.7. Annual landings in foreign ports	0	20		0	0	0	0	0	0				
5.8. Annual transhipments at sea	0	60	20	0	60	60	0	0	0				
5.9. Quantities of discards	0	20	20	0	0	0	0	40	0		0		
5.10. Reports on fishing effort	0	40	0	0	0	0	0	40	0		0		
5.11. Sector socio-economic evaluation	0	20	20	0	60	100	100	40			0		
6. Small-Scale Fisheries													
6.1 No. of vessels used by small-scale fisheries	40	20	0	0	0	0	100	0	0	0	0	0	0
6.2 No. of licences held by small-scale fisheries	40	60	0	0	0	0	100	0	0	0	0	0	0
6.3. Proportion of full-time small-scale fishers	60	40	0	0	0	0	0	0	0	0	0	0	0
6.4. Payments for licences, catches and landings	0	0	0	0	0	0	0	0	0	0	0	0	0
6.5. Quantity of catches	0	40	0	0	0	0	0	0	0	0	0	60	20
6.6. Total volume of discards	0	20	0	0	0	0	0	0	0	0	0	0	0
6.7. Sector socio-economic evaluation	0	40	0	0	0	0	0	0	0	0	0	100	0
7. Post-Harvest Sector and Fish Trade													
7.1. Quantity of fish products produced	100	60	20	0	0	0	80	0	0	0	0	100	0
7.2. Quantity of fish products imported	20	60	0	0	60	0	80	40	0	0	0	60	0
7.3. Quantity of fish products exported	20	60	0	0	60	20	80	40		0	0	60	0
7.4. Number employed (commercial fisheries)	20	0	20	0	0	0	0	0	0	0	0	0	0
7.5. Number employed (informal fisheries)	20	0	0	0	0	0	0	40	0	0	0	0	0
7.6. Wages in the post-harvest sector	0	0	0	0	0	0	0	0	0	0	0	0	0
8. Fisheries Law Enforcement													
8.1. National compliance strategy	20	100	80	60	80	60	0	80	0	80	80	80	40
8.2. Human and financial resources	20	60	20	0	100	60	0	0	0	100	80	80	60
8.3. Inspections of fishing vessels	20	60	0	0	100	0	0	0	0	0	0	0	0
8.4. Recorded convictions	0	0	0	0	0	0	0	0	0	0	0	0	0
9. Labour Standards													
9.1. National laws on fisheries sector labour standards	100	40	20	100	20	100	0	40	20	60	60	60	0
9.2. Responsible labour standard enforcement authority	100	40	20	100	0	0	0	0	0	0	60	80	60
9.3. National strategy for fishery labour standards	60	0	20	0	0	0	0	0	0	0	60	0	20
9.4. Bodies that receive labour-related complaints	0	0	0	100	0	0	0	0	0	60	0	0	20
9.5. Resolved offences committed by fisheries sector employers	0	0	0	0	0	0	0	0	0	0	0	0	0
10. Fisheries Subsidies													
10.1. Details of government fisheries subsidies	0	20		0	60	0	0	0	0	0	0	0	0
11. Official Development Assistance													
11.1. Details on donor projects	20	0	0	0	0	100	80	20	40	40	40	80	0
12. Beneficial Ownership													
12.1. Legal basis for beneficial ownership transparency	0	100	40	0	0	0	0	0	0	0	0	100	0
12.2. Legal definition of beneficial ownership	0	100	100	0	100	0	0	0	0	0	0	100	0
12.3. Public register of beneficial owners	0	20	0	0	0	0	0	0	0	0	0	20	0
12.4. Procudures for incorporating and filing beneficial ownership	0	0	0	0	0	0	0	0	0	0	0	100	0
12.5. National status of beneficial ownership transparency in fisheries	0	0	0	0	0	0	0	0	0	0	0	100	0
Overall scores	**31**	**35**	**23**	**13**	**26**	**22**	**24**	**18**	**1**	**23**	**18**	**44**	**14**

Figure 4 provides greater detail about these scores per category, where all red cells indicate that less than 50% of the information required by the FiTI Standard has been provided. As shown by Figure 3 above, overall, countries share the least amount of inferable information relating to fisheries subsidies, and the most relating to legal fisheries policy documents.

The FiTI Standard encourages consideration of whether the information found is the best available information and is not misleading or inaccurate (see section 3.1.1). There are no specific indicators defined by FiTI to assess this and the guidelines suggest searching for studies by other organisations (such as NGOs), which may indicate how accurate official data sources are. Due to the short timeframe of the study, it has not been possible to fully assess whether all datasets found by this study were the best available. However, for each dataset found, a brief online search for alternative published datasets/studies, for reports of poor coverage (e.g. number of national authorised vessels versus number of national authorised vessels on public register), and for news articles/reports that infer misleading information, was completed. Not surprisingly, in those countries where there is a known mismatch between fisheries administration capacity and the extent of fisheries and landing sites, there is a rationale to treat official data with caution. Seas Around Us, for example, publishes catch reconstructions for a number of countries that provide a better estimate of landings, which broadly indicate that actual landings are greater than officially published statistics.

The following radar plots are intended to highlight specific weaknesses in public data sharing in each country. Detailed results, scores assigned, and links to information sourced are included in the data inventory, sent as a separate attachment to WWF accompanying this report.

Comparisons to previous assessment of fisheries transparency in the region

Where possible, the results of the present study have been compared with an assessment of transparency completed by MEP in 2016 for WWF USA. Both studies provide resulting percentage (%) transparency scores out of a total maximum score. However, scores should not be directly compared, as the 2020 study applies a greater number of transparency criteria than those listed in the FiTI Standard (see Table 3). For example, fisheries subsidies, official development assistance, and beneficial ownership were not included in the 2016 study. Secondly, the focus of the 2020 and 2016 studies are different, for example small-scale fisheries are also included in the 2020 study, but not in the 2016 study.

In both studies, the scoring system considered the online availability of information and an assessment of the quality ofaccessible datasets. Eight of the 13 countries in this study were also assessed in 2016. For these 8 countries (Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa and Tanzania), qualitative comparisons on accessibility and quality of information for industrial marine fisheries have been included in the following scorecards.

Table 3. Comparison of transparency criteria included in 2016 and 2020 studies.

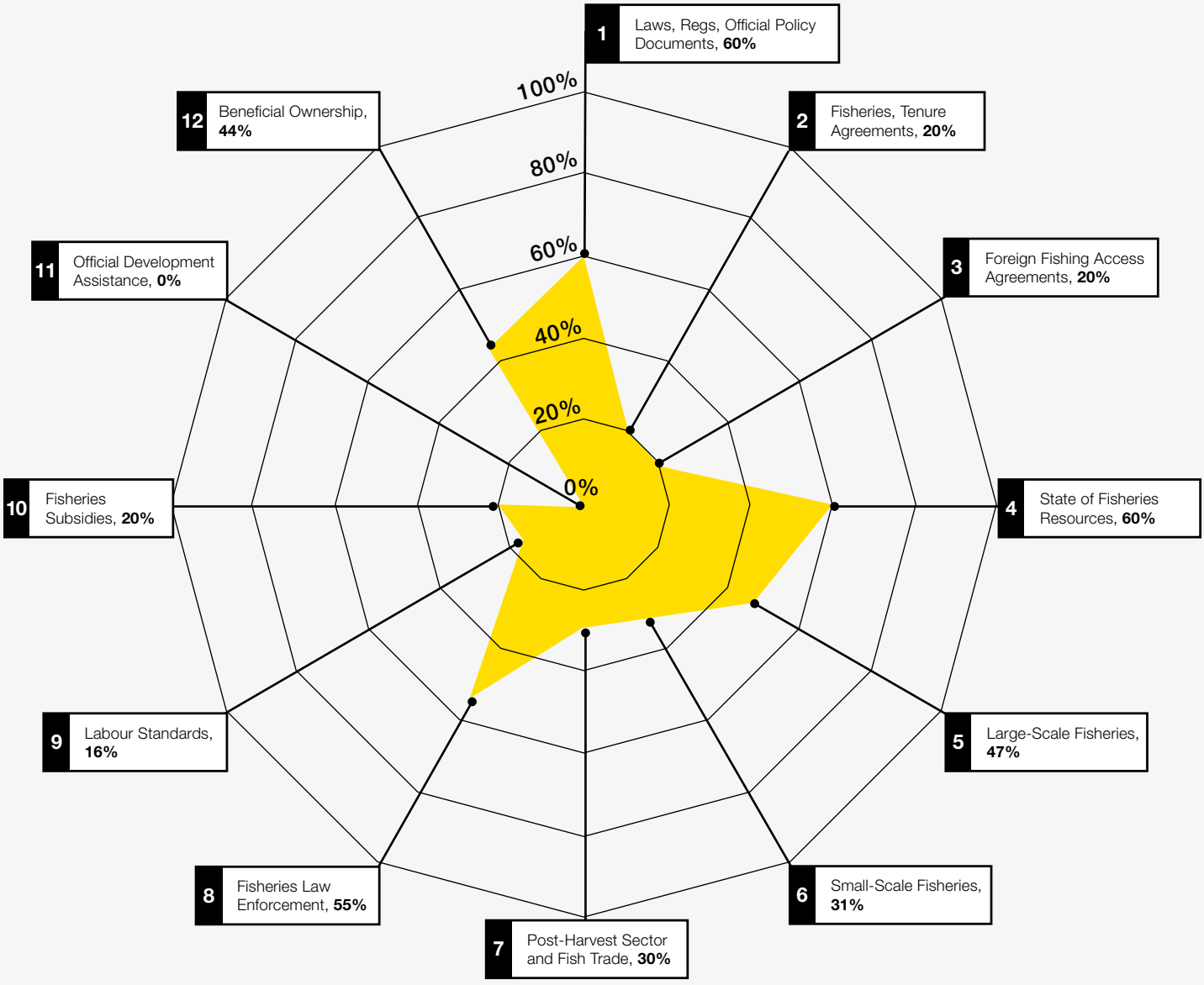
2020 data categories (FiTI)	Comparable 2016 data categories (WWF)
National fisheries laws, regulations and policy documents	None
Fisheries tenure agreements	None
Foreign fishing access agreements	Access agreements
State of fisheries resources	None
Large-scale fisheries (registry, catch, landings, fishing effort)	Registration data; licence data; catch data; landings data; observer programme data; Vessel Monitoring System (VMS) data; Automatic Identification System (AIS) data; port entry data
Small-scale fisheries (no. of vessels, catch, landings)	None – 2016 study was focused on large-scale fisheries
Post-harvest sector and fish trade (imports, exports, workers)	Trade data; revenue data
Fisheries law enforcement (laws, inspections, convictions)	At sea patrol and inspection data; port entry data; port inspection data
Labour standards	None
Fisheries subsidies	None
Official development assistance	None
Beneficial ownership	None

4.1 SEYCHELLES

Seychelles 2020 assessment

Key national authority websites reviewed included the Seychelles Fishing Authority (SFA) and the Ministry of Fisheries and Agriculture (MOFA). The Ministry of Environment, Energy and Climate Science (MEECC) was also reviewed. All 12 categories were relevant for assessment; therefore data are/should be collected on these elements of the marine fishery. The radar plot indicates that information was mostly lacking (20% or less than that required by the FiTI Standard) on Development Assistance, Labour Standards, Fisheries Tenure Agreements, Foreign Fishing Access Agreements and Fisheries Subsidies.

Figure 5: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Seychelles.



During the study, the SFA website was found to be under construction and not accessible, which is likely to be preventing a higher score. Following personal communication with FiTI representatives, the SFA website is currently being reviewed and improved so transparency should no doubt improve in the near future. Obstacles that may be preventing the collection or provision of information on the fisheries sector (legal, technical or financial) should be confirmed by national representatives, but the Seychelles did not respond to the questionnaire, so a review of these results is recommended following this study.

It was not straightforward to source information on the 12 categories, as most information was provided in legal documents, reports or PDF files. Most information found was generally up to date within the last 2 years. A useful resource is the SFA2020 website[5] which provides an online database of past reports on the fisheries sector whilst the main website is undergoing improvements. The Ministry of Fisheries and Agriculture already began to publish more information on its website between November and December 2020, which has been accounted for in this assessment.

Comparison to 2016 study

In 2016, more information was accessible from the national fisheries authority than in 2020 (see Table 4). In 2016, the SFA website was functioning; it could be navigated easily, contained clear sections and drop-down menus and provided of up-to-date vessel lists, licences and an annual report that was only one year out of date. In 2020, the annual report provided on the temporary SFA website was four years out of date. In 2016, technical and financial resources were noted to be limiting data provision but the reasons for the limitation were not known for 2020.

Table 4. Comparison of transparency criteria included in 2016 and 2020 studies - Seychelles.

Comparative data category	2020	2016	Comment on transparency since 2016
Foreign fishing access agreements	SFA temporary website did not provide access agreement information	Details of one access agreement with Mauritius, provided on SFA website, but information was outdated EU access agreements with Seychelles published separately by EU	No significant change
Large-scale fisheries statistics	Aggregated data provided in 2015/2016 annual report but outdated	Updated vessel list provided online on SFA website	Information not as accessible or up to date
Post-harvest sector and fish trade	"	Aggregated data provided in latest annual report	"
Fisheries law enforcement	"	"	"
Other			
Questionnaire response?	No	Yes	
Technical, financial or legal obstacles to transparency?	Unknown – no questionnaire response	Technical: integrated data management system needed for catch data, more training required for at-sea patrol and inspection and implementation of port state measures; in general, more human resources and capacity building needed at SFA Financial: budget limits observer coverage and collection of landings data	

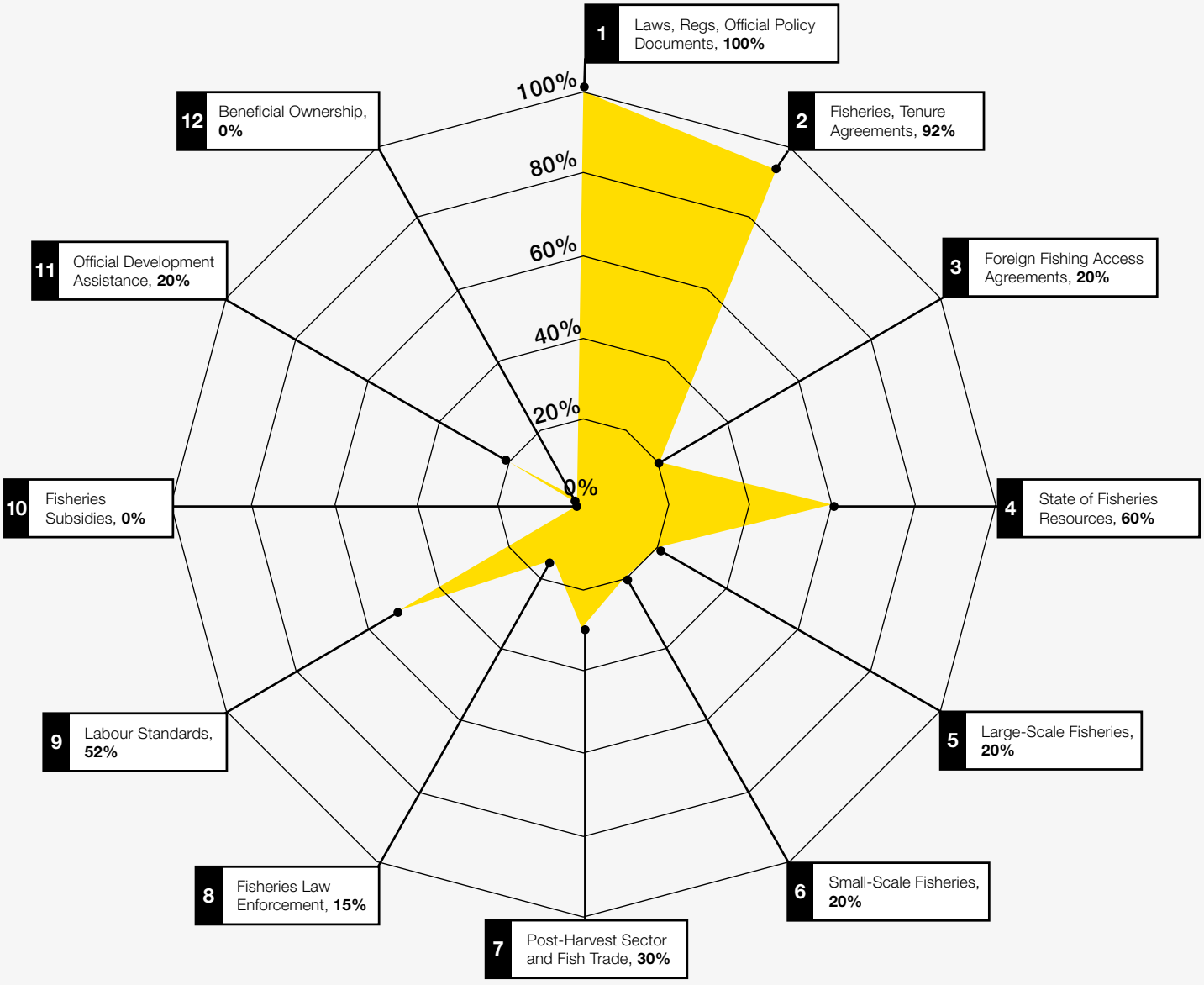
5 https://www.sfa.sc/index.php/e-library/fisheries-report/category/4-annual-reports

4.2 SOUTH AFRICA

South Africa 2020 assessment

Key national authority websites reviewed included the Department of Environment, Forestry and Fisheries (DEFF), the Department of Statistics and the Southern African Legal Information Institute (SAFLII). All 12 categories were relevant for assessment. The radar plot indicates that information was mostly lacking on Fisheries Subsidies, Beneficial Ownership, Fisheries Law Enforcement and the extent and activities of both the Large-Scale and Small-Scale Fisheries Sectors. Most of the information found was embedded within documents and took several focused search attempts. In many cases, the information found lacked sufficient detail to infer conclusions for each category.

Figure 6: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – South Africa.



If information on fisheries enforcement had been available, its reliability could have been in question, as corruption (bribes to inspectors) has been reported at the local level in monitoring and inspection during catching periods (Sundström, 2013; Putt and Anderson, 2007).

Comparison to 2016 study

In 2016, more information was accessible from the national fisheries authority than in 2020 (see Table 5 below) although data provision was still considered to be poor. Annual reports in 2016 were more recent and fishing rights were published. Authority representatives did not respond to the questionnaire in 2020, so current factors limiting data provision are unknown.

In 2016, various obstacles to data provision were reported, most notably that DEFF (previously Department of Agriculture, Forestry and Fisheries, DAFF) was experiencing issues of over-capacity where there was no shortage of trained staff, but there was a lack of efficiency. A review of these results is recommended by DEFF following this study.

Table 5. Comparison of transparency criteria included in 2016 and 2020 studies - South Africa.

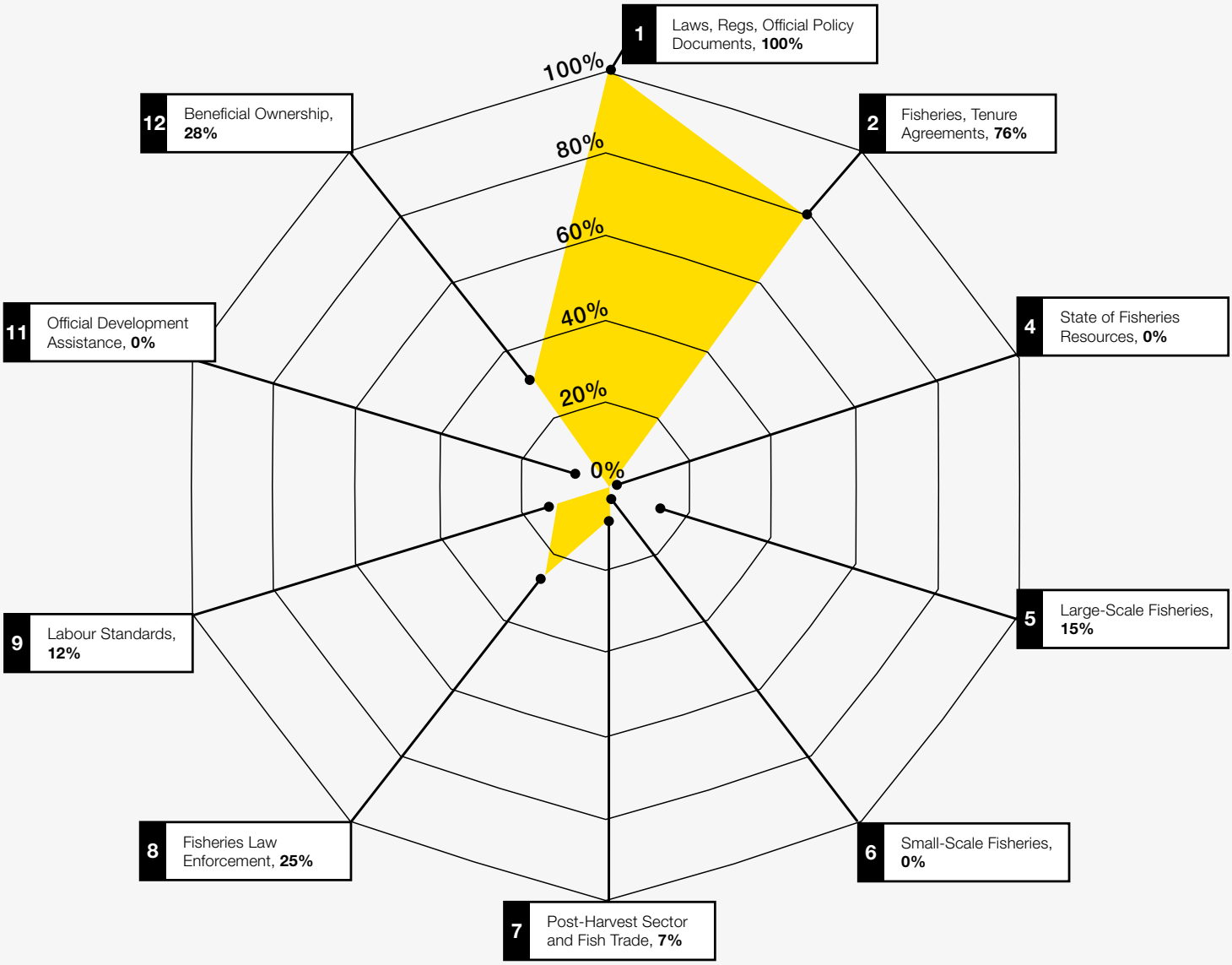
Comparative data category	2020	2016	Comment on transparency since 2016
Foreign fishing access agreements	No information provided	No information provided	No change
Large-scale fisheries statistics	No list of fishing rights found. Aggregated fishery statistics found in reports but 4 years out of date	List of fishing rights provided, and aggregated fishery statistics provided online in reports, up to date within 1 year	Information not as accessible or up to date
Post-harvest sector and fish trade	No data on imports and exports found	Some data found but aggregated within agriculture statistics	Less information available
Fisheries law enforcement	No statistics provided	No statistics provided	No change
Other			
Questionnaire response?	No	Yes	
Technical, financial or legal obstacles to transparency?	Unknown – no questionnaire response	Technical: in most departments there are adequate human resources, yet they lack efficiency; more human resources are required to collect catch data Financial obstacles to regular patrolling, data processing and data collection	

4.3 NAMIBIA

Namibia 2020 assessment

Key national authority websites reviewed included the Ministry of Fisheries and Marine Resources (MFMR), the Namibian Ports Authority (NAMPORT), the Namibia Government Gazette, the NamibiaLegal Database, and the National Planning Commission (NPC).

Figure 7: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Namibia.



Only 10 out of 12 categories were deemed relevant for scoring in the assessment as MFMR in its response to the questionnaire indicated that:

- Namibia's fisheries legislation explicitly prohibits the country's the conclusion of fishing agreements with third parties for access to fisheries resources available in their waters, and no derogations have been granted.
- Namibia did not conclude any fishing agreement for access of its flag vessels to fisheries resources available in foreign countries' waters, and the situation is unlikely to change in the foreseeable future.
- Namibia does not consider subsidising the fishing sector, and the situation is unlikely to change in the foreseeable future.

Transparency category 3 (Foreign Fishing Access Agreements), sub-categories relating to authorised foreign fisheries of category 5 (Large-Scale Fisheries), and category 10 (Fisheries Subsidies) were not assessed. It is relevant to note, however, that there are joint venture operations in place where foreign funding and capacity is present and influential.

The radar plot indicates that detailed information was lacking for most categories although official legal documents, defining fisheries tenure and policy, were nevertheless available with most of the required detail. Most of the information found was embedded within documents and in many cases, the information found lacked sufficient detail to infer conclusions for each category. No evidence was found suggesting that information published by national authorities was misleading/inaccurate.

In its response to the questionnaire, MFMR stated that the current obstacles (or lack thereof, where 'None' was noted) to the publication of online information were as follows:

- Laws, Regulations and Policy Documents: legal obstacles – currently reviewing policy and legislation, online updates will follow
- State of Fisheries Resources: no legal, technical or financial obstacles that would prevent online publication
- Large-Scale Fisheries: no legal, technical or financial obstacles that would prevent online publication
- Small-Scale Fisheries: technical and financial obstacles: reasonably accurate statistics on the sector are not available
- Post-Harvest Sector and Fish Trade: no answer given by MFMR but there are likely to be technical and financial obstacles, given that this sector is known to be reasonably well documented and the coverage of available statistics is not comprehensive to cover all the country, or all indicators required
- Fisheries Law Enforcement: no legal, technical or financial obstacles that would prevent online publication
- Labour Standards: no answer given by MFMR but there are likely to be legal obstacles, as labour standards applying to the different types of operators in the fishing sector are not described in writing in official documents
- Official Development Assistance: no answer given by MFMR but there are likely to be legal obstacles, as it is noted in earlier questions that information on some programme is published online, but it is not comprehensive
- Beneficial Ownership: no answer given by MFMR but there are likely to be legal obstacles, as it is noted in earlier questions and from online research that information on beneficial ownership is not disclosed in Namibia

Due to the lack of small-scale fisheries, the presence of reasonably advanced industrial fisheries and adequate fisheries legislation (e.g. stipulated complete observer coverage), Namibia, in theory, would be well placed to advance transparency objectives. Recently reported issues relating to the transparency of quota access agreements point to the challenges created when there are competing interests, although transparency would enable a level playing field for industrial operators.

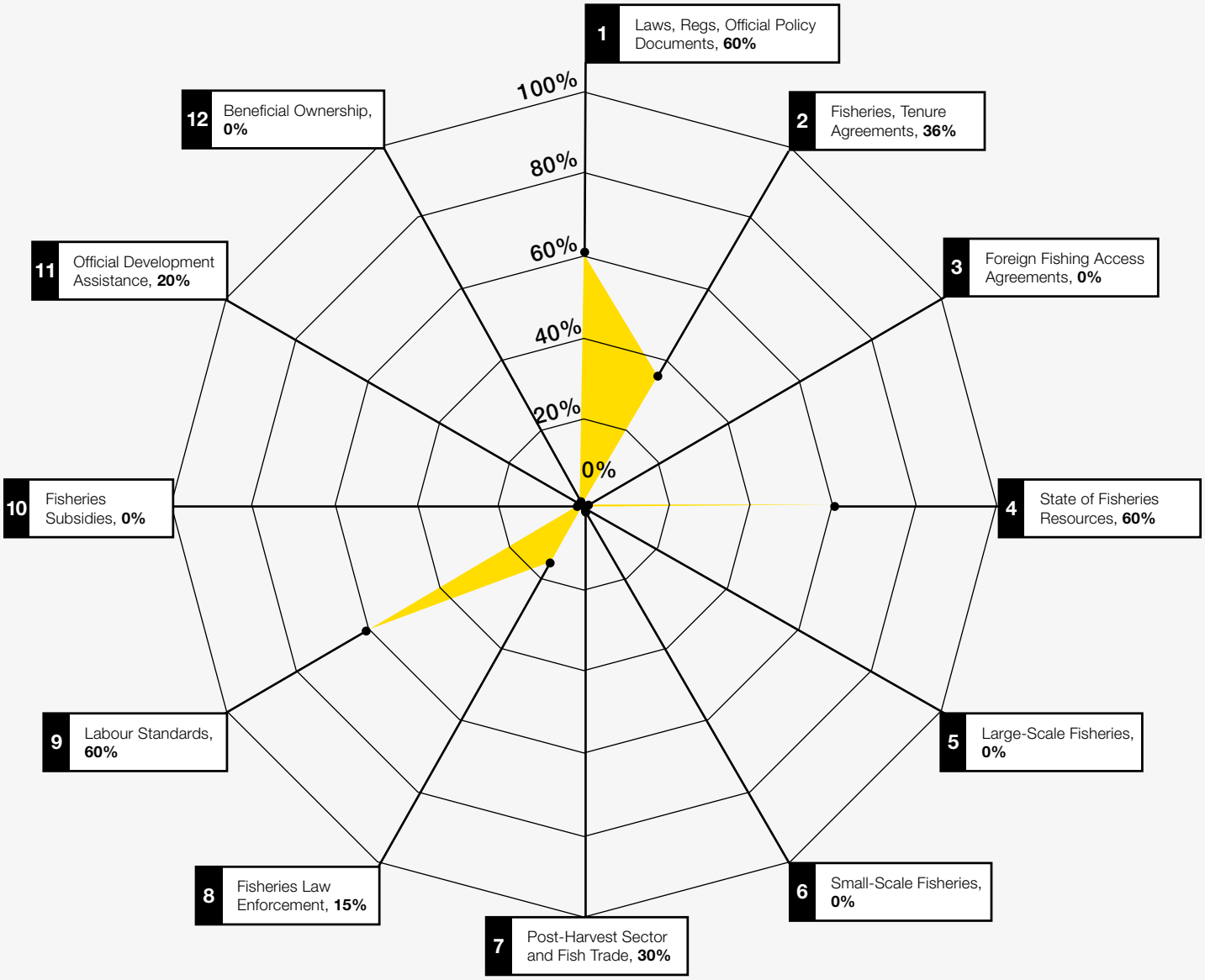
Namibia was not assessed in the final stages of the 2016 study. The country was included in the early phases of the project but due to a continued lack of response from national fishing authority representatives, the analysis was not completed.

4.4 MADAGASCAR

Madagascar 2020 assessment

Key national authority websites reviewed included the Ministry of Agriculture, Livestock and Fisheries (MAEP), the National Assembly of Madagascar (ANM), the High Constitutional Court of Madagascar (HCCM) and the Ministry of Labour and Employment (MTE). What were assumed to be the main fisheries authority websites (peche.gov.mg and cspmadagascar.mg) were not functioning at the time of the study. All 12 categories were deemed relevant for assessment.

Figure 8: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Madagascar.



The radar plot indicates that detailed information was lacking for most categories although some detailed information was provided on the State of Fisheries Resources, Fisheries Law and Policy, and Labour Standards. Most of the information found was embedded within documents and lacked sufficient detail to infer conclusions.

Madagascar did not respond to the questionnaire, so a review of these results is recommended following this study.

Comparison to 2016 study

There has been no change in the accessibility of information on the marine industrial fisheries sector since 2016 (see Table 6) which is considered to be poor. In 2016, according to authority representatives, the Fisheries Surveillance Centre (CSP) used to publish authorised vessel lists but the website no longer worked. Four years later, this had not improved.

Table 6. Comparison of transparency criteria included in 2016 and 2020 studies - Madagascar.

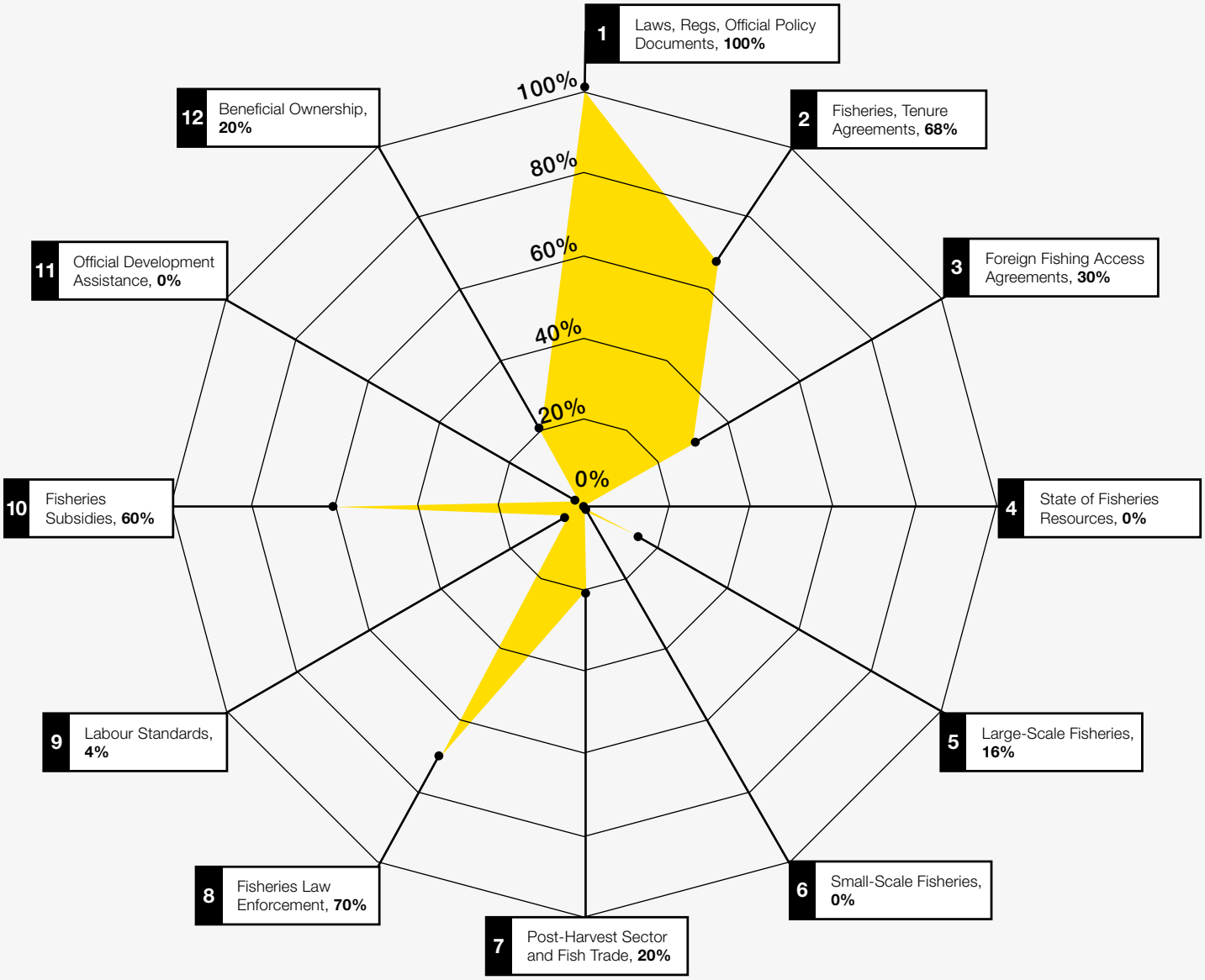
Comparative data category	2020	2016	Comment on transparency since 2016
Foreign fishing access agreements	No information provided	No information provided	No change
Large-scale fisheries statistics	"	"	"
Post-harvest sector and fish trade	"	"	"
Fisheries law enforcement	"	"	"
Other			
Questionnaire response?	No	Yes	
Technical, financial or legal obstacles to transparency?	Unknown – no questionnaire response	Technical and financial obstacles restricting adequate levels of data collection on the fisheries sector	

4.5 MAURITIUS

Mauritius 2020 assessment

Key national authority websites reviewed included the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MBEMRFS) and the Mauritius Ports Authority (MPA). All 12 categories were deemed relevant for assessment. The radar plot indicates that detailed information was lacking for most categories although some detailed information was provided on Fisheries Tenure Agreements, Fisheries Law Enforcement and Fisheries Subsidies.

Figure 9: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Mauritius.



When searching for Labour Standards, there were several broken links on labour.govmu.org. Any report found was generally published within the last two years but lacked sufficient detail to infer conclusions.

Mauritius did not respond to the questionnaire, so a review of these results by MBEMRFS (Albion Fisheries Research Centre) is recommended following this study.

Comparison to 2016 study

There has been no real change in the accessibility of information on the marine industrial fisheries sector since 2016 (see table below) although some aggregated statistics are now provided on fisheries enforcement, which was not the case in 2016. In 2016, national authority representatives reported financial and technical obstacles to efficiency and the provision of data from the fisheries sector, particularly in the Fisheries Protection Service. This was directly observed by MEP on subsequent field trips (for other projects) in later years.

Table 7. Comparison of transparency criteria included in 2016 and 2020 studies - Mauritius.

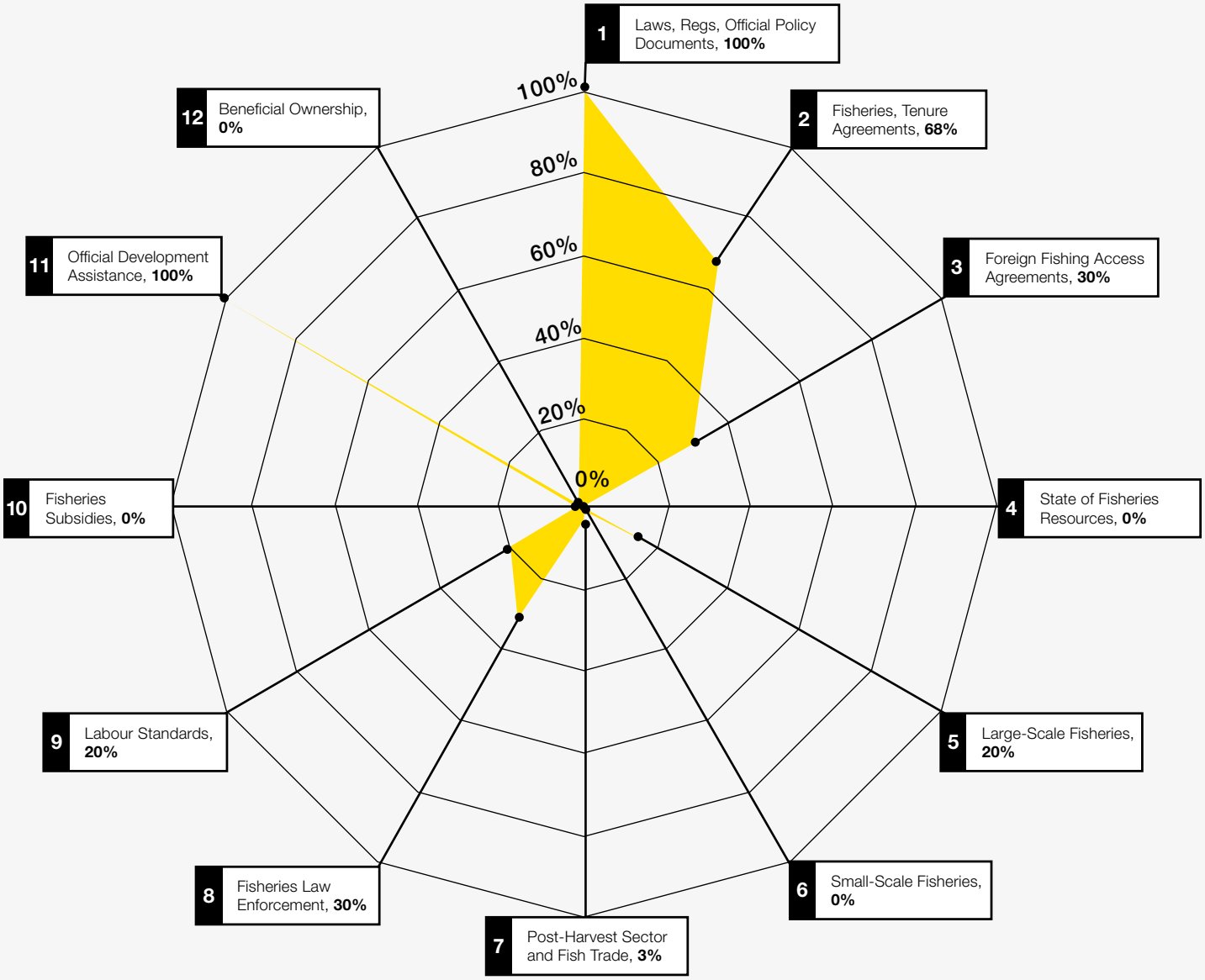
Comparative data category	2020	2016	Comment on transparency since 2016
Foreign fishing access agreements	No information provided	No information provided	No change
Large-scale fisheries statistics	Some aggregated statistics on the fisheries sector provided in the 2018 MBEMRFS annual report; no list of authorised vessels or effort data	Some up-to-date aggregated statistics on the fisheries sector provided by Statistics Mauritius; no list of authorised vessels or effort data	"
Post-harvest sector and fish trade	Some up-to-date aggregated statistics provided on imports and exports by MBEMRFS	Some up-to-date aggregated statistics on the fisheries sector provided by Statistics Mauritius	"
Fisheries law enforcement	"	No information available	More information is now available
Other			
Questionnaire response?	No	Yes	
Technical, financial or legal obstacles to transparency?	Unknown – no questionnaire response	Technical and financial obstacles limiting data collection and processing across all departments	

4.6 TANZANIA

Tanzania 2020 assessment

Key national authority websites reviewed included the Ministry of Livestock and Fisheries Development (MLFD), the Zanzibar Ministry of Agriculture, Natural Resources, Livestock and Fisheries (MANRLF) (now superseded by the new Zanzibar Ministry of Blue Economy and Fisheries, which does not appear to have a website), the Tanzania Ports Authority (TPA), the National Audit Office of Tanzania, CountrySTAT (which publishes some information on fish exports) and the Deep Sea Fishing Authority (DSFA). The Lake Victoria Fisheries Organisation (LVFO) and the Lake Tanganyika Authority (LTA) websites were also reviewed and assessed (although they are

Figure 10: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Tanzania.



regional, rather than national authorities), if it was clear that Tanzania had provided this information for publication. All 12 categories were deemed relevant for assessment, relating to published information on marine small-scale fisheries, marine large-scale fisheries and fisheries on Lake Victoria, Lake Tanganyika and Lake Malawi (Niassa/Nyasa).

The radar plot indicates that detailed information was lacking for most categories although sufficiently detailed information was provided as regards Official Fisheries Laws, Regulation and Policy, and Official Development Assistance; some were provided details on Fisheries Tenure Agreements.

Responses to the questionnaire were received from the Institute of Fisheries Research Zanzibar, the Department of Fisheries Development in Zanzibar and the Fisheries Resources Protection Department in the Lake Victoria Zone. Responses generally indicated that there is data collection for most of the 12 information categories but there are technical obstacles preventing online publication. Specifically, it was stated that "there are no systems in place" to do so. It was also reported that there are legal obstacles preventing detailed online publication of fisheries subsidies and that "internet availability" was preventing online publication of official development assistance information. Another respondent highlighted that information on fisheries-oriented official development assistance is not received at all by the government, yet the study found information on official development assistance projects. For several other information categories, information provided in the questionnaires conflicted with that found online. For example, respondents indicated that up-to-date vessel registries are published by the DSFA, but none could be found on the website.

If information had been provided on fisheries enforcement, its reliability may have been in question, as it has been reported that in regions surrounding Lake Victoria, lax enforcement has been observed for Beach Management Unit (BMU) executives, whereby the bribe for serving as an informant on impending patrols is known as "the protection fee." BMU executives would reportedly ask the offender to pay some agreed amount so that the case was not forwarded to the government fisheries department (Etiegni et al., 2017).

Comparison to 2016 study

There has been no notable change in the accessibility of information on the marine industrial fisheries sector since 2016 (see table below). Information provision from national fisheries authorities in mainland Tanzania and Zanzibar remains poor.

Table 8. Comparison of transparency criteria included in 2016 and 2020 studies - Tanzania.

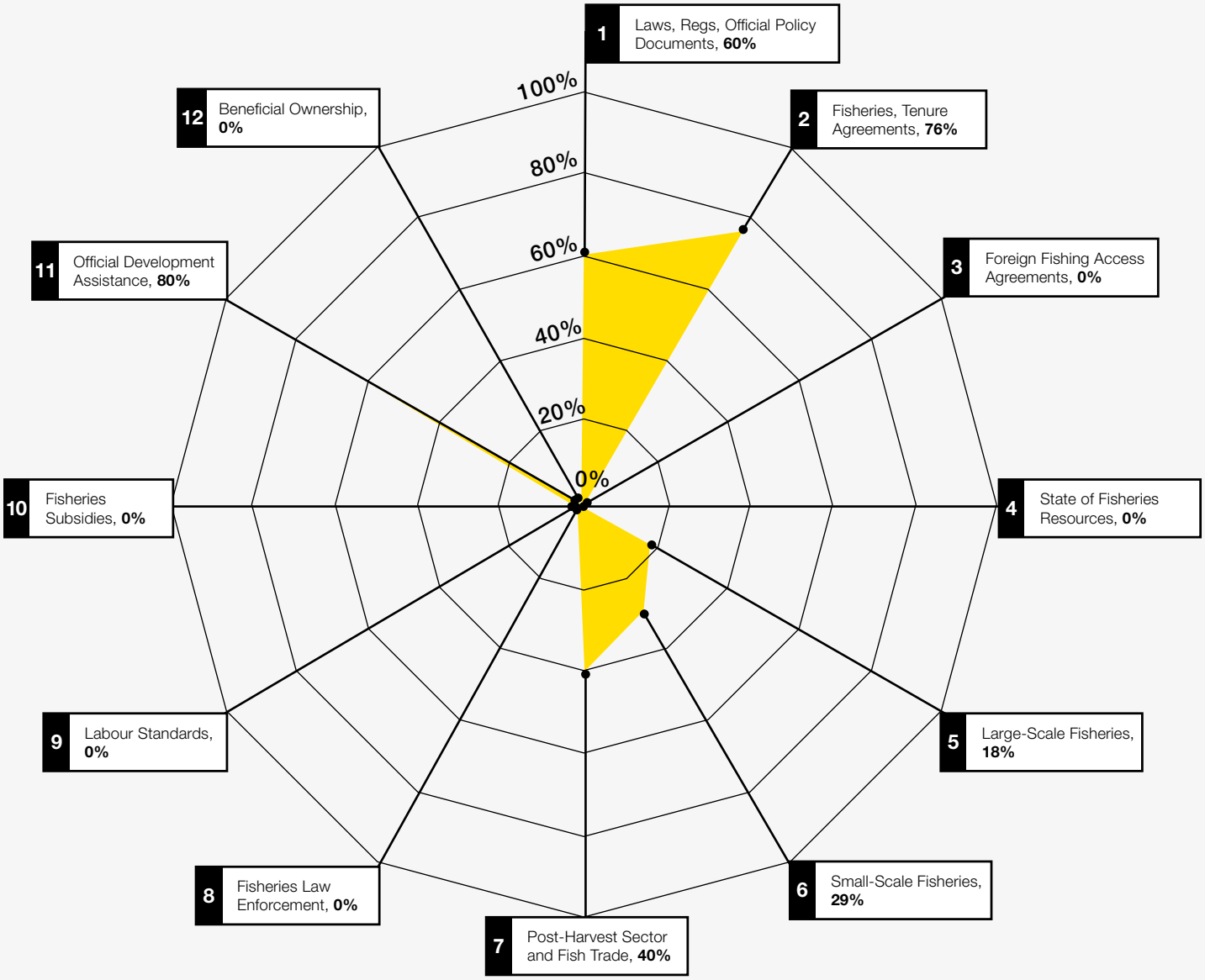
Comparative data category	2020	2016	Comment on transparency since 2016
Foreign fishing access agreements	Some information available but no access agreements published	Some information available but no access agreements published	No change
Large-scale fisheries statistics	Some aggregated statistics on catch and effort published by CountrySTAT but out of date. No authorised vessel lists available.	No statistics on catch and effort available. Authorised vessel lists available.	Slightly more information provided on catch and effort but less information on authorised vessels
Post-harvest sector and fish trade	Some aggregated statistics on export published by CountrySTAT but out of date.	No information available	Slightly more information provided
Fisheries law enforcement	No information provided on patrols or inspection	No information available	No change
Other			
Questionnaire response?	No	Yes	
Technical, financial or legal obstacles to transparency?	Technical: no systems in place to publish information online and internet stability issues. Legal: some obstacles preventing detailed online publication of fisheries subsidies – no more details given	Technical and financial obstacles limiting data collection and processing across all departments	

4.7 MOZAMBIQUE

Mozambique 2020 assessment

Key national authority websites reviewed included the Ministry of the Sea, Inland Waters and Fisheries (MIMAIP) and its National Fisheries Administration (ADNAP) and National Government Portal. MIMAIP publishes most of the information specific to the fisheries sector. ADNAP is easy to navigate, with specific sections for information categories. However, links to most catch datasets do not work. Up-to-date authorised national vessel lists (large-scale fisheries) are available to download when the website is working.

Figure 11: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Mozambique.



All 12 categories were deemed relevant for assessment, relating to published information on marine small-scale fisheries, marine large-scale fisheries and fisheries on Cahora Bassa and Lake Malawi (Niassa/Nyasa).

The radar plot indicates that detailed information was lacking for most categories although information was provided on Official Development Assistance and National Fisheries Law Policy; some details were provided on Fisheries Tenure Agreements. Mozambique did not respond to the questionnaire, so a review of these results by MIMAIP or ADNAP is recommended following this study where current obstacles to public data provision may be clarified.

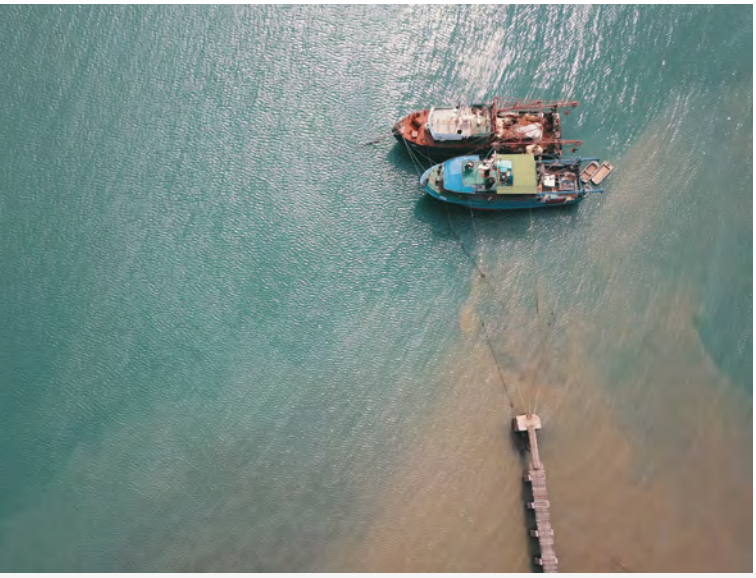
Comparison to 2016 study

In 2016, more information was accessible from ADNAP than in 2020 (see table below). In 2016, ADNAP provided a range of aggregated fisheries catch and effort statistics, licence lists and some information on foreign access agreements, up to date within two years. In 2020, many of the links to this information did not function and reports were three years old. No information on access agreements could be found in this study. In 2016, legal and technical obstacles to public data provision were reported by national authority representatives, including legal obstacles preventing the publication of certain datasets (further details were not provided) and other legal obstacles whereby foreign fleets operating in the EEZ were not required to land catches in national ports.

Technical and financial obstacles (budget, staff numbers and training) were limiting the collection of statistics on industrial marine fisheries.

Table 9. Comparison of transparency criteria included in 2016 and 2020 studies - Mozambique.

Comparative data category	2020	2016	Comment on transparency since 2016
Foreign fishing access agreements	No information provided	Some information provided by ADNAP on access agreements	Less information provided
Large-scale fisheries statistics	Industrial and semi-industrial licence lists available when website works. No other fisheries statistics available	Industrial and semi-industrial licence lists available; some aggregated catch and effort data also available to download	Less information provided
Post-harvest sector and fish trade	MIMAIP Statistical Bulletin provides some aggregated trade statistics but three years out of date	MIMAIP Statistical Bulletin provides some aggregated trade statistics but two years out of date	No significant change
Fisheries law enforcement	No information provided	No information provided	No change
Other			
Questionnaire response?	No	Yes	
Technical, financial or legal obstacles to transparency?	Unknown – no questionnaire response	Technical (limited staff, vessels and training to collect data and provide good coverage of the industrial sector) Financial (inadequate budget to undertake most fisheries monitoring activities) Legal (foreign vessels not required to make port visits or landed catches, some data cannot be published online)	

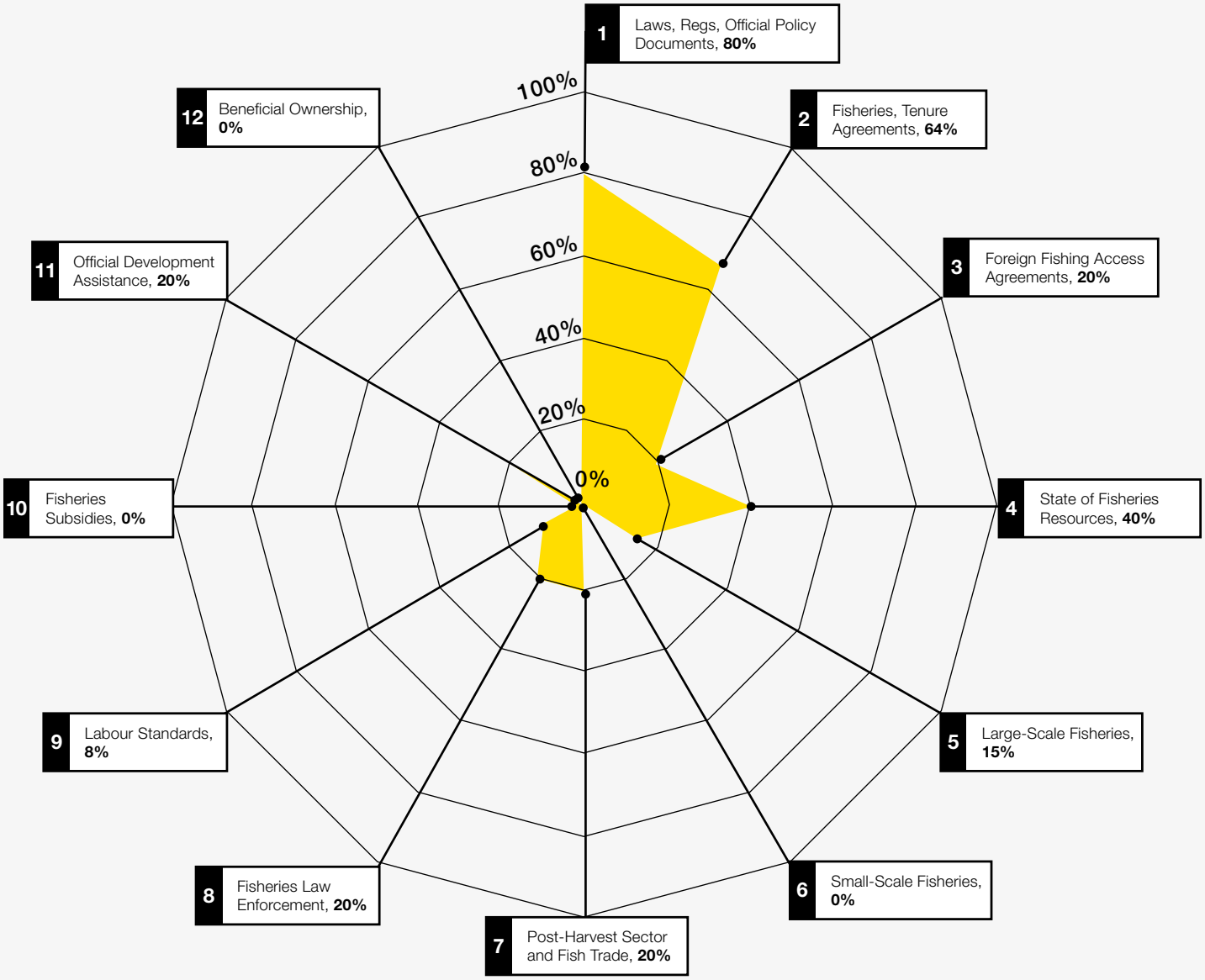


4.8 KENYA

Kenya 2020 assessment

Key national authority websites reviewed included the Kenyan Marine and Fisheries Research Institute (KMFRI), the Ministry of Agriculture, Livestock and Fisheries (MALF), the State Department of Fisheries/Kenya Fisheries Service (SDF/KeFS), the Kenya Government Gazette, Kenya Law, and InfoTrade Kenya. The Lake Victoria Fisheries Organization (LVFO) was also reviewed and assessed (although it is a regional, rather than a national authority), if it was clear that Kenya had provided this information for publication. All 12 categories were deemed relevant for assessment, relating to published information on marine small-scale fisheries, marine large-scale fisheries and fisheries on Lake Victoria. The radar plot indicates that

Figure 12: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Kenya.



detailed information was lacking for most categories although some detail was provided regarding Official Fisheries Laws, Regulation and Policy, and Fisheries Tenure Agreements. Links to data or information regularly did not work on official websites and much of the information was found after lengthy searches through reports. Information/ reports published by the KMFRI was up to date. In response to the questionnaire received from the Kenya Fisheries Service, information was provided on current obstacles to the publication of online information:

- Laws, Regulations and Policy Documents: technical obstacles such as "institutional inertia" restricting upload of all the necessary documents, and financial obstacles such as a lack of funds available to upgrade the website to accommodate changing circumstances
- Fisheries Tenure Agreements: legal obstacles including "access modalities in the legal instruments, while others may be considered legally confidential until after a certain duration of time", and financial obstacles e.g. no funds to develop robust and secure web platforms
- Foreign Fishing Access Agreements: legal obstacles, including confidentiality clauses but data shared with third parties such as IOTC in some cases
- State of Fisheries Resources: financial obstacles as scientific data collection, research and surveys are costly ventures, including data analysis, archiving, retrieval and dissemination
- Large-Scale Vessel Registry: legal obstacles relating to confidentiality in authorised vessel lists; technical and financial obstacles, including lack of adequate capacity and funding to develop and maintain a dedicated and secure online platform
- Large-Scale Vessel Catch Data: no legal obstacles to the publication of information such as the type of catch/effort data except those that are specific to persons or companies; technical obstacles, including a lack of capacity and skills to collect and analyse the data; and financial obstacles, including a lack of funds to run data collection programmes and develop an appropriate database
- Small-Scale Fisheries: Legal and technical obstacles, including a lack of data collection on the fisher; and financial obstacles including a lack of funding to collect, analyse and share the information
- Post-Harvest and Fish Trade: legal obstacles whereby some of the data and information may be legally for a specific time period; and financial obstacles whereby lack of funds hinders the development of a secure website
- Fisheries Law Enforcement: as for above category
- Labour Standards: technical obstacles, including the fact that the standards have not yet been established for different operators in the fishing sector; and financial obstacles, including a lack of funds to develop a reliable website
- Fisheries Subsidies: technical obstacle, as Kenya currently does not have a subsidies policy
- Official Development Assistance: financial obstacles limiting the funding needed to set up websites

Comparison to 2016 study

There has been no notable change in the accessibility of information on the marine industrial fisheries sector since 2016 (see Table 10). Information provision from national fisheries authorities in Kenya remains poor. It was reported in 2016 by national authority representatives that there was no legal basis for compliance and, subsequently, limited data were collected on foreign vessels; the current situation has remains the same.

Table 10. Comparison of transparency criteria included in 2016 and 2020 studies - Kenya.

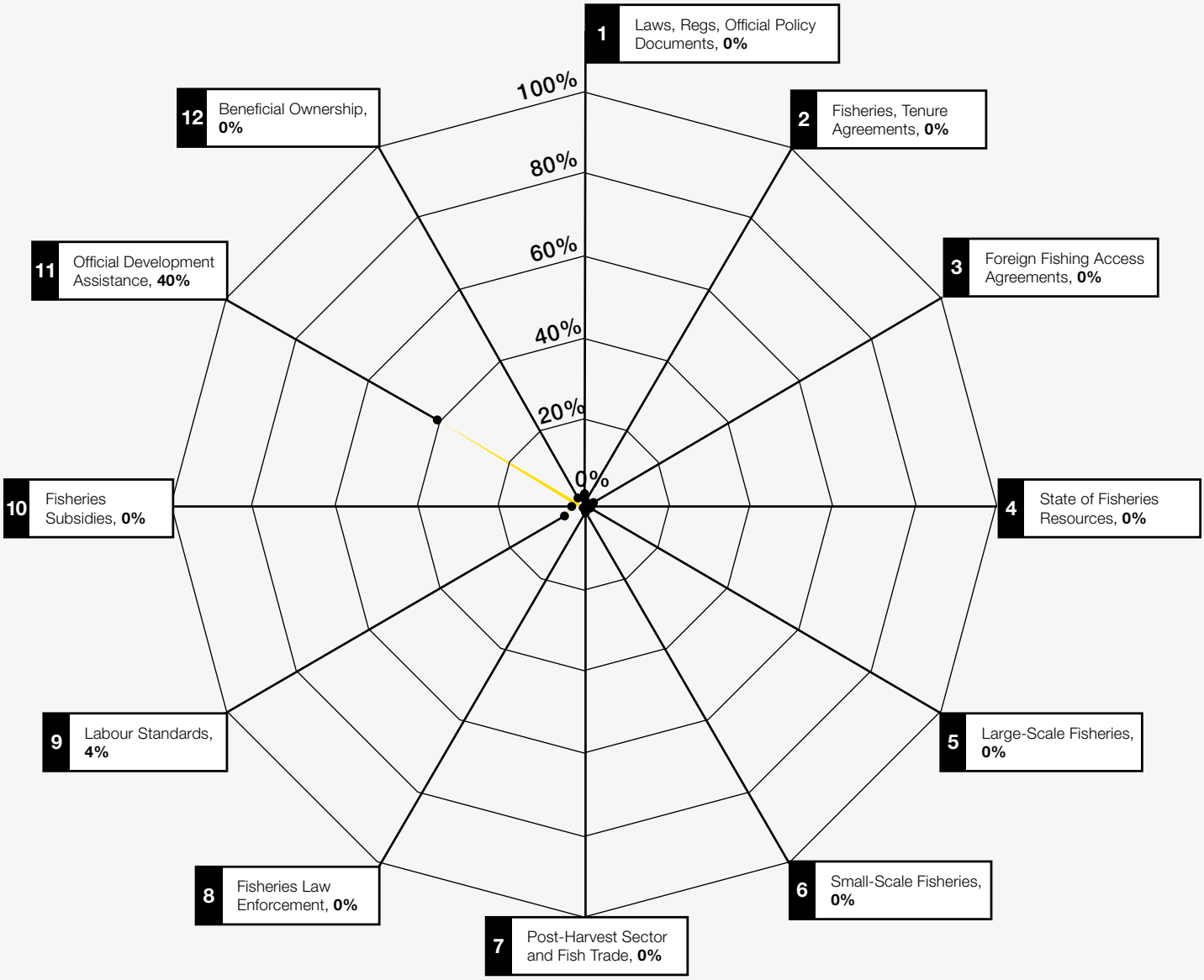
Comparative data category	2020	2016	Comment on transparency since 2016
Foreign fishing access agreements	No access agreements found	No access agreements found	No change
Large-scale fisheries statistics	Some aggregated fisheries statistics provided by KMFRI up to date within 1 year; no authorised vessel lists found	Limited information found on national authority websites. No authorised vessel lists found	No significant change
Post-harvest sector and fish trade	Some aggregated fisheries statistics provided by KMFRI up to date within 1 year but not in the detail required to infer any conclusions	No information found	More information available
Fisheries law enforcement	No information found	No information found	No change
Other			
Questionnaire response?	Yes	Yes	
Technical, financial or legal obstacles to transparency?	Detailed above	Adequate technical and financial resources reported but legal obstacles to data collection and data provision	

4.9 COMOROS

Comoros 2020 assessment

The only national authority website reviewed was the Comoros Maritime Authority but minimal information relating to fisheries management or operations was available. No official fisheries authority websites could be found for assessment (Direction Générale des Ressources Halieutiques (DGRH) or Centre National de Contrôle et de Surveillance des Pêches (CNCSP)) and the only information found on the fisheries sector was published by international authorities such as FAO or IOTC. Overall, all 12 categories were considered relevant for assessment (so are all shown on the radar plot), but some sub-categories (namely those relating to

Figure 13: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Comoros.



large-scale national fisheries and international fisheries trade) were not included in the scoring. There are no national industrial fleets, foreign vessels do not land their catches in the Comoros (no facilities and not a port state), and the country currently has no domestic processing and no exports, given that domestic fishing is almost entirely artisanal. Research systems are particularly weak in Comoros and the lack of data in Comoros does not enable a satisfactory assessment of the status of marine stocks, with the notable exception of the more important large pelagic species that fall under the mandate of the Indian Ocean Tuna Commission (IOTC).

The radar plot indicates a significant lack of information published by national authorities on relevant parts of the fisheries sector. Technical, legal and financial obstacles all appear to be restricting public data provision from Comoros. Foreign large-scale fishing activity in the Comoros EEZ appears to remain unmonitored by the nation state: no fish caught by these vessels is landed due to a lack of infrastructure; no observers from Comoros board European vessels (which is contrary to normal European Union procedures and the agreement with Comoros); and reportedly there are no fishing agreements between Comoros and the Asiatic tuna fleet, which is mainly composed of long liners. Various Asiatic vessels flying Japanese, Korean and Taiwanese flags operate in Mozambique, Madagascar and the Seychelles waters and therefore it can be assumed that the risk of illegal fishing in the Comoros EEZ is high (FAO, 2014).

Comparison to 2016 study

The 2016 study came to similar conclusions. Comoros did not respond to the questionnaire, so a review of these results by national authorities is recommended following this study.

Table 11. Comparison of transparency criteria included in 2016 and 2020 studies - Comoros.

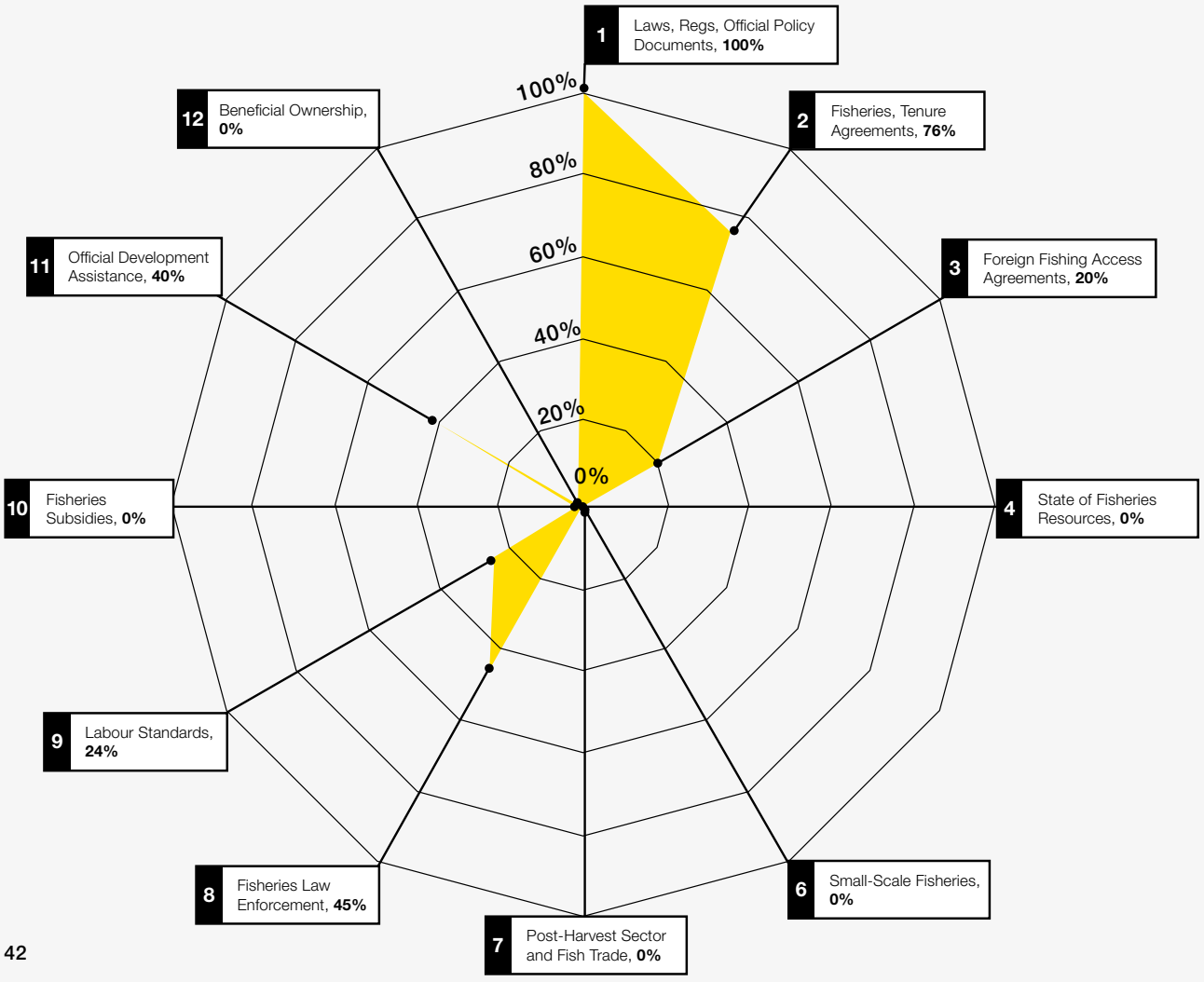
Comparative data category	2020	2016	Comment on transparency since 2016
Foreign fishing access agreements	No information available	No information available	No change
Large-scale fisheries statistics	"	"	"
Post-harvest sector and fish trade	"	"	"
Fisheries law enforcement	"	"	"
Other			
Questionnaire response?	No	Yes	
Technical, financial or legal obstacles to transparency?	All obstacles relevant – detailed above		

4.10 DEMOCRATIC REPUBLIC OF CONGO

This assessment solely relates to the provision of data by national authorities on national fisheries on lake Tanganyika (54% of fishers on the Lake are Congolese, FAO, 2012). The Lake Tanganyika Authority (LTA) was also reviewed as it provides overarching management structure lake system, including technical fisheries controls and monitoring via National Coordination Units (NCUs). Key national authority websites reviewed included the Ministry of Agriculture, Fisheries and Livestock (which at the time of the study was not accessible: "update in progress"), and the Ministry of Economy, Industry and Public Portfolio, which published some information on fisheries, although many links were broken. Eleven categories were relevant for assessment as no evidence of large-scale Congolese fisheries could be found. The radar plot indicates that detailed information was lacking for most categories although some basic information was provided in National Fisheries Policy Documents, relating to Fisheries Tenure and Fisheries Enforcement (mainly by the LTA). Legal, technical and financial obstacles are likely to be restricting data collection and provision by DRC. According to FAO, in 1985, a draft law providing a general legal framework for both marine and inland fisheries was devised with the assistance of FAO (GCP/INT/400/NOR). It is a comprehensive piece of legislation composed of 70 articles primarily directed at regulating inland fisheries. Insofar as is known this law is still in a draft form and has not yet been submitted to parliament due to ongoing political turmoil. Fisheries administration at all levels has for some years been moribund due to civil strife and national economic collapse (FAO, 2001).
See: www.fao.org/fi/oldsite/FCP/en/COD/BODY.HTM

DRC did not respond to the questionnaire, so a review of these results by national fisheries authorities is recommended following this study. DRC was not included in the 2016 study, which focused on marine large-scale fisheries only.

Figure 14: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – DRC.



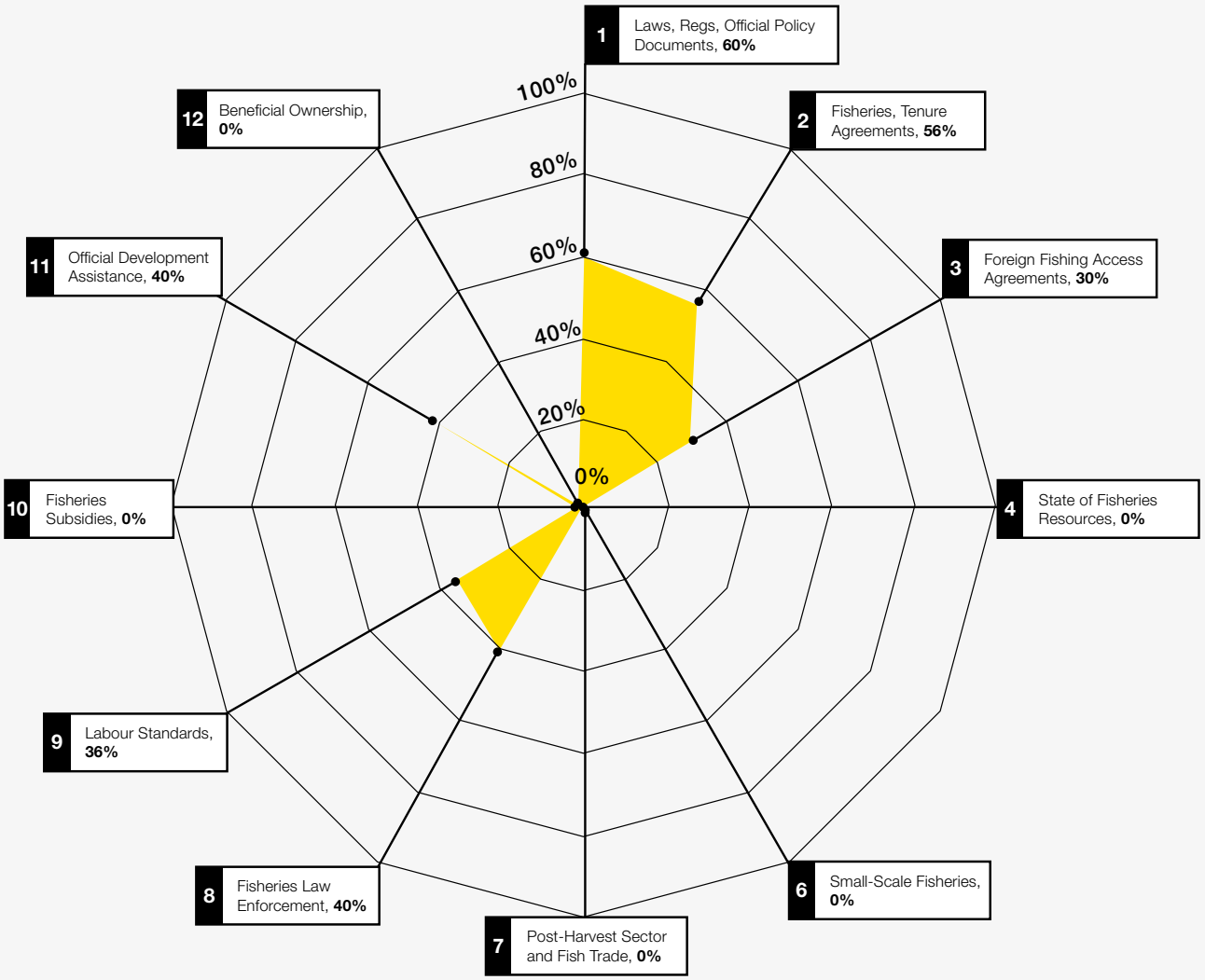
4.11 MALAWI

This assessment solely relates to the provision of data by national authorities on national fisheries on Lake Malawi (Niassa/Nyasa). Key national authority websites reviewed included the Malawi Legal Information Institute, the Malawi Investment and Trade Centre and the Ministry of Agriculture, Irrigation and Water Development. No regional fisheries management body for the lake was found.

Maldeco is the largest commercial fishing and processing company in Malawi and thus the largest single supplier of fish in Malawi. Fishing is done using three stern trawlers. No detailed information could be found on this national operation and an official website (except for a Facebook page) could not be found. Overall, all 12 categories were considered relevant for assessment, but some subcategories (namely those relating to Large-Scale Foreign Fisheries) were not included in the scoring. The radar plot indicates that detailed information was lacking for most categories although some detail was provided in National Fisheries Policy Documents relating to Fisheries Tenure and Fisheries Enforcement (provided by the Malawi Legal Information Institute). Based on reports, legal, technical and financial obstacles are likely to be restricting data collection and provision by Malawi, but there is no recent information on this. As reported by Bootsma (2006), in some parts of Malawi, the Fisheries Department is unable to collect sufficient data to allow estimates of maximum sustainable yield, or to develop management strategies. However, in the southern part of the lake, moderately good data on catch statistics are collected through trawl surveys and beach monitoring programme but it could not be found in this study. It is also reported that the government does not have the necessary financial resources to enforce fisheries regulation, contributing to a lack of information on Fisheries Enforcement. As a response to the questionnaire was not received from Malawi, the above analysis would have to be verified by the national fisheries authority.

Malawi was not included in the 2016 study, which focused on marine large-scale fisheries only.

Figure 15: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Malawi.

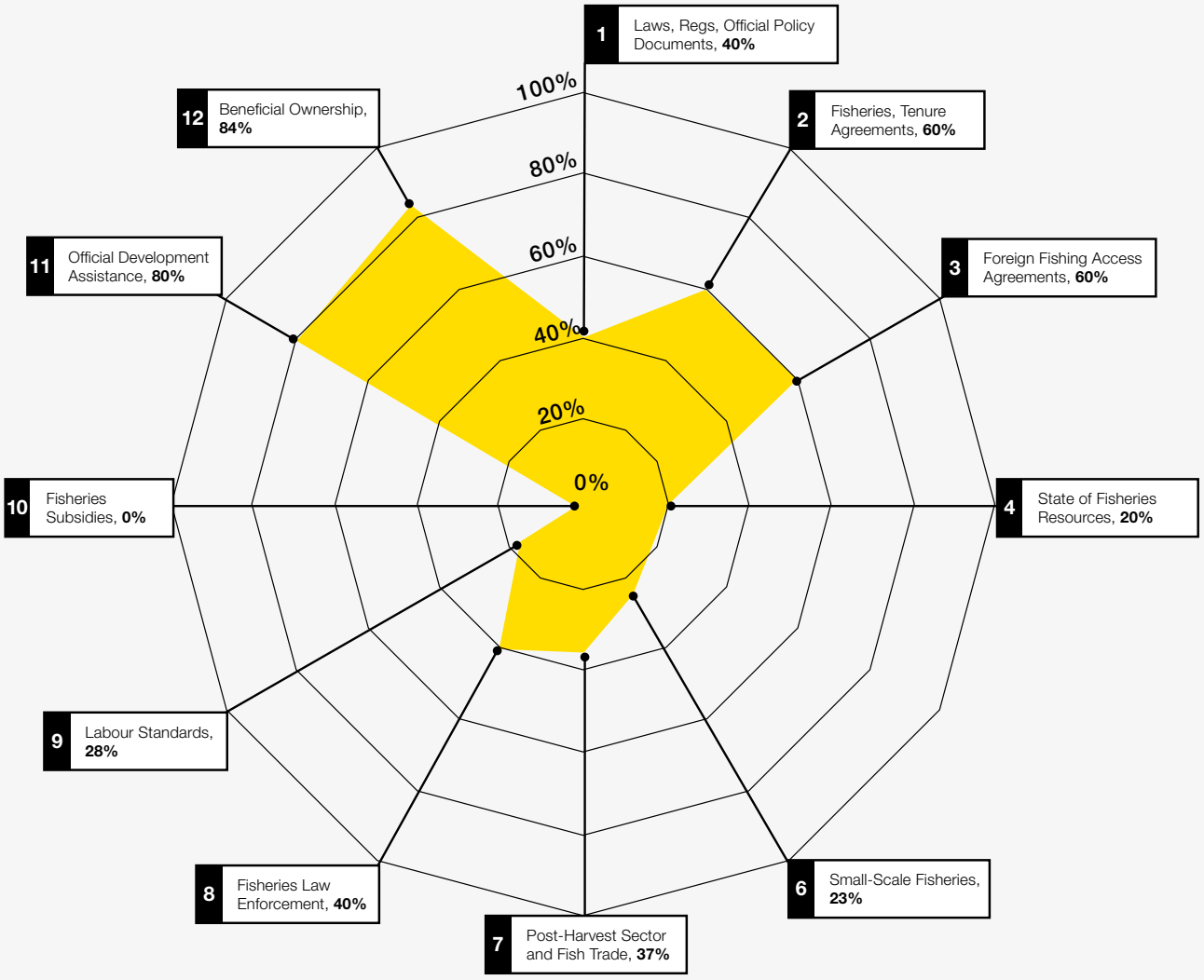


4.12 ZAMBIA

This assessment relates to the provision of data by national authorities on national fisheries on Lake Kariba and Lake Tanganyika (9% of fishers on the lake are Zambian, FAO, 2012). The Lake Tanganyika Authority (LTA) was also reviewed as it provides overarching management structure lake system, including technical fisheries controls and monitoring via National Coordination Units (NCUs). Key national authority websites reviewed included the National Assembly of Zambia and the Ministry of Fisheries and Livestock in Zambia. Eleven categories were relevant for assessment as no evidence of large-scale Zambian fisheries could be found.

The radar plot indicates that some information was provided for most categories although it lacked sufficient detail. Reports published by the Ministry of Fisheries and Livestock were up to date but sufficient detail on the fisheries sector was lacking. Obstacles preventing public data provision on fisheries (reported by the Fisheries Department in the questionnaire) were deemed to be technical (limited equipment to collate and analyse data) and financial (inadequate budget allocation for various activities). Zambia was not included in the 2016 study, which focused on marine large-scale fisheries only.

Figure 16: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Zambia.

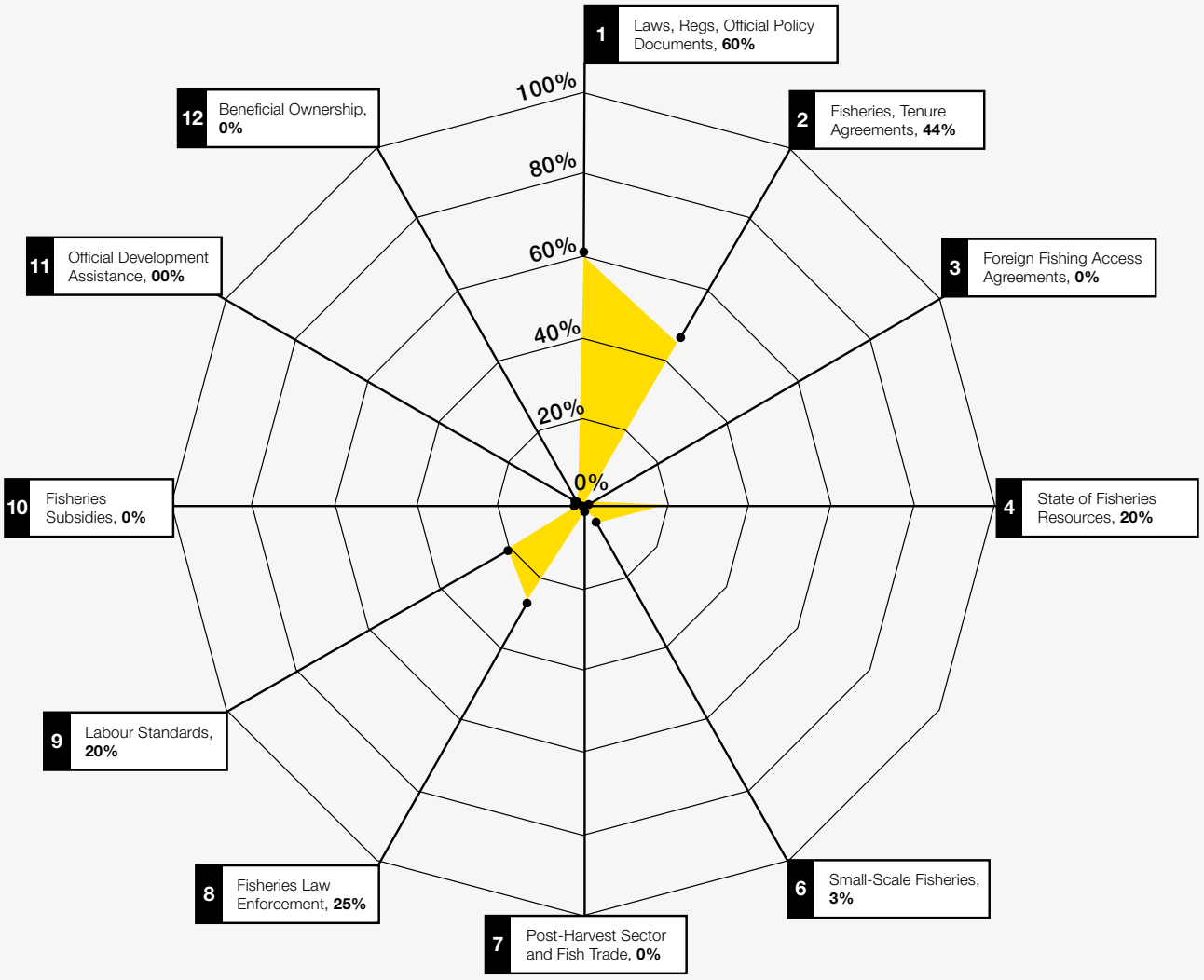


4.13 ZIMBABWE

This assessment solely relates to the provision of data by national authorities on national fisheries on Lake Kariba. Key national authority websites reviewed included the Zimbabwe Parks and Wildlife Management Authority (which has various mandates for fisheries management) and the Lake Kariba Fisheries Research Institute (LKFRI). Eleven categories were relevant for assessment as Zimbabwean fisheries are presumed to be all small-scale.

The radar plot indicates that minimal information was provided across all categories although some information was provided in official policy documents. Most of the information found was provided by LKFRI but it lacked sufficient detail and in some cases required long searches to locate information. Current obstacles preventing public data provision on fisheries are not known, as Zimbabwe did not respond to the questionnaire. However, the lack of a harmonised management strategy between the two riparian states (Zimbabwe and Zambia) that share the fisheries resources from Lake Kariba is likely to be a contributing factor. Zimbabwe was not included in the 2016 study, which focused on marine large-scale fisheries only.

Figure 17: Proportion of inferable fisheries information found on national authority websites versus what should be provided according to the FiTI Standard, by category – Zimbabwe.



5. Results: non-public data sharing assessment

It is difficult to assess the extent of fisheries information exchange between one nation state and another as it is generally not well documented. Information exchange between nations and regional bodies such as RFMOs is better documented and evidenced through whether or not data are available via the RFMO (rather than the source nation). Annual compliance assessments are provided by some RFBs on their websites, but otherwise details on what information is actually provided versus what should be provided are not available. This section therefore provides a general assessment of the types of fisheries data that should be shared according to various policies. Due to the length of this study (3 months), this assessment should not be considered exhaustive and it is recommended that the results are used as a baseline from which to conduct more detailed investigations in collaboration with organisational and country representatives.

Information exchange with the private sector (such as fishing companies) has not been assessed as part of this study as requested by WWF, yet the lack of transparency in this sector is well-known. For example, in the Western Indian Ocean, the European-flagged industrial tuna fleets will report via EU VMS, will report daily catch and effort data back to European fishing companies and European governments, yet this level of information on EEZ catches is not routinely shared with the nation state.

Catches are reported to the IOTC under various regulations which are subsequently shared by the IOTC to its public online database. However, these data are aggregated by month and a minimum spatial resolution of 1x1° grid square. Requests for information at finer resolution from fishing companies and governments are understood to be rarely granted. Under UNCLOS, nation states should be able to determine total catches in their waters, indicating that there is a rationale and mechanism to strengthen national legislation or demands by RMFOs to provide data where legislation is currently lacking.

Arguments about the confidentiality of commercially sensitive information should be viewed in the context of other public goods where similar protection does not exist and in the context of how unscrupulous activity is enabled by the lack of transparency afforded by confidentiality laws. The questionnaire distributed to country representatives asked whether certain types of information must be shared with various parties. National fisheries authority representatives provided

responses for Kenya, Tanzania, Namibia and Zambia, and detailed tables of the information provided for non-public data sharing are included in Appendix 1. Requests for additional information to regional party representatives were requested to regional parties, and were received from IOTC, CCSBT, FISH-i Africa, SIOFA, ICCAT and COMESA.

The tables below summarise the information collected from these representatives and the online desk review. Appendix 2 provides an inventory of this information in greater detail, including information on relevant data/information exchange regulations and guidance, and specific data types that must be shared by members. Table 4 summarises the most relevant international treaties, conventions, multilateral agreements, RFMOs/RECs/RFBs of which countries in the scope of this study are party/signatory to, and Table 5 summaries the types of fisheries information that should be shared under each party/agreement. In Table 4, orange cells indicate where an agreement/body is relevant to a country, but as far as could be ascertained, a country has not yet signed up to the agreement/body. This is the case for Comoros, Tanzania, South Africa and Kenya.

Tables 4 and 5 indicate that the exchange of fisheries information, between regional parties in the region under review is extensive but only if compliance with sharing requirements is achieved.

Based on membership of the parties/agreements, Mauritius is required to share fisheries information with the greatest number of parties, followed by Seychelles and South Africa. DRC, Malawi, Zambia and Zimbabwe have the fewest commitments, as these countries do not have marine fisheries. Comoros, Tanzania, South Africa and Kenya have not yet signed up to important regional sharing agreements, as highlighted by the red cells in Figure 4. The conservation management measures, conventions or agreements of most of the parties listed above refer to the general duty of member states/contracting parties to ensure that complete and accurate data are collected and shared in an appropriate manner. Similar wording is also incorporated in various treaties or policies. Most of the RFMOs have adopted detailed data submission requirements, which include deadlines and the data sharing obligations of the various secretariats. In general, the data covered include catch of target and non-target species (daily, weekly, monthly or annual figures), VMS and logbooks. Data are shared among members and an aggregated version of the data is available for public viewing and use on the relevant websites. As regards MCS, most RFMOs have adopted VMS requirements. Other means of MCS include boarding and inspection schemes, observer programmes and/or port inspections. Illegal, unreported and unregulated (IUU) fishing occurs in all fisheries, both within areas under national jurisdiction and on the high seas, and since 2000, RFMOs have increasingly established a suite of measures to combat this. This includes the sharing of information on IUU vessels, minimum vessel reporting requirements and implementation of the Port State Measures Agreement. Searches for member state compliance revealed that most countries have been non-compliant with RFMO conservation and management measures (CMMs) to some degree either through a complete lack of reporting, reporting in incorrect formats or in a timely manner. Table 4 notes where specific countries have been listed as being non-compliant (see asterisk notation in the title) with CMMs in the last 2 years; the information is taken from reports published by each organisation. The tuna RFMOs, IOTC, ICCAT and CCSBT all provide recent compliance reports, but no such reports could be found for other regional parties. Specifically, in 2020, ICCAT reported that it faced chronic non-compliance on certain issues, including poor implementation of bycatch mitigation requirements and reporting of bycatch and recreational fishery data, and it was time to look beyond the issuance of compliance letters to address such matters.

As shown in Table 5, these data mainly relate to FiTI data categories 2 (fisheries tenure – primarily details on fishing rights of vessels), 5, 6 (primarily details from vessel registries, catches, landings and other activities operating in various areas of competence) and 8 (law enforcement – primarily details on inspection of vessels). There is an apparent lack of information exchange on law and policy documents; foreign access agreements; post-harvest and trade data; labour standards; fisheries subsidies; official development assistance; and beneficial ownership. Regional information primarily seems to be focused on preventing IUU fishing in industrial fisheries, rather than improving transparency in the whole fisheries sector.

Information exchange between nation states was only referred to twice in the four questionnaire responses (Namibia shares VMS data with Angola, and Zambia shares fisheries stock information with Japan and Germany – Appendix 1) but country-country exchange is likely to be more extensive, or via enabling mechanisms under initiatives such as FISH-i Africa.

Finally, there are also formal arrangements between authorities, such as RFMOs, to enable information exchange. For example, CCAMLR has established formal arrangements to cooperate with CCSBT and SEAFO, IOTC regularly attends SWIOFC Commission and Scientific Committee meetings, CCSBT has MoUs or other formal collaborative arrangements with CCAMLR, ICCAT and IOTC, and Stop Illegal Fishing works together with the Indian Ocean Commission[6], in particular through its MCS Section and EcoFish (formerly SmartFish) programme in respect to the FISH-i Africa Task Force.

6 https://stopillegalfishing.com/partners/indian-ocean-commission/

Table 12: Relevant regional international treaties, conventions, multilateral agreements, RFMOs, REC or RFBs of which countries in the scope of this study are party/signatory to. Yellow cells indicate where an agreement/body is relevant to a country, but as far as could be ascertained, a country has not yet signed up to the agreement/body. Asterisks (*) indicate where a country has been reported as being non-compliant with one or more data sharing regulation in the last 2 years.

	IOTC	SWIOFC	SEAFO	ICCAT	CCAMLR	CCSBT	LTA	LVFO (EAC)	BCC	IOC	SADC	FISH-i Africa	SIOFA	UNCLOS III	COMESA	WIOMSA	FAO Compliance Agreement	Port State Measures Agreement	UN Fish Stocks Agreement
Comoros	CP*	M								MS	MS	TFC	CNCP	CP	MS	M			
Madagascar	CP*	M								MS	MS	TFC	CNCP	CP	MS	M	CP	CP	
Mauritius	CP*	M			AS					MS	MS	TFC	CNCP	CP	MS	M	CP	CP	CP
Mozambique	CP*	M									MS	TFC	CNCP	CP		M	CP	CP	CP
Seychelles	CP*	M								MS	MS	TFC	CNCP	CP	MS	M	CP	CP	CP
South Africa	CP*	M	M	CP	M	M*			MC		MS			CP		M		CP	CP
Tanzania	CP*	M					PC	MS			MS	TFC		CP		M	CP		
Kenya	CP*	M						MS				TFC	S	CP	MS	M		CP	CP
Namibia			M	CP*	M				MC		MS			CP			CP	CP	CP
DRC							PC				MS			CP					
Malawi											MS			CP	MS				
Zambia							PC				MS			CP	MS				
Zimbabwe											MS			CP	MS				

CP = contracting party; CNCP = co-operating non-contracting party; M = member; AS = acceding state; PC = participating country; MS = member state; MC = member country; TFC = task force country; S = signatory

IOTC: All countries in above table: https://www.iotc.org/documents/report-17th-session-compliance-committee
ICCAT: See compliance tables at end of latest document: https://www.iccat.int/en/pubs_biennial.html. South Africa is more compliant than Namibia.
CCSBT South Africa: https://www.ccsbt.org/en/system/files/CC15_04_Compliance_w_Measures.pdf
CCAMLR: No compliance reports could be found at: https://www.ccamlr.org/en/compliance/conformite
SEAFO: Compliance of Namibia and South Africa cannot be found: http://www.seafo.org/Documents
BCC, IOC, SADC, SIOFA: No recent documents on compliance could be found.

Table 13: Requirement for fisheries information to be shared by countries under various regional commitments as could be ascertained by the consultant. Asterisks (*) indicate where a representative has provided the information. All other information obtained from online research by MEP.

	1. Laws, Regs, Policy Docs	2. Fisheries Tenure (I)	3. Access agreements	4. State of Fisheries Resources	5. Large-scale Fisheries (II)	6. Small-Scale Fisheries (II)	7. Post-Harvest and Trade (IV)	8. Law Enforcement (V)	9. Labour Standards (VI)	10. Fisheries Subsidies	11. Development Assistance	12. Beneficial Ownership
IOTC*	X		X		X	X	X	X		X	X	X
SWIOFC		X	X		X	X						
SEAFO		X	X		X	X		X				
ICCAT	X	X		X	X	X		X				
CCAMLR	X	X		X	X	X		X				
CCSBT*												
LTA		X		X		X		X				
LVFO				X	X		X					
BCC				X	X	X		X				
IOC		X			X	X		X				
SADC		X		X	X	X	X					
FAO					X	X	X					
FISH-i Africa*					X			X				
SIOFA*					X			X				
UNCLOS III		X			X	X						
COMESA*				X	X	X	X					
WIOMSA				X	X	X						
FAO Compliance Agreement			X	X	X	X		X				
Port State Measures Agreement					X	X		X				
UN Fish Stocks Agreement		X	X		X	X		X				

(I) Fisheries rights details; conditions and rules

(II) Registry of authorised vessels; Vessel payments; Catches of vessels; Annual landings in ports; Annual transhipments at sea; Quantities of discards; Reports on fishing effort; Sector socio-economic evaluation

(III) Number of small-scale fisheries vessels; licences; proportion of full-time small-scale fishers; Payments for licences, catches and landings; Quantity of catches; Total volume of di-scards; Sector socio-economic evaluation

(IV) Quantity of fish products produced, imported and exported; Number employed; Wages in the post-harvest sector

(V) Compliance strategy; Resources; Inspections; Convictions

(VI) Laws on labour standards; Strategy; Enforcement authority; Resolved offences

6. ADDRESSING THE RESEARCH QUESTIONS

Focused research questions were included in this study's terms of reference. These are addressed below as far as possible, given the timeframe of the study and limited responses to the questionnaire received by country representatives.

6.1 WHAT FISHERIES DATA ARE COLLECTED?

Apart from Comoros, in all countries assessed, national laws, decrees and policy documents on fisheries management were found which provided information about the requirements placed on fisheries administrations in relation to fisheries data collection. However, publicly available information does not permit identification of what data are actually collected, indicating a lack of transparency about the implementation of data collection requirements.

In the 2016 WWF USA transparency study, most countries were found to be collecting data to some extent for most fisheries data categories, which was concluded from the consultations held with national representatives. In the current study, consultation with representatives in Kenya, Namibia, Tanzania and Zambia confirmed that data collection is continuing, but indicated that there are technical and financial obstacles to adequate data collection.

The authors' experience is that data collection, particularly regarding small-scale fisheries, is patchy at best in many of the countries included in the study where small-scale fishing is commonplace. Most, perhaps all, of the countries included with the exception of Namibia, are assumed to have small fisheries administration budgets relative to the extent of fishing activities within national waters and in comparison to nations with well-funded fisheries management systems such as New Zealand, USA and Canada. Capacity shortfalls for stock assessment surveys, MCS coverage, personnel, training, and the purchase and maintenance of infrastructure and equipment are all understandable, and this will have an impact on the extent and quality of fisheries data. That said, there are data categories where it is assumed that data are routinely collected and that could be made transparent without great cost – for example, information on beneficial ownership and access agreements would be straightforward to publish.

Another avenue to improvement is placing the responsibility, and at least part of the cost, on industrial fisheries operators. Where industrial vessels are active in marine EEZs, it is almost certain that logbooks are maintained, and it would be useful to identify the quality and format of catch information submitted to ease the burden on fisheries administrations. MEP experience in West Africa indicates that industrial data are frequently not of sufficient quality to support the fisheries management needs of fisheries administrations. The lack of transparency in landings data from industrial fleets prevents the authors from commenting on the suitability of existing catch data submitted.

Specific cases where data are categorically not collected (where data collection is not applicable) include Namibia (no foreign fishery access agreements and no national fisheries subsidies), Comoros (no national large-scale fisheries, no landing facilities for foreign vessels/national observer coverage of these fleets, no fish exports and no domestic fish processing), DRC, Zambia and Zimbabwe (no large-scale fisheries in operation) and Malawi (no foreign large-scale fisheries in operation).

6.2 WHO COLLECTS FISHERIES DATA, HOW ARE THE DATA MAINTAINED, AND WHAT NATIONAL/REGIONAL SYSTEMS ARE IN PLACE TO DO THIS?

In most cases, the fisheries management department, research unit, MCS unit, or agency of the relevant ministry are mandated to collect fisheries data. Relevant data on, for example, fish, trade and fisheries enforcement (e.g. port inspections of fishing logbooks) may be collected by other national authorities such as customs or ports.

In some instances, legislative instruments devolve or share fisheries management powers to local government authorities and/or to community management units for small-scale fisheries management (e.g. Beach Management Units in Kenya and Tanzania). The national data collection systems (in terms of capacity, budget, performance) in place in all 13 countries were not investigated, being outside the scope of the study, and our observations suggest that such an investigation would be very limited due to the lack of transparency about strategic and procedural processes guiding data collection activities. Available literature summarising national data collection systems does allow some observations to be made. These are outlined below.

Most national fisheries data collection systems appear to use some form of electronic data collection or data processing elements for the industrial sector and to a lesser extent for the small-scale sector. Advances in the use of apps on mobile phones have been beneficial. For the small-scale sector, national catch assessment surveys (CAS) are trialling electronic data collection units for field staff that link to national databases. These have been implemented to varying degrees of success in Mozambique, mainland Tanzania, Zanzibar and Kenya (Rushingisha and Tuda, 2019). Temporal and spatial coverage is limited due to technical and financial capacity. In mainland Tanzania and Zanzibar for example, electronic catch assessment surveys (using mobile phones for data collection) are being implemented in selected districts but information is not yet shared online, as supporting databases have not been set up or linked (Stamatopoulos, 2020, pers. Comm.).

For the large-scale marine fisheries sector, RFMOs have clear data collection and reporting systems and supporting resources in place (guidelines, designated authorities, submission forms, databases), which mainly relate to high-value, highly migratory species. The information is provided on RFMO websites and nation states adhere to these systems with varying levels of compliance. For other industrial fisheries that are not subject to RFMO oversight, there is generally substantially less detail on national data collection systems. Namibia is an exception, which requires 100% observer coverage on the industrial vessels operating in its waters.

Data collection coverage of the activities of the industrial foreign vessels operating in nation state waters relies on an enabling legal framework. Such legislation should require foreign nations to provide data to the nation state as a condition of fishing authorisation. Adequate equipment and infrastructure are secondary (yet important) requirements to further ensure that data are collected from the foreign large-scale sector. Several countries in this assessment, such as Comoros, Kenya and Tanzania lack adequate port facilities for semi-industrial or industrial vessels, which reduces the collection of landings, inspection and catch documentation and key trade data. A lack of adequate facilities or legislation also prevents implementation of the Port State Measures Agreement in the region, which is an important measure to reduce IUU fishing and increase transparency. Adequately planning and funding fisheries enforcement activities (patrols and inspections on priority vessels, a clearly defined prosecution process, national VMS units installed on foreign vessels) will also enable data collection.

Post-harvest and fish trade data, especially that relating to the small-scale fisheries sector in the SADC region, are poorly documented and as such, little systematic effort has been made to understand the type, extent and modalities in order to address the problems of those engaged in the activity. Nevertheless, regional fish trade is hugely important even though it is not adequately reflected in official statistics (Jimu, 2017).

The fisheries of the lakes are highly dispersed and catch statistical information is reported to be insufficient for supporting management. On Lake Victoria, catch assessment surveys (for Kenya and Tanzania are weak or inadequate. This is linked to inadequate resources, poorly trained and unmotivated personnel, and externalities, such as poverty and poor employment opportunities, which override the resource monitoring and assessment mechanisms (Cowx et al., 2003). The sharing of regional resources and capacity is fragmented and not effectively harnessed by the Lake Victoria Fisheries Organization (LVFO). In 2012, it was reported that database management systems were not working effectively, data collection, analysis and dissemination were unreliable and time inefficient, and appropriate MCS tools (e.g. net gauges) were not available (Kariuki, 2012). It is unknown whether the situation has improved in recent times, but as no recent assessments or information could be found online, it may seem unlikely.

The situation is similar for Lake Tanganyika, where catch assessment survey and MCS operations are reported to take place sporadically, under the guidance of the Lake Tanganyika Authority (LTA). In one report, it was noted that consistent fishery data were not collected by Zambia, DRC or Tanzania (Van der Knaap et al., 2014).

Lake Malawi (Niassa/Nyasa) is bordered by Mozambique, Tanzania and Malawi, and national fisheries authorities in each respective country have a mandate to collect data on the fisheries sector (for example by frame survey) and fish stocks. No up-to-date information could be found on current data collection resources or frequency of data collection specifically relating to fisheries on Lake Malawi, although it was previously reported that only Malawi has a continuous time series of catch and effort data (Weyl et al., 2010).

Fisheries management and data collection on Cahora Bassa is under the mandate of the Mozambique national fisheries authorities (MIMAIP, ADNAP), but no up-to-date information could be found relating to data collection on the lake. Reports suggested that improvements in fisheries management are planned (such as developing a fisheries management plan and implementing fisheries monitoring activities) following international project assistance from 2013-2017[7] although no recent information could be found indicating whether this has been implemented.

On Lake Kariba, the Zimbabwe Parks and Wildlife Management Authority (ZPWMA) has a mandate for fisheries management, as does the joint management authority – the Lake Kariba Fisheries Research Institute (LKFRI). The LKFRI notes on its website that it is a self-funding entity generating revenue from permit fees from the fisheries of the lake. These funds finance lake research activities, law enforcement activities and outreach programmes. The website does not provide any more details, or any reports on current data collection activities and resources.

7 https://www.government.is/library/01-Ministries/Ministry-for-Foreign-Affairs/Iceida/Publications/Support-to-the-Fisheries-Sector-of-Mozambique-2013-2017---Programme-Document-Common-Fund.pdf

6.3 HOW MUCH FISHING IS ILLEGAL, UNREPORTED OR UNREGULATED?

Apart from the global estimate of IUU fishing calculated by Agnew et al. (2009), which estimated an overall decline in illegal fishing in the Western Indian Ocean between 1980 and 2003 (from 31% to 18%), no updated estimates were found for the SADC or the Western Indian Ocean. The Marine Resources Assessment Group (MRAG) (2008) did conduct an analysis of the status of IUU fishing in the SADC region, but according to Macfayden et al. (2016), the MRAG 2008 estimate is hampered by being based on limited case studies, including case studies on industrial freezer longliners Patagonian toothfish. The MRAG report was not accessible during this study.

While it is technically possible to estimate IUU fishing in the region covered by the study, the lack of data (published or not) would mean that any estimates would need to be treated with caution due to the high level of uncertainty about the underlying variables used (e.g. vessel numbers). This opinion is supported by the FAO-commissioned review of different IUU fishing estimation methodologies (Macfayden et al., 2016), which concludes that there are high levels of uncertainty due to the geographical extent over which estimates are derived, the range and variability of fisheries present, the number of variables for which there are no data, and disparity between calculations (some methodologies estimating missing or unknown catch rather than catch that is specifically illegal) (Macfayden et al., 2016). The authors also note that the inclusion of different aspects of IUU fishing in the estimates are not consistent, the definition of IUU fishing in the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing is not consistently applied and there is notable confusion about what illegal catch is, what unreported catch is, and what unregulated catch is, often grouping unknown catches together as one IUU estimate. The 2016 study recommended that technical guidelines are developed by FAO, in collaboration with the Committee on Fisheries, to improve the quality of studies completed at all levels (local-regional-global) to estimate IUU catch, and to identify separate categories of IUU fishing that should be considered in risk assessments and monitoring studies. It is not known what progress has been made with this guidance. There are also compelling arguments why the term 'IUU' should be unpacked, as there is a general perception that it is all illegal, whereas many open access fisheries are legal but unregulated and unreported.

It might be assumed that IUU fishing had declined due to improved technology and increased regional and international efforts to tackle illegal fishing (particularly in relation to the monitoring of industrial fishing). However, this assumption should be tempered by evidence coming to light as a result of technological advances, e.g. Global Fishing Watch data from AIS analyses, which indicate continued and current high levels of unreported activity by some industrial fleets, particularly distant water fleets. Furthermore, since the 2016 WWF USA transparency assessment (as indicated from the tables in the previous section), no country showed improvements in the provision of fisheries information/data to the public domain. Five countries showed no change in the amount or quality of information that was shared online and three countries provided less information overall. Given these observations, reductions in IUU fishing should not be assumed because time has passed and technology has improved, rather additional technologies (such as AIS analyses) have illuminated ongoing unreported activity by industrial fleets.

The greatest area of uncertainty about the levels of unregulated and unreported fishing (note – not illegal) relates to the small-scale sector in countries along the East African coast, where fishers are plentiful, management capacity is limited and there is in effect an open access system. Although in open access systems, this is not illegal fishing, there are many examples of unsustainable small-scale practices. One such example is the use of mosquito nets in northern Mozambique, which were provided to villages to combat malaria, but which have been converted to use as fine-mesh nets dragged between two people over seagrass beds.

The high levels of uncertainty extend to the lake fisheries also. On Lake Victoria, the decline of Nile perch stocks is a clear indication that fisheries management has not been successful. How much of this is due to non-compliance with existing regulations is not clear. This uncertainty is exacerbated by the low transparency observed. In Lake Tanganyika, in 2011, the LTA surveyed illegal fishing and concluded that more than 10% of the ringnets in use were illegal. The continued use of beach seines, which are banned in all riparian countries, is further evidence of non-compliance. Some 1,778 beach seines were recorded in the 2011 survey (Petit and Shipton, 2012). Illegal fishing on Lake Kariba is, in part, a consequence of the collapse of the kapenta stocks *(Limnothrissa miodon)* which, in turn, caused the exodus of Zimbabwean kapenta fishers to the Cahora Bassa reservoir in Mozambique, which is considered a better fishing ground. Kapenta fishing at night, coupled with a lack of control and enforcement capacity, is one identified cause of overfishing. There are other cases of illegal fishing reported from Lake Malawi (Niassa/Nyasa), involving fishermen from the Tanzanian and Malawian areas, who are reported to use destructive fishing methods such as poison and dynamite (Lopes and Pinto, 2003).

In summary, IUU fishing continues to pose a major risk to sustainable fisheries management in the majority of countries studied. The lack of transparency recorded by this study increases this risk. Where industrial fleets are involved, the arguments for transparency are overwhelming. There are sufficient examples from around the world that provide a precedent for legitimate and responsible industrial operators to work with fisheries administration to tackle IUU fishing and support transparency. The costs should be largely borne by the industrial operators, as there is a growing body of evidence that the wealth extracted from the fished resources is much greater than the return received by the nation where the marine resources are caught (see, for example, Virdin et al., 2019). With regard to small-scale fisheries, there is a need to distinguish between illegal activity and unregulated/unreported fishing.

There are sufficient examples from around the world that provide a precedent for legitimate and responsible industrial operators to work with fisheries administration to tackle IUU fishing and support transparency.

6.4 WHAT IS THE APPARENT RELIABILITY OF THE DATA?

In all cases where fisheries statistics were found on national fisheries authority websites, it was aggregated into tables or brief sections in annual departmental summary reports, or national statistical bulletins. In only two countries were reports up to date (i.e. within the last year). For those cases where information was available, the format of the data and information prevented an analysis of the reliability of the information. The scope of this study permitted only a cursory examination of the data available (see section 5.1.2), resulting in the observation that no national fisheries authority website provided insights into fisheries data collection methodologies in operation, or the human or technological resources in place. It is not possible to conclude how reliable fisheries information provided are, which is a finding in itself.

The data provided for large-scale fisheries associated with RFMOs and where observers are aboard in EEZs give greater confidence in the reliability of the available data. The lack of transparency and the inability to cross-reference available evidence from RFMOs with national statistics (for example) prevents this assumption from being verified. It remains likely that technical and financial restraints in the study countries impact the reliability of the data for the industrial fleet also. Many RFMOs provide regular reports on the reliability of the data received and published, which at least provides a basis for determining how reliable the data are. For example, for industrial tuna purse seine (PS) fisheries, the IOTC advises that in order to improve the quality of PS catch statistics, countries should update length-weight relationships by accounting for inter- and intra-annual spatio-temporal variations, as well as the fishing mode, particularly for adults for which the stage of maturity has an effect on the condition of fish.

6.5 TO WHAT EXTENT ARE THE DATA AVAILABLE TO THE PUBLIC, AND WHERE CAN IMPROVEMENTS BE MADE?

The key focus of this study was identifying the extent to which data are made public, as reported in section 4. Other than fisheries laws, between 70% and 95% of the information that should be published according to the FiTI transparency criteria is not made public or is not available. This is graphically illustrated by the scorecards and by the summary of transparency scores per criteria (see Figure 4). Transparency is lowest in relation to fisheries subsidies, small-scale fisheries and beneficial ownership.

There is room for improvement in atransparency criteria, so a more pertinent question given capacity challenges is what are the priority areas that should be improved first. In this respect, input from fisheries administration stakeholders would be valuable to pinpoint if/where there are simple improvements that could be made (for example to IT systems to enable catch log data to be cleaned and uploaded), or where capacity shortfalls prevent areas of high risk being addressed, or where technological solutions could address existing problems (e.g. catch apps on mobile phones). A future research area would be to conduct a risk assessment for each country to pinpoint what specific risks to sustainability exist due to the lack of transparency, what are the barriers and incentives for transparency relative to those risks, and what measures would be cost-effective to improve the situation.

6.6 TO WHAT EXTENT ARE FISHERIES DATA SHARED BETWEEN COUNTRIES IN THE SADC REGION AND HOW READILY ARE THE DATA AVAILABLE? WHERE ARE THE MAJOR GAPS?

An assessment of the extent of fisheries information exchange between nations (and between other parties such as RFMOs) was attempted in this study and the results are discussed in section 5. Further details are provided in Appendices 1 and 2. The questionnaires that were distributed to country representatives asked, for 12 different fisheries data types, what should be shared and what is shared with various parties. Due to the lack of responses to questionnaires and the poor documentation of fisheries information exchange between parties, the study can only make observations based on publicly available information that provides insights into countries' compliance with various agreements or regional fisheries management measures.

In general, data shared by countries with RFMOs and with bodies such as FAO is readily available (though at reduced resolution), but data shared between countries, and between regional bodies are not accessible. Based on the scope of information covered by various conservation and management measures, fisheries data exchange seems primarily focused on preventing IUU fishing in industrial fisheries and monitoring industrial, highly migratory fisheries, rather than data on exchange that aims to improve transparency in the fisheries sector as a whole.

6.7 WHAT ARE THE TRENDS IN LEVELS OF FISHERIES TRANSPARENCY?

The general trend in fisheries transparency is static or decreasing, depending on the country. Relative to the 2016 transparency assessment (noting the caution advised regarding comparison), no country showed improvements in the amount or quality of fisheries information/data shared to national fisheries authority websites. Most countries showed no change and three countries were assessed as being less transparent in 2020 compared with 2016. Information sharing with RFMOs, which are the main source of information used in this study to derive insights into data sharing between a country and other bodies, continues, and RFMOs, notably IOTC, provide assessments of the quality of data provided by member states.

However, the data and information that are published have obviously not changed, suggesting that data sharing and transparency requirements have not altered significantly in recent years.

The exception to the trend is the Seychelles, which is engaged with the FiTI Standard and which logically will increase fisheries transparency in the near future. This was not reflected in the national assessment presented in this study, as the fisheries administration website was not accessible during the data collection period for this study.

7. RECOMMENDATIONS

Broadly speaking, the study found that the countries included have sufficient legislation in place that demonstrates a legal obligation to fish sustainably. We argue that transparency of fisheries management systems is a necessary step to fish sustainably, hence there is an implied legal framework in place from which to implement transparency measures. There are numerous lines of argument in support of transparency, including but not limited to:

- Enabling scrutiny of fishing opportunity allocations;
- Enabling informed public debate about how natural resources are exploited and who benefits;
- Enabling fisheries administrations to monitor their own performance and to be held accountable;
- Permitting accurate cost-benefit analyses and addressing the undervaluation of less represented fisheries;
- Enabling poorly resourced management bodies to receive external assistance from research bodies able to access fisheries data and information.

Arguments against transparency tend to be posited by those seeking to maintain a competitive advantage or with a vested interest in maintaining a lack of transparency. Recommendations to enable progress with fisheries transparency are provided below.

Recognise the importance of transparency at a national level

Public data sharing is a prerequisite for informed public debate on fisheries policies and for achieving meaningful participation in fisheries decision-making, yet no evidence was observed that transparency is on the list of national priorities. Political will is required if transparency is to improve at a national level. MEP's experience is that politicians are frequently not aware of the actual costs and benefits of fishing activities, and often believe that the seas will always provide, hence dealing with overfishing is not a priority. Generating political will often requires increased public awareness and there are positive examples from Senegal where coastal communities impacted by overfishing are finding their voices and demanding greater transparency around the allocation of fishing opportunities and better performance from their fisheries administration. Ultimately, high-level political support is probably essential to overcome resistance from parties that benefit from a lack of transparency.

Progress could begin with regional institutions such as SADC leading the way with regular fora (such as workshops or conferences) focusing on 'why transparency matters'. Over time, countries can identify their own set of principal risks (e.g. food security, revenue loss) that might stem from a lack of transparency. Once identified, a clearer picture of the relevance of transparency may emerge and a national strategy can be developed. Where transparency strategies are feasible, it is recommended that these are outcome-oriented documents where there is a clear logic and series of processes that link goals to actions on the ground. If transparency efforts are enacted, it is also recommended that incentives as well as sanctions are investigated and enabled, for example increased catch allocations for well-performing businesses.

Conduct national audits of fisheries data and information

Where countries are willing to commit to transparency, a starting point would be to conduct a national audit of the current data and information base held in the country, to identify what the current data management system is and how it is applied. Should nations wish to subscribe to the FiTI Standard, this would support the FiTI recommendation to initiate a National Multi-Stakeholder Group and to apply FiTI guidance, gathering, verifying and disclosing information on fisheries. A data audit could identify what national commitments exist in relation to current information provision or exchange, for example in regard to regional data sharing commitments (e.g. RFMO CMMs). This study clearly indicates that, in theory or in practice, a lot of data are shared by countries with regional bodies and with interested parties. If a country is already compiling and providing data and sharing upon request with interested parties, then this information could also be published on national websites, assuming there is a website and underlying data management systems to support this. There are various publicly available guidelines on how to structure and standardise data that would aid national and regional data coherence. Completing a national audit would provide a starting point from which to define what data exist and what happens to the data now.

Investigate obstacles to making data available

A national audit could usefully also identify where legal, technical and financial obstacles exist that prevent data being collected or made available where collected. As noted, there is probably a sufficient legal framework from which to initiate a transparency initiative in most of the countries assessed. The lack of transparency observed during this study could also indicate that there are legal issues that restrict what information demands can be placed on all fisheries operating in marine or lake jurisdictional waters. At least for licensed fisheries, it is recommended that licences are attached to strict and comprehensive data sharing conditions that must be adhered to in exchange for access to the resources. The burden should be placed on those extracting the resources to provide national regulators with the minimum appropriate data (e.g. hourly position reports, daily catch reports disaggregated by length, weight and species, daily sales tickets, safe operating certificates) for effective management.

Where legal obstacles exist that prevent data being collected or published on fishery access agreements, beneficial ownership and catch data, for example, removing legal obstacles may be crucial for transparency. Political will to enable legislative change is likely to be a prerequisite. The recommended audit of fisheries data and information should thus include a review of national fisheries legislation and fisheries tenure agreements relative to transparency requirements.

Technical and financial obstacles may include a lack of budget, staff, infrastructure or equipment to collect, store, analyse and share accurate statistics on the fisheries sector. Providing sufficient resources is costly, so priority areas should be identified for intervention. This might include investing in locally based improved fisheries monitoring where stocks are known/suspected to be most at risk of collapse (e.g. set up bank accounts for fishery co-management units to enable community members to enforce community closed areas).

Focus on fishing data that permit cost-benefit analyses of the riskiest activities

One of the key risks identified by the study is the lack of transparency surrounding the industrial sector active in national and regional waters. The authors recognise that small-scale fisheries are extensive in many of the countries and can be unsustainable. In comparison with industrial fisheries, however, the resource depletion and habitat damage (excluding highly destructive practices such as dynamite fishing) tends to be gradual, at least until tipping points are reached. In contrast, the capacity of industrial vessels is an order of magnitude greater, and unmanaged industrial fleets carry a greater risk of rapid, extensive depletion of resources and habitats. This has been witnessed with industrial trawling in Somali waters and is an ongoing concern with the purse seine tuna fleet in the Indian Ocean. Recent research into this issue in West Africa demonstrates that unmanaged industrial fishing activity leaves lasting costs that are borne by the coastal nations and people, and for which minimal economic returns are received by coastal nations (Virdin et al., 2019).

Without adequate stock assessments in place, without complete knowledge of the catches and landings by the industrial fleet, without transparency about subsidies and access agreements, it is not possible to complete robust cost-benefit studies that provide insights into the externalities associated with industrial fishing. Furthermore, it is very difficult to identify whether or not industrial fisheries, and in particular foreign-sponsored fisheries where the majority of financial returns accrue to foreign investors, are actually of benefit to the nations permitting access, or whether a better strategy would be to develop national fishing capacity. However, without such studies and without sufficient robust data, it is not possible for governments to identify if they are on track to fulfil legal obligations to their peoples to maintain and conserve marine resources for current and future generations. One notable example is in the West African region, where a lack of adequate management exacerbated by a lack of transparency has resulted in serious food security and nutrition security declines in countries such as Sierra Leone and Ghana.

Engage with the Fisheries Transparency Initiative

The FiTI Standard is an important benchmark, as it sets out a framework and measurable criteria that permit fisheries administrations to follow a process to compare current transparency performance against a gold standard. A key recommendation is therefore that each country conduct a structured assessment using the FiTI criteria to identify priority risks to fisheries sustainability. This would permit identification of areas where a lack of transparency exacerbates risks and provide a starting point from which to identify what measures and interventions would be most effective at reducing the risk.

This study focuses on applying the FiTI criteria, as the FiTI Standard is the best available standard. However, while any country can engage with the FiTI process, fisheries management pressures and data challenges are most prevalent in countries with the least capacity (Drakeford et al., 2020). The FiTI Standard has stringent information and data demands to satisfy the 12 transparency requirements, which even well-managed fisheries might struggle to deliver. Our experience with the UK's fisheries administration suggests that the UK would not meet the FiTI Standard. If more countries engage with FiTI, a clearer picture of the most critical FiTI requirements may emerge. As stated by Drakeford et al. (2020), this could result in the 12 FiTI transparency requirements evolving to reflect capacity-poor situations and to capture the role of non-public data sharing whereby many countries are compliant with RFMO requirements that ultimately aid transparency.

8. CONCLUSIONS

This study sought to provide a baseline of the transparency of information that underpins the fisheries management systems in 13 countries in the SADC and East African region.

It is clear that there is a long way to go before the fisheries management systems in the countries included in the study can be deemed transparent (where transparency relates to the availability of publicly available data and information pertinent to the fisheries management systems).

All countries in this current assessment provided less than half of the information required to permit public scrutiny of how well fisheries management systems are performing. A concerning finding is the lack of improvement relative to the 2016 transparency study and indeed the reduction in transparency observed in some cases. By definition, the study relied on publicly available sources of information. In some countries, there are indications that more information and data exist than was observed, particularly if the information is cross-referenced with RFMO websites where some national datasets can be observed, but which are not available on the national websites. A key recommendation is that fisheries administrations are supported to conduct a national audit to identify what exists, where it is held and in what format, and how it could be made available. Verifying the results of the study was greatly hampered by the low response rate to the questionnaire and to requests for interviews. The study took place close to the end of the year, which may in part explain the low uptake. However, it is arguably an indication of the low priority placed on fisheries administration transparency. This is understandable given the often-limited capacity of the fisheries administrations assessed. A key recommendation, therefore, is to increase awareness of the importance of transparency and how it could help administrations.

The lack of responses and the paucity of publicly available information meant that addressing the research questions largely relied on non-governmental sources of information and assumptions derived from MEP's experiences in some of the countries included in the study.

There is variability between countries, hence such assumptions should be treated with caution.

It is well understood that many of the fisheries administrations assessed suffer from a lack of financial, technical and administrative capacity. The lack of transparency further disadvantages these countries by preventing externally funded support and analyses that could promote better fisheries governance and management.

The lack of transparency also hinders governments, stakeholders and the public from understanding how access to marine resources are allocated, who benefits, and what externalities exist.

Weak institutional capacity and disenfranchised stakeholders, such as small-scale fishers, limit capacity to hold administrations to account for the performance of fisheries management systems. Resistance to transparency in some cases will stem from those with vested interests in maintaining opaque management systems. Political will to implement transparency is therefore essential. The aim of this report is to provide an evidence base to support advocacy for transparency and a framework against which national audits could be conducted.

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10. APPENDICES

10.1 APPENDIX 1: QUESTIONNAIRE RESPONSES RELATING TO NON-PUBLIC DATA SHARING

Namibia (representative of Chief Control Fisheries, Ministry of Fisheries and Marine Resources)					
Fisheries Information Category	**Shared with?**	**What is actively shared?**	**Relevant information exchange policies?**	**Format?**	**Frequency?**
Laws, Regulations and Official Policy Documents	ICCAT	Laws and policy	Yes, as per RFMO's reporting requirements. Other on quarterly or annual basis.	Electronically	As per RFMO's reporting requirements. Other on quarterly or annual basis.
	SEAFO				
	CCAMLR				
	FAO				
	Other – upon request	Most information will be shared upon request, depending on the purpose for which it is required and on the confidentiality or sensitivity of the information.			
Fisheries Tenure Agreements	ICCAT; SEAFO	Active licences	Yes, as per RFMO's reporting requirements. Other on quarterly or annual basis.	Electronically	As per RFMO's reporting requirements. Other on quarterly or annual basis.
Foreign Fishing Access Agreements	Not relevant – no foreign fishing access agreements with other nations				
State of Fisheries Resources	ICCAT	Stock status, management plans, catch & effort data, etc.	As per RFMO's requirements	Electronic	As per RFMO's requirements
	SEAFO	Catch/landing information			
	Other – upon request	Most information will be shared upon request, depending on the purpose for which it is required and on the confidentiality or sensitivity of the information.			
Large-Scale Fisheries in EEZ: Vessel Registry	ICCAT	Vessel registry	As required by RFMO's CM	Electronic	As per RFMO's requirements (annually)
	SEAFO				
	CCAMLR				
	FAO				
	Other – upon request	Most information will be shared upon request, depending on the purpose for which it is required and on the confidentiality or sensitivity of the information.			
Large-Scale Fisheries in EEZ: Catch, Discards and Fishing Effort	ICCAT	Fishing effort data	As per RFMO's reporting requirements	Electronically	As per RFMO's reporting requirements
	Angola	VMS data	MoU – To curb IUU fishing	Electronically	Daily
	SEAFO	Catches, discards, fishing effort	As per RFMO's reporting requirements	Electronically	As per RFMO's reporting requirements
	Other – upon request	Most information will be shared upon request, depending on the purpose for which it is required and on the confidentiality or sensitivity of the information.			
Small-Scale Fisheries	Information not actively shared between parties or upon request				
Post-Harvest Sector and Fish Trade	Information not actively shared between parties but shared upon request, depending on the purpose for which it is required and on the confidentiality or sensitivity of the information.				
Fisheries Enforcement	"				
Labour Standards	"				
Fisheries Subsidies	Irrelevant – fisheries sector not subsidised				
Official Development Assistance	Some details were noted to be shared but no further information given by respondent				
Beneficial Ownership	Information not actively shared between parties or upon request				

Kenya (representative of Kenya Fisheries Service, Ministry of Agriculture, Livestock, Fisheries and Cooperatives)					
Fisheries Information Category	**Shared with?**	**What is actively shared?**	**Relevant information exchange policies?**	**Format?**	**Frequency?**
Laws, Regulations and Official Policy Documents	IOTC	Legislation	Yes	Relevant parts of the law for implementation of IOTC resolutions	Annually or when called upon
	Other – upon request	If the information is requested formally and the request is well justified, it can be shared with any party			
Fisheries Tenure Agreements	IOTC	National Fleet Development Plan	Yes, the plan has to specify numbers and types of vessels and implementation duration, all based on prior agreed benchmarks in the IOTC resolutions	The modalities and fishing capacities that are to be implemented	Annually or whenever there is a change in the plan
	Other – upon request	If the information is requested formally and the request is well justified, some of it can be shared on merit and on a need-to-know basis			
Foreign Fishing Access Agreements	IOTC	Charter agreements	Yes, the agreement has to be shared with the IOTC whenever it is available	No specific format, except the requirement to capture the main elements of relevant IOTC resolutions and CMMs	Whenever an agreement is arrived at and is ready for implementation
	Other – upon request	If the information is requested formally and the request is well justified, some of it can be shared on merit and on a need-to-know basis			
State of Fisheries Resources	IOTC	National scientific reports	Yes, as per the IOTC resolutions	The format is normally provided	Annually
	IOTC	Thematic scientific reports for various working parties	Yes, as agreed in the IOTC resolutions	Format is normally that which befits a scientific publication	Annually
	WIOMSA	Scientific reports, journal manuscripts and publication	No	Format is normally that which befits a scientific publication	Anytime
	SWIOFC	Thematic scientific reports for the various working groups	Yes, as per the SWIOFC agreement	Format is normally that which befits a scientific publication	During working group sessions, whenever they are convened, or when required
	IOTC	National scientific reports	Yes, as per the IOTC resolutions	The format is normally provided	Annually
	Other – upon request	If the information is requested formally and the request is well justified, some of it can be shared on merit and on a need-to-know basis			
Large-Scale Fisheries: Vessel Registry	IOTC	National licensed list for tuna and tuna-like fishing vessels	Yes, the IOTC resolutions	The format is normally provided and captures all the above information about the vessel	Annually, or whenever the registry status is updated
	FAO – Global Record	National licensed list for all fisheries	Yes, under the FAO's Global Record Working Group guidelines	The format is normally provided and captures all the above information about the vessel	Whenever the registry status changes or is updated
	FISH-i Africa Taskforce	National licensed list for all fisheries	No	The format is normally general as per country but captures all the above information about the vessel	Whenever the registry status changes or is updated
	Other – upon request	Once the information is requested by a third party and the request is well justified, then this information can be shared			
Large-Scale Fisheries: Catch, Discards and Fishing Effort	IOTC	Catch data for tuna and tuna-like fisheries	Yes. The data is provided based on IOTC resolutions	The format is provided	Annually, and when requested
	Other – upon request	Once the information is requested by a third party and the request is well justified, it would be considered on merit and on a need-to-know basis			

Kenya (representative of Kenya Fisheries Service, Ministry of Agriculture, Livestock, Fisheries and Cooperatives)					
Fisheries Information Category	**Shared with?**	**What is actively shared?**	**Relevant information exchange policies?**	**Format?**	**Frequency?**
Small-Scale Fisheries	IOTC	Only tuna and tuna-like related information	Yes, the IOTC resolutions	Catch, effort and biological data	Annually, or upon request
	FAO	All small-scale data	Yes, the FAO protocols on data sharing and cooperation	Catch and effort data	Annually
	Other – upon request	Once the information is requested by a third party and the request is well justified, it would be considered on merit and on a need-to-know basis			
Post-Harvest Sector and Fish Trade	IOTC	Only tuna and tuna-like market-related information	Yes, the IOTC resolutions	Catch export/import and certification data	Annually, or upon request
	Other – upon request				
Fisheries Enforcement	Information not actively shared between parties but shared upon request based on merit and on a need-to-know basis.				
Labour Standards	No information shared between parties – the standards have not yet been established for different operators in the fishing sector				
Fisheries Subsidies	No information on fisheries subsidies in Kenya				
Official Development Assistance	Shared online				
Beneficial Ownership	IOTC	Only beneficial owner information related to tuna fishing vessels	Yes, guided by the IOTC resolutions	Fishing vessel structural and ownership details	Annually, or whenever the national register is updated
	Other – upon request	It can be shared upon request, subject to legal considerations			

Zambia (representative of the Department of Fisheries)					
Fisheries Information Category	**Shared with?**	**What is actively shared?**	**Relevant information exchange policies?**	**Format?**	**Frequency?**
General	WTO	Acts of parliament; statutory instruments; policy documents; strategic documents	Not specified		
	NEPAD				
	SADC				
	COMESA				
	LTA				
	FAO				
	Zambia/Zimbabwe Joint Management Committee				
	WWF				
	Worldfish				
	TNC				
	Universities				
	Other – upon request	Information requested is shared based on failure to access the online sources			
Fisheries Tenure Agreements	Information is not shared actively but will be shared upon request if it is confidential				
Foreign Fishing Access Agreements	Stated as irrelevant to Zambia				
State of Fisheries Resources	SADC member states	Fish production figures; limnological information; meteorological information; survey reports; scientific publications	Sharing takes place under specific agreements and protocols as well in open exhibitions	Reports and presentations	Frequency is varied based on the type of protocol or agreement
	COMESA member states				
	Japan				
	Germany				
	WWF				
	Worldfish				
	Worldfish				
	The Nature Conservancy				
	National, foreign and private universities				
	PMRC				
	IAPRI				
	Other – upon request	Information requested is shared based on failure to access the online sources			
Small-Scale Fisheries	As above	Survey reports and scientific reports are actively shared with interested parties, or upon request whenever they are available			
Post-Harvest Sector and Fish Trade	As above	Information is actively shared with interested parties, or upon request whenever the information is available			
Fisheries Law Enforcement	No information given				
Fisheries Subsidies	Noted as being irrelevant to Zambia				
Official Development Assistance	As above	Information is actively shared (usually in the form of progress reports) with interested parties, or upon request whenever the information is available			

Tanzania (representatives of Ministry of Livestock and Fisheries, Institute of Fisheries Research in Zanzibar, Department of Fisheries in Zanzibar)					
Fisheries Information Category	**Shared with?**	**What is actively shared?**	**Relevant information exchange policies?**	**Format?**	**Frequency?**
General	WTO	Generic response, not related to specific data types. The below are shared with various parties: fisheries policies, acts and briefs, fisheries sector development programmes, fisheries sector development strategy, management plans for priority fisheries (octopus, prawns, small and medium pelagic), budget speech, procedure for licensing in the fisheries sector, fisheries guidelines, different brochures for fisheries sector, national fisheries and aquaculture research agenda, catch data on tuna and artisanal sectors	Not specified – generic response	Electronic	When required, or monthly, quarterly or annually
	LVTO				
	SWIOFC				
	IOTC				
	LTA				
	DSFA				
	WWF Tanzania Country Office				
	FAO Tanzania				
	Sea Sense				
	Tuna Alliance Association in Tanzania				
	Environmental Management and Economic Development Organization (EMEDO)				
	Tanzania Women Fish Workers Association (TAWFA)				
	WIOMSA				
	TIRDO				
	Tanzania Nature Conservancy (TNC)				
	Wildlife Conservation Society (WCS)				
	Blue Venture				
	Aquaculture Association of Tanzania (AAT)				
	Aquafarms Tanzania				
	Other – upon request	In the following circumstances: for research or scientific observation or emergencies such as Covid-19			
Laws, Regulations and Official Policy Documents	Western Indian Ocean countries; Tanzania Mainland, DSFA, Bank of Tanzania, WWF, Office of the Chief Government Statistician	Tuna/tuna-like species; artisanal fish species and catch monthly, quarterly and annually			
	Other – upon request	At conference/workshop/annual meeting			

10.2 APPENDIX 2: INFORMATION SHARING REQUIREMENTS FROM RELEVANT REGIONAL PARTIES

IOTC	
Information sharing regulations	Resolutions: 01/06; 03/03; 12/02; 14/05; 15/01; 15/02; 16/11; 18/03; 19/04; 19/05 See: https://iotc.org/cmms
Relevant FiTI Standard information categories	3, 5, 6, 7, 8, 10, 11, 12
Details	**14/05:** RECORD OF LICENSED FOREIGN VESSELS IN IOTC: IOTC number, Name and registration number, IMO number, Flag, international radio call sign (IRCS), Vessel type, length, and gross tonnage (GT), Name and address of owner, Main target species, Period of license. In cases where coastal CPCs allow foreign-flagged vessels to fish in waters in their EEZ: The CPCs involved in the agreement, Time period covered by the agreement, Number of vessels and gear types authorised, The stock or species authorised for harvest, including any applicable catch limits, The CPC's quota or catch limit, Monitoring, control, and surveillance measures required by the flag CPC, Data reporting obligations stipulated in the agreement, A copy of the written agreement **19/04:** RECORD OF VESSELS AUTHORISED TO OPERATE IN IOTC: IOTC number, Registration number, Flag, Type, LOA, Tonnage, IRCS, Name of vessel, EU registration number, IMO number, Previous names (if applicable), Previous details/deletions from registries, Port of Registration, Vessel type, length and GT, Volume of total fish holds, Name and address of owner(s)/operator(s), Name and address of beneficial owner(s), Name and address of company operating the vessel, Gears used, Time periods authorised for fishing/transhipment, Coloured photographs of vessel showing: i. the starboard side and portside of the vessel, each showing the whole structure; ii. the bow of the vessel; iii. at least one of the photographs clearly showing at least one of the external markings. Official authorisation to fish outside national jurisdictions: a) name of the Competent Authority; b) name and contact of personnel of the Competent Authority; c) signature of the personnel of the Competent Authority; d) official stamp of the Competent Authority. **19/05**: BAN ON DISCARDS BY PURSE SEINE: Total bycatch by species and gear – separated into live weight and discards. Discards of tune/tuna-like fish and sharks should be recorded by species, weight and gear. **15/01:** RECORDING OF CATCH AND EFFORT DATA: Data grouped by 5° longitude by 5° latitude by month for longline and 1° longitude by 1° latitude by month for surface fisheries stratified by fishing nation are considered to be in the public domain, provided that the catch of no individual vessel can be identified within a time/area stratum. In cases when an individual vessel can be identified, the data will be aggregated by time, area or flag to preclude such identification, and will then be in the public domain. Length and frequency data, Date of operation, Position in latitude at noon, Number of fishing poles used during that day, Fishing start/end time, Type of school (fish aggregating device (FAD) associated/free school). EXCEL: Effort, Effort Units. **15/02:** MANDATORY STATISTICAL REPORTING REQUIREMENTS: Annual catches, Active crafts, Catch and effort, Size data, Scientific observer data, Socio-economic data, EEZ catches of foreign fishing fleet. Excel: C code, Fleet, ArCde, ArealOTC, ZoneCTOI, Year, TFCde, Type Fishery, Gear Code, Gear, Engine, GR code, Spsort, Spcode, Species, SP Lat, SP group, SpWP/SpGT, Catch/Capture, %EstGr, %EstSp. Longline/Surface/Other fishing: Gear, Fleet Year, MonthStart, MonthEnd, Grid, iGrid, Effort, Effort Units, Quality Code, Source, Catch data, Species Code. **03/03 and 01/06:** STATISTICAL DOCUMENT FORM AND BIGEYE PROGRAMME: Product type, Net product weight, Importer certification, Description of imported fish, Description of re-exported fish. **16/11:** PORT STATE MEASURES: Port state, Inspecting authority, Name of principal inspector, Port of inspection, Commencement of inspection, Completion of inspection, Advanced notification received, Purpose of inspection, Port/ State/Date of last port call, Vessel name, Flag state, Type of vessel, IRCS, Certificate of registry ID, IMO ship ID, External ID, Port of registry, Vessel owner(s), Vessel beneficial owner(s), Vessel operator(s), Vessel master name and nationality, Fishing master name and nationality, Vessel agent, VMS, Status in IOTC including any IUU vessel listing, Relevant fishing authorisation(s), Relevant transhipment authorisation(s), Transhipment information concerning donor vessels, Evaluation of offloaded catch, Catch retained on board, Examination of logbooks, Compliance with applicable catch documentation scheme(s), Compliance with applicable trade information scheme(s), Type of gear used, Findings by inspector(s), Apparent infringement(s) noted including reference to relevant legal instrument(s), Comments by the master, Action taken, Master's signature, Inspector's signature. **18/03:** REPORTING FORM ON ILLEGAL ACTIVITY: Current name of vessel/Previous names if any, Current flag, Date first included on IOTC IUU Vessel List, Lloyds IMO number, Photo, Call sign, Owner, Operator (previous operator(s), if any) and Master/Fishing Master, Date of alleged IUU fishing activities, Position of alleged IUU fishing activities, Summary of alleged IUU activities, Summary of any actions known to have been taken in respect of the alleged IUU fishing activities, Outcome of actions taken. **Summary of regional IOTC Observer Programme 2020:** Transhipments of Southern Bluefin Tuna, Transhipment locations, Species, Vessel licence to tranship tuna, Total catch on board and total catch to be transferred, VMS, LSTLV identifier. TRANSHIPMENT DECLARATION FORM: Name of vessel, Radio call sign, Flag, Flag state licence number, National register number, IOTC register number – for both carrier and receiver vessel, Day/month/hour of departure, Return transhipment, Agent's name, Master's name of LSTV, Master's name of carrier and signatures. Kilograms transhipped. Location of transhipment, Species, Port, Sea, Type of product: Whole, Gutted, Headed, Filleted.
What format should the information be shared in?	Implementation reports, Excel; Scientific Committee national reports; compliance reports

How often should the information be shared?	Annually
SWIOFC	
Information sharing regulations	Guidelines for foreign fishery access: http://www.fao.org/3/ca9747b/ca9747b.pdf Resolution and statutes: http://www.fao.org/tempref/FI/DOCUMENT/safr/swiofc_1_2005/inf4e.pdf
Relevant FiTI Standard information categories	2, 3, 5, 6
Details	The Commission's role includes, amongst other things "promoting the collection, exchange, dissemination and analysis or study of statistical, biological, environmental and socio-economic data and other marine fishery information", including the reporting of the position of and, where applicable, the quantity and type of catch by species on board the vessel and the quantity and type of catch by species harvested after each fishing trip. SWIOFC states should undertake all necessary measures to build capacity for receiving, compiling and sharing all transmission data in a standardised and harmonised format via VMS. SWIOFC has established three working groups, addressing fisheries data and statistics; demersal and small pelagic fish; and collaboration and cooperation in tuna fisheries. SWIOFC's website is provided by FAO and makes reports of Commission and Scientific Committee meetings and workshops publicly available.
What format should the information be shared in?	VMS to be shared in 'standardised format'. No other info found.
How often should the information be shared?	Annual reports. No other info found.
SEAFO	
Information sharing regulations	All relevant, see: http://www.seafo.org/Documents/Conservation-Measures
Relevant FiTI Standard information categories	2, 3, 5, 6, 8
Details	SEAFO has adopted several measures to combat iIUU fishing. The Commission has banned at-sea transhipments in the SEAFO Convention Area; implemented an authorised vessel list; and established an IUU vessel list that incorporates vessels found on NEAFC, NAFO and CCAMLR IUU lists. The Commission has also implemented management measures for the protection of deep-sea sharks by banning sharks as a directed species. Vessels are also expected to report all catches of sharks, have full utilisation and retention (not including gut, skin and head), and not have fins that total more than 5% of the weight of sharks on board. Management measures have also been put in place to reduce incidental bycatch of seabirds in the SEAFO Convention Area, and to improve reporting of bycatch of sea turtles with the intent of reducing mortality due to fishing operations. SEAFO has also recommended a ban on all use of gillnets in the Convention Area and has adopted a stringent protocol for the retrieval and reporting of lost gear. SEAFO has developed a comprehensive strategy to monitor, survey and control the fisheries. All vessels are required to: be formally authorised to fish; report catches on a 5-day interval; report VMS positions on a 2-hourly interval; have an independent scientific observer on board; comply with port inspection procedures; and not make transhipments in the SEAFO Convention Area.
ICCAT	
Information sharing regulations	Data sharing requirements: https://www.iccat.int/en/SubmitCOMP.html Convention text: https://www.iccat.int/Documents/Commission/BasicTexts.pdf Specifically: Articles IV/IX Convention text Article IV Convention text + Rec 11-10 Article IV Convention text + Rec 19-02 Article IV Convention text + Rec 19-05 Article IV Convention text + Rec 19-05

Relevant FiTI Standard information categories	5, 6, 8
Details	ICCAT has established a system for data collection for nominal annual catches, number of fishing vessels by size, gear and flag, catch and effort by area, gear, flag, species and month, actual size frequencies of fish, and catch-at-size data (with several adjustments adopted in recent years). ICCAT also encourages the provision of data on interactions with, and incidental catches of, seabirds and turtles. ICCAT established requirements for minimum standards for the establishment of VMS in the ICCAT Convention Area in 2003, and they entered into force in 2007. ICCAT has also adopted several measures to combat IUU fishing, including IUU vessel lists (adopted in 2002), transhipment regulations (amended several times) and port inspections (adopted in 2012).
What format should the information be shared in?	By month via Excel electronic form. All specified at: https://www.iccat.int/en/SubmitCOMP.html
How often should the information be shared?	List in SCRS Secretariat report and COC report Biennial Reports 2019
CCAMLR	
Information sharing regulations	Convention text: https://www.ccamlr.org/en/system/files/e-pt1_3.pdf Data reporting conservation measures (categories 10, 23 and 31): https://www.ccamlr.org/node/74261
Relevant FiTI Standard information categories	2, 4, 5, 6, 8
Details	CCAMLR has established a data collection system. The first data collection measure was adopted in 1991, and since then several additional measures have been adopted for different fisheries. The requirements for data submission vary depending on the region and whether the fishery is established or exploratory; for some fisheries, daily reporting of catch and effort data is required. In 1998, CCAMLR adopted a binding measure requiring members to ensure that vessels are equipped with VMS. Since 2000, CCAMLR has adopted measures for targeting IUU fishing, including an IUU vessel list in 2002, a catch documentation scheme (CDS) for toothfish species in 2001 and port inspection of fishing vessels in 2002. In addition, in 2008, CCAMLR adopted measures to provide a notification system to be used for transhipments.
What format should the information be shared in?	Submission in specific formats. Data shared online in databases and GIS. See: https://www.ccamlr.org/en/data/data
How often should the information be shared?	Daily, 5 day, 10 day, monthly
CCSBT	
Information sharing regulations	■ Scientific Data Exchange (This information is shared annually; mainly MS Access or Excel files sent by email or secure website transmission) ■ ERSWG Data Exchange (This information is shared annually; mainly Excel sent files by email or secure website transmission) ■ CDS Resolution (This information is shared mainly on a quarterly basis, three months after relevant event blocks; combination of PDF documents and Excel files sent by email or secure website transmission – a trial eCDS is in development) ■ Transhipment Resolution (Varied timeframes depending on the event; varied information formats as well) ■ Resolution on a CCSBT Record of Vessels Authorised to Fish for Southern Bluefin Tuna
Relevant FiTI Standard information categories	5, 7, 8

Details (relevant to South Africa only and Southern Bluefin Tuna (SBT))	**Vessel registration and licence details:** Lloyds/IMO number (if available); ■ Name of vessel(s), register number(s); ■ Previous name(s) (if any); ■ Previous flag(s) (if any); ■ Previous details of deletion from other registries (if any); ■ International radio call sign(s) (if any); ■ Type of vessel(s), length overall and gross registered tonnage (GRT); ■ Name and address of owner(s); ■ Name and address of operator(s); ■ Gear(s) used; and ■ Time period authorised for fishing and/or transhipping ■ All vessels must be registered (see row on Vessel registration and licence details), which therefore provides the number of vessels. ■ The number of vessels by sector must also be provided in the annual CC/EC reporting template. ■ We can also calculate the number of active vessels (i.e. vessels that caught SBT) from the CDS. **Catches:** Members must submit catch information on their global catch of SBT regardless of whether inside or outside of EEZs. There are numerours different requirements including, but not limited to: ■ Monthly catch reports (total catch submitted on a monthly basis – one month after fishing) ■ CDS forms (provided quarterly – one quarter after the quarter in which forms were created/received) ■ Scientific Data Exchange (catches by 5 degree block: includes catch/effort, catch at size, catch at age (for some members) and various other data. This is an annual exchange) ■ Annual reports to the CC/EC and annual reports to the Extended Scientific Committee **Landings in national and foreign ports,** see: ■ Annual CC/EC reporting template (landing) ■ CDS Resolution (catch monitoring form) **Transhipments,** see: ■ CC/EC reporting template (tranship) ■ Transhipment Resolution ■ CDS Resolution (tranship) **Discards,** see: ■ Scientific Data Exchange (non-retained catches) ■ Annual CC/EC reporting template (discards, non-retained) ■ ERSWG Data Exchange (retained, discarded), noting that this is only for species other than SBT **Fishing effort,** see: ■ Scientific Data Exchange (effort) ■ Annual ESC reporting template (effort) **Fish trade data,** see: ■ Annual CC/EC reporting template (trade, import, export) ■ CDS Resolution (catch monitoring Form, re-export/export after landing of domestic product form **Fishing vessel inspections or convictions,** see: ■ Annual CC/EC reporting template (inspection)
What format should the information be shared in?	Data submission requirements: https://www.ccsbt.org/en/content/data-submission-requirements ■ Annual CC/EC reporting template (this information is shared annually; MS Word or PDF files sent by email) ■ Annual ESC reporting template (this information is shared annually; MS Word or PDF files sent by email)
How often should the information be shared?	Annual, see requirements at: https://www.ccsbt.org/en/content/annual-reporting-and-documentation-requirements-members-and-cnms

LTA	
Information sharing regulations	Articles 20 and 22 in Convention text[8] (exchange of information and reporting of information). Article 26: "the secretariat shall maintain databases of information to facilitate the exchange of information"
Relevant FiTI Standard information categories	2, 4, 6, 8
Details	Exchange of information regarding fisheries practices, state of the lake basin, and other measures taken and planned to be taken to prevent, control and reduce adverse impacts.
What format should the information be shared in?	No information found
How often should the information be shared?	No information found
LVFO	
Information sharing regulations	LVTO harmonised guidelines for fish traders[9]
Relevant FiTI Standard information categories	2, 4, 6, 8
Details	Management plans and strategic plans make reference to data sharing platforms, statistical bulletins and information exchange improvements, but it is not known if these have been if implemented. Reports on fish landings, stock assessments, living resources of East African Community water bodies or any other matter which is the subject of resource management and utilisation, and research. Much sharing of fish trade data. **Guidelines for fish traders:** Fisheries and aquaculture competent authority must collect and maintain a database of data and information about trade in fish, fishery and aquaculture products and inputs; and share information on the trade in fish, fishery and aquaculture products and inputs. Fisheries research arm must, in collaboration with fisheries management, monitor changes in the trade of fish, fishery and aquaculture products and inputs. Local government must: Collect data on trade of fish, fishery and aquaculture products and inputs and share data and reports. BMU/BMU network must collect and share data regarding trade in fish, fishery and aquaculture products and inputs; monitor compliance with their respective by-laws; disseminate information on trade in fish, fishery and aquaculture products and/or inputs within their localities. Fish traders and processors' associations in fish, fishery and aquaculture products and inputs must report any illegal activities regarding the trade in fish, fishery and aquaculture products and inputs; provide data and information on the volume, type and value of the traded fish, fishery and aquaculture products and inputs.
What format should the information be shared in?	No information found
How often should the information be shared?	LVTO annual report

8 http://lta.iwlearn.org/documents/the-convention-on-the-sustainable-management-of-lake-tanganyika-eng.pdf

9 http://lta.iwlearn.org/documents/the-convention-on-the-sustainable-management-of-lake-tanganyika-eng.pdf

BCC	
Information sharing regulations	Benguela Current Convention text (Article 4d and Article 8) BCC Data and Information Policy[10]
Relevant FiTI Standard information categories	4, 5, 6, 8
Details	The Benguela Current Convention text stipulates that the countries shall: Establish mechanisms for inter-sectoral data collection, sharing and exchange (Article 4 (d)); Promote the collection, exchange, dissemination and analyses of the relevant data and information, including statistical, biological, environmental and socio-economic (data) (Article 8).
What format should the information be shared in?	Reprints or electronic copies of all publications emanating from data and information acquired under the auspices of BCC projects and activities must be supplied to the BCC Data and Information Manager.
How often should the information be shared?	Annual reports. No other information found.
IOC	
Information sharing regulations	■ The ministerial declaration at the conference to combat IUU fishing was signed on 24 January 2007 within which the ministers signed their commitment to promote the exchange of data. ■ The administrative arrangement signed between the Indian Ocean Commission (IOC) secretariat and each member state in 2007 and with Kenya and Tanzania in 2015 – Article 4: Objective of the arrangement and Article 5: Cooperation on observation. ■ The conclusion of the enlarged RCU meeting on 21 October 2011 whereby the IOC Permanent Liaison Officers recommended the Secretariat General of the IOC to pursue the regional surveillance activities and eventually extend its geographic area of operation in complementarity with other programmes, countries, etc. ■ Regional protocol on the exchange of VMS data signed in 2014.
Relevant FiTI Standard information categories	2, 5, 6, 8
Details	The Standardised Realtime Fisheries Information Sharing Hub (STARFISH) is a web-based information exchange software platform, developed within the context of the Plan Regionale de Surveillance de Péches (PRSP) or Regional Plan for Fisheries Surveillance, a programme that was implemented under the auspices of the IOC Smartfish programme. The main objective for the establishment of the online database was to establish a common database (centralised) for the South Western Indian Ocean, under the auspices of the IOC. While the sharing of information on the STARFISH platform is not mandated, it is supported by the arrangements/declarations. The main advantages of the system are: ■ Sharing of information; ■ Cumulative enrichment of information; ■ Centralsed information system; ■ List of infractions; ■ Unique central maintenance at lower cost; ■ Rapid deployment of information; ■ No compatibility issues (web-based system); ■ A necessary tool for risk analysis. The IOC and participating states are required to share information on fishing activities and fishing vessels that operate in their legislated EEZ, plus fishing zones specified in existing fisheries agreements that constitute the Zone of Cooperation for Exchange of Information on Fisheries Activities. States are to share information on the following fishing vessels; ■ Fishing activities involved in data sharing concern foreign fishing vessels licensed in at least one of the participating countries; ■ Local vessels fishing outside the EEZ of their flag state; ■ None licensed fishing vessels that fish on the highseas and call into port or request innocent passage in the zone of cooperation. Minimum data to be shared are: ■ Registered vessels; ■ Licensed vessels; ■ EEZ entry/exit reports; ■ Innocent passage in EEZ;

10 http://www.benguelacc.org/index.php/en/component/docman/doc_download/111-data-policy-final

Details	■ At sea and in port inspection reports; ■ Information on the vessels: registration, contact, etc; ■ Infractions; ■ Observer report (access only within their EEZ); ■ Directory of all fisheries stakeholders. The programme also implements a regional VMS system, whereby IOC states exchange VMS data within the Zone of Cooperation. The IOC states share VMS data on foreign vessels operating within their respective EEZ, and that information is then stared with the rest of the IOC states.
What format should the information be shared in?	Electronically via STARFISH. No other information found.
How often should the information be shared?	No information found
SADC	
Information sharing regulations	■ SADC Treaty ■ SADC Protocol on Fisheries and SADC Fisheries Programme ■ Minimum Vessels Information and Standard for the Regional Fisheries Monitoring, Control and Surveillance Coordination Centre (RMCSCC) (still under review) ■ Statement of Commitment by SADC Ministers Responsible for Fisheries on Illegal, Unreported and Unregulated Fishing
Relevant FiTI Standard information categories	2, 4, 5, 6, 7
Details	**SADC Treaty:** Rationale and criteria pertaining to the determination of TAC, allocation of quotas, permits, licensing and other rights to the use of living aquatic resources. **Statement of Commitment by SADC Ministers Responsible for Fisheries on Illegal, Unreported and Unregulated Fishing:** Share VMS information where appropriate, inspection, licences and offences, IUU fishing and the establishment of an interactive database of licences and IUU vessels. Article 15 of the Statement of Commitment: EEZ entry/exit reports, quantity of catch of species, information on destination. **SADC Protocol on Fisheries (Article 5):** ■ The Protocol calls on states to make specific provision in their fisheries and other relevant legislation in line with the provisions thereof, including information exchange. ■ States should exchange complete and detailed information essential for achieving the objectives of the Protocol, and also regularly consult on methodologies and approaches that will harmonise and enhance the reliability of the collection of data. **SADC Fisheries Programme:** Information sharing through regional partnership projects– FISH-i-I Africa, Smart Fishing Initiative, SmartFish and SWIOFish1 Minimum vessel requirements: ■ Registered vessel information (flag state); ■ Licensed vessel information (coastal state); ■ Authorisation/licence details; ■ Inspection reports (coastal and port state); ■ Infractions and imposed sanctions, where applicable, against non-compliant vessels (flag state/coastal state/port states); ■ Notifications; – EEZ entry/exit with relevant catch information (coastal states) – Port entry (port states) ■ Observer reports; ■ Designation of competent authority and focal point; ■ Designation of authorised ports; ■ Vessel position and catch information, while vessels are operating in waters outside of their jurisdiction, but within the coastal waters of a SADC member state. This implies VMS, AIS and possibly ERS. However, until such systems are operational within the Centre, other means may be explored (emails, fax, etc.).

What format should the information be shared in?	No information found
How often should the information be shared?	No information found
FISH-i Africa	
Information sharing regulations	Task Force terms of reference: https://stopillegalfishing.com/initiatives/fish-i-africa/
Relevant FiTI Standard information categories	5, 8
Details	FISH-i Africa enables the sharing of real-time information (licence lists, vessel information) and intelligence and coordinates actions against vessels suspected of operating illegally. The FISH-i Africa (FIA) communication platform shares MCS information between all member countries. Both IOTC and IOC are part of the technical group and receive all information as well. It was decided to integrate FIA into the new SADC MCS CC in Maputo and to hand over the tools and communication platform will gradually over the next few years. This will then be developed into a larger concept in 2021. Information exchanged with and between Task Force members and the technical team through a secure communications portal, includes, but is not limited to, the following information: every three months, members will share lists of vessels over 24 metres registered by members to fish or support fishing activities; lists of vessels licensed to fish or support fishing within the waters of members, including national commercial fishing vessels, foreign fishing vessels, carrier, support and supply vessels; lists of national fishing vessels authorised by members to fish outside of their EEZ; where possible, updates on any vessels that are licensed between the quarterly reports; information on inspections of fishing vessels if a vessel has been identified as a vessel of interest, as well as on a special request basis; information on non-compliant activities occurring within the waters of a member; follow-up on requests for information by any member or the technical team as soon as is possible.
What format should the information be shared in?	Email, via online vessel info submission form
How often should the information be shared?	As instances occur and every three months
SIOFA	
Information sharing regulations	See: https://www.apsoi.org/compliance/submissions-requirements CMM 2017/08, CMM 2019/02, CMM 2019/03, CMM 2019/04, CMM 2019/05, CMM 2019/06, CMM 2019/07
Relevant FiTI Standard information categories	2, 5, 8
Details	SIOFA assesses between one and ten fish stocks on a regular basis and manages between one and ten fisheries. The number of authorised fishing vessels has consistently been between 1 and 200 since the establishment of the organisation. In 2016, SIOFA established measures on authorization to fish, VMS requirements and measures for the management of bottom fishing for the protection of vulnerable marine ecosystems (VMEs). The same year, it also adopted measures for the collection, reporting, verification and exchange of data relating to fishing activities; these include vessel catch and effort data, scientific observer data and VMS data. A system for listing IUU vessels was established in 2016. In 2017, SIOFA amended the VMS regulation and introduced transhipment regulations and a port control scheme aligned with the PSMA. Specifics shared: ■ Vessel ID, name, flag, licence, owner, owner name ■ Large-scale vessel catches in SIOFA area, landings in CPC national and foreign ports, transhipments, discards, fishing effort reports ■ Fishing vessel inspections or convictions
What format should the information be shared in?	By email, in specific formats (templates or forms), see: https://www.apsoi.org/compliance/submissions-requirements

How often should the information be shared?	Annually, by 31 May each year or as required
UNCLOS III	
Information sharing regulations	Articles 119, 61, 244 of Convention text[11]
Relevant FiTI Standard information categories	4, 5, 6
Details	Articles 61 and 119: "Available scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks shall be contributed and exchanged on a regular basis through competent international organizations, whether subregional, regional or global, where appropriate and with participation by all States concerned, including States whose nationals are allowed to fish in the exclusive economic zone." Article 244: "Publication and dissemination of information and knowledge 1. States and competent international organizations shall, in accordance with this Convention, make available by publication and dissemination through appropriate channels information on proposed major programmes and their objectives as well as knowledge resulting from marine scientific research. 2. For this purpose, States, both individually and in cooperation with other States and with competent international organizations, shall actively promote the flow of scientific data and information and the transfer of knowledge resulting from marine scientific research, especially to developing States, as well as the strengthening of the autonomous marine scientific research capabilities of developing States through, inter alia, programmes to provide adequate education and training of their technical and scientific personnel."
What format should the information be shared in?	n/a
How often should the information be shared?	n/a
FAO Compliance Agreement	
Information sharing regulations	Articles 3 and 5 of Agreement[12]
Relevant FiTI Standard information categories	2, 3, 5, 6, 8
Details	FAO Compliance Agreement Article 5: 1) "The Parties cooperate as appropriate in the implementation of this Agreement, and shall, in particular, exchange information, including evidentiary material, relating to activities of fishing vessels in order to assist the flag State in identifying those fishing vessels flying its flag reported to have engaged in activities undermining international conservation and management measures, so as to fulfil its obligations under Article III [of the Compliance Agreement]; 2) When a fishing vessel is voluntarily in the port of a Party other than its flag State, that Party, where it has reasonable grounds for believing that the fishing vessel has been used for an activity that undermines the effectiveness of international conservation and management measures, shall promptly notify the flag State accordingly. Parties may make arrangements regarding the undertaking by port States of such investigatory measures as may be considered necessary to establish whether the fishing vessel has indeed been used contrary to the provisions of this Agreement. 3) The Parties shall, when and as appropriate, enter into cooperative agreements or arrangements of mutual assistance on a global, regional, sub-regional or bilateral basis so as to promote the achievement of the objectives of this Agreement."
What format should the information be shared in?	n/a

11 https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

12 http://www.fao.org/iuu-fishing/international-framework/fao-compliance-agreement/en/

How often should the information be shared?	n/a
Port State Measures Agreement	
Information sharing regulations	Article 6 of Agreement[13]
Relevant FiTI Standard information categories	5, 6, 8
Details	Article 6 of the FAO PSMA calls on Parties to: 1) "cooperate and exchange information with relevant States, FAO, other international organizations and regional fisheries management organizations, including on the measures adopted by such regional fisheries management organizations in relation to the objective of this Agreement", while having due regards to appropriate confidentiality requirements and 2) cooperate at the sub regional level [and regional levels] ….in the effective implementation of the [FAO PSMA] including, where appropriate, through… [RFMO and similar arrangements]. It further requires states to: ■ Designate its national ports where foreign vessels may request entry; ■ Collect a minimum amount of information on such foreign vessels prior to allowing them to enter in their ports and use the facilities thereof; ■ Communicate with flag states, relevant coastal states, RFMOs and other international organisations in the event that such port state denies entry or use of port facilities of vessels suspected to have engaged in IUU fishing; ■ Transmit inspection results to the flag state of the inspected vessels, and when appropriate to "States for which there is evidence through inspection that the vessel has engaged in IUU fishing or fishing related activities in support of such fishing within waters under their national jurisdiction [and] the State of which the vessel's master is a national", relevant RFMOs, and other relevant international organisations, including FAO and SADC-MCS CC ■ Promptly inform flag state, where relevant coastal state, RFMO and other international organisation [SADC-MCS CC] if port state has sufficient evidence that indicates that vessel was involved in IUU fishing, and report on actions taken against vessel (including denying use of port facilities); ■ Designate and publicise the competent authority that will implement the above provision ■ Have due regard for the confidentiality required by all parties involved, including non parties to the Agreement.
What format should the information be shared in?	Detailed in the Agreement
How often should the information be shared?	Reporting upon entry to port
UN Fish Stocks Agreement	
Information sharing regulations	UN Fish Stocks Agreement Articles 5 and 7
Relevant FiTI Standard information categories	2, 3, 5, 6, 8

13 http://www.fao.org/iuu-fishing/international-framework/psma/en/

Details	UN Fish Stocks Agreement Article 5 calls on states to: “collect and share, in a timely manner, complete and accurate data concerning fishing activities on, inter alia, vessel position, catch of target and non-target species and fishing effort, as set out in Annex 1.” Article 7 (Data exchange): “Data collected by flag States must be shared with other flag States and relevant coastal States through appropriate subregional or regional fisheries management organizations or arrangements. Such organizations or arrangements shall compile data and make them available in a timely manner and in an agreed format to all interested States under the terms and conditions established by the organization or arrangement, while maintaining confidentiality of non-aggregated data, and should, to the extent feasible, develop database systems which provide efficient access to data. At the global level, collection and dissemination of data should be effected through the Food and Agriculture Organization of the United Nations. Where a subregional or regional fisheries management organization or arrangement does not exist, that organization may also do the same at the subregional or regional level by arrangement with the States concerned.”
What format should the information be shared in?	To be agreed regionally between states
How often should the information be shared?	To be agreed regionally between states

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