



Digitalization Of Fisheries Key Data Elements On Crew Welfare - An Audit Tool To Address SDGs & ILOC 188

“From Tuna Industrial Fishing in Papua New Guinea,
To Small Scale Fisheries in South Africa

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SPF-2026; Small Pelagic Fish International Symposium

Climate, Ecosystems, and Sustainable Fisheries

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Our FIA PNG members

Its membership composition consists of:

- Funded in 1991, Registered under the PNG Associations Incorporations Act 1966
- Companies and operators in the tuna industry (both the fishing and shore-based processors)
- Prawn operators
- Beche-de-mer buyers and exporters
- Mud crab buyers and exporters
- Torres Strait Protected Treaty Zone - tropical rock lobster buyers and exporters
- Associated industries: placement agencies, fisheries consultancies, services
- Provincial umbrella artisanal fishing cooperatives

Tuna fishing companies



Tuna processors



Lobster processors & catching companies





RSP (2018)

FIA PNG Responsible Sourcing Policy

Due diligence	Certification, third party assessment, & public access tools:			
 <p>Sustainability</p>	  <p>Industrial & Artisanal</p>			
 <p>Marine Litter & Fishing Gear</p>			<p>MARPOL</p>	
 <p>Social Responsibility & Crew Welfare</p>				
 <p>Traceability</p>				

RSP developed and based on Market requirements - benchmark

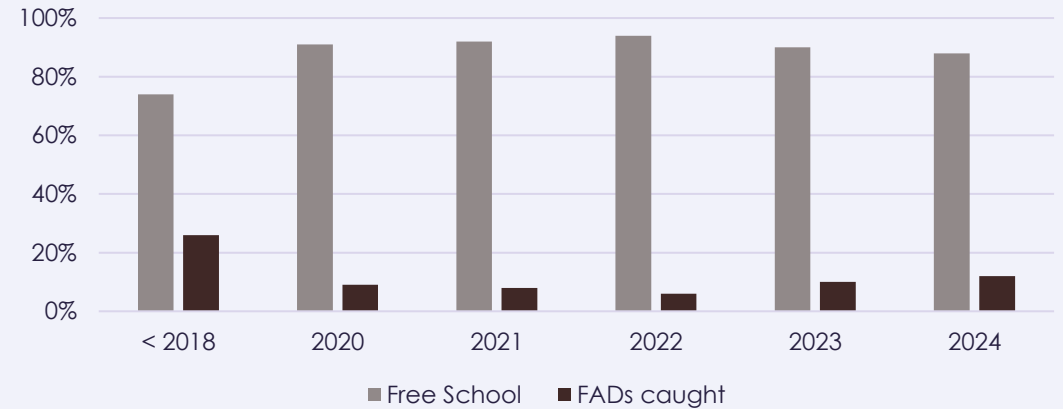


The Growth – Tuna Fishery

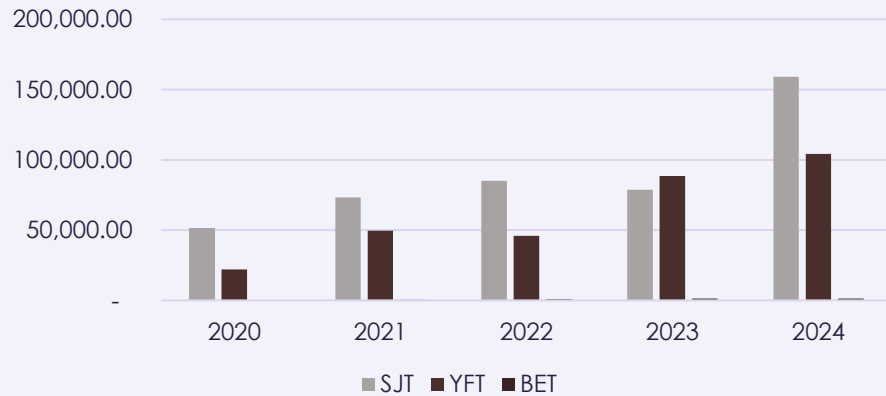
FIA PNG tuna fleet - Total Catches per Year (MT)



FIA PNG annual catches - Free school vs FADs catches per year



FIA PNG catches per Species per Year (MT)
48 (P/S)



1.372
crew

direct job
AT SEA

11.000
workers

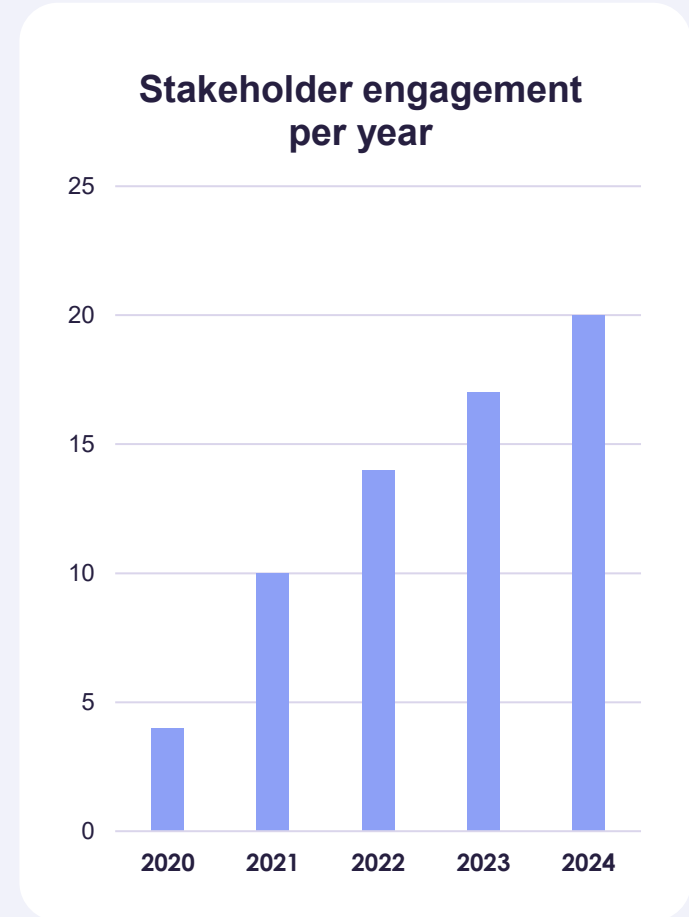
direct job
AT LAND

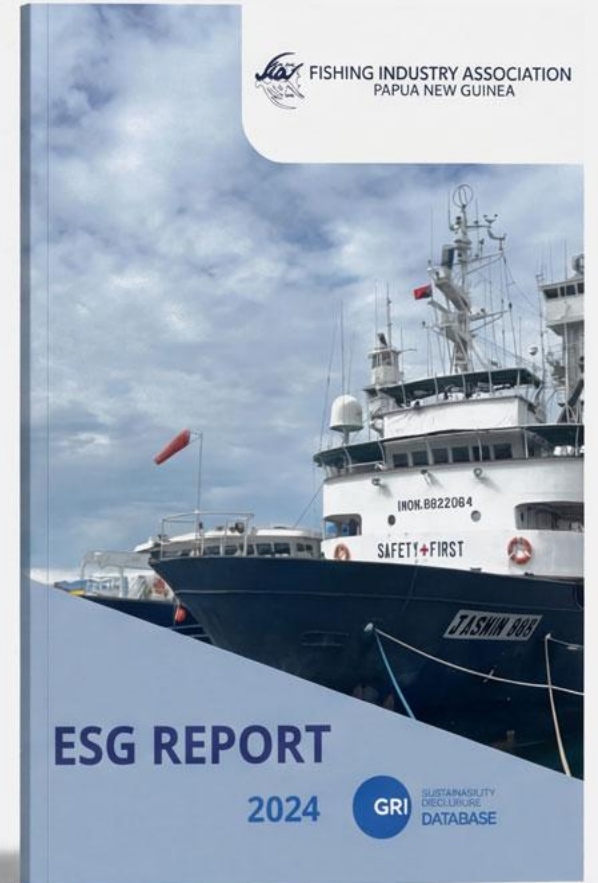
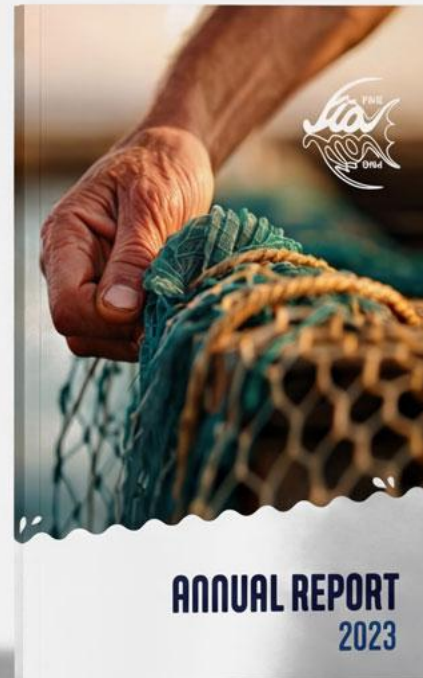




Global Partnerships and Stakeholders

<p>NATIONAL FISHERIES AUTHORITY Papua New Guinea</p>	<p>FFA PACIFIC ISLANDS FORUM FISHERIES AGENCY</p>	<p>SPC Secretariat of the Pacific Community</p>	<p>BUREAU OF FISHERIES AND AQUATIC RESOURCES ARMU • ARMU • ARMU</p>	<p>F · I · S · H STANDARD FOR CREW</p>
<p>GSSI GLOBAL SUSTAINABLE SEAFOOD INITIATIVE</p>	<p>SEAFOOD MAP</p>	<p>GLOBAL DIALOGUE on Seafood Traceability</p>	<p>The Safina Center</p>	<p>Global Fishing Watch</p>
<p>Marine Stewardship Council</p>	<p>GLOBAL TUNA ALLIANCE</p>	<p>FISHCHOICE PARTNER WWW.FISHCHOICE.COM</p>	<p>ISSF INTERNATIONAL SEAFOOD SUSTAINABILITY FOUNDATION</p>	<p>Coalition for Fisheries Transparency</p>
<p>WWF</p>	<p>CONSERVATION ALLIANCE FOR SEAFOOD SOLUTIONS</p>	<p>THE UNIVERSITY OF QUEENSLAND AUSTRALIA</p>	<p>UNIVERSITY OF WOLLONGONG AUSTRALIA</p>	<p>International Labour Organization</p>





Enhancing our Transparency, Accountability, and Reporting:

fia-png.com/reporting

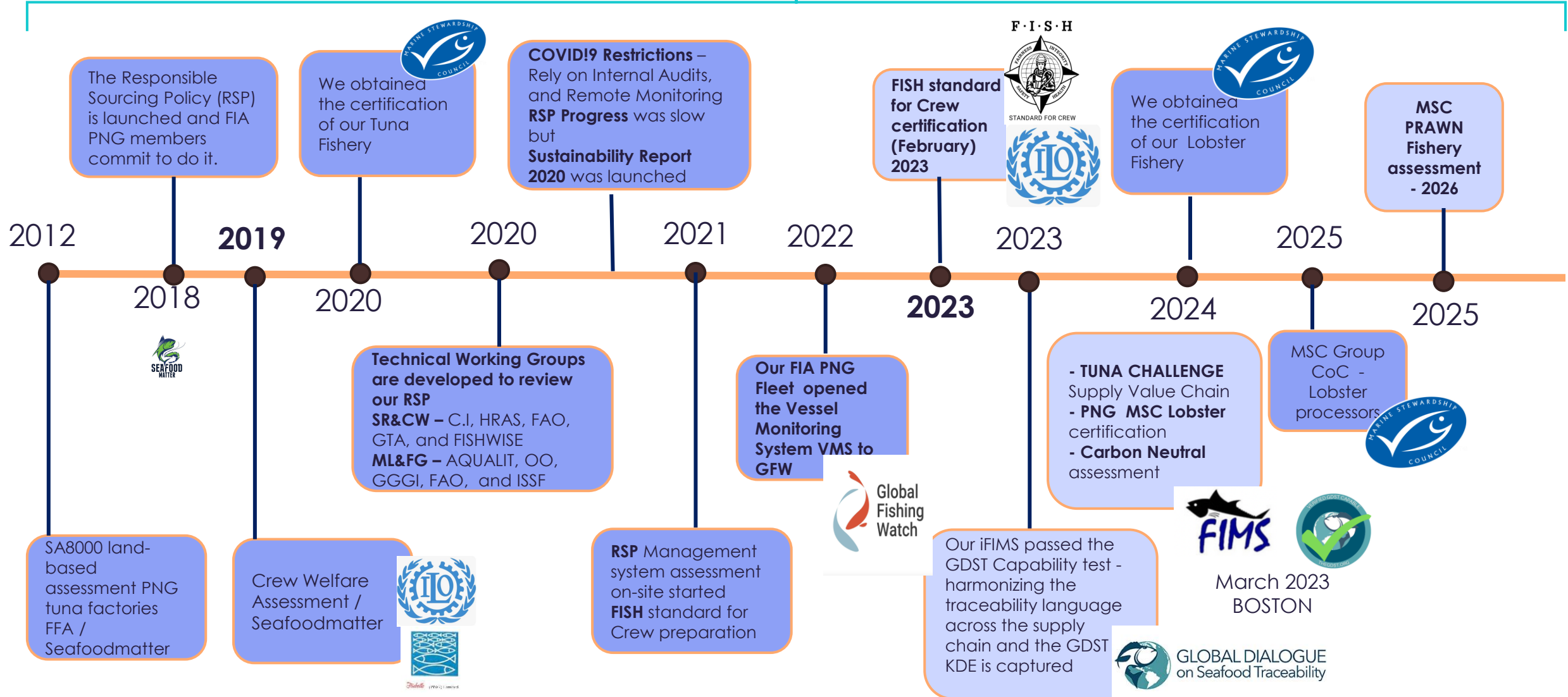


FIA PNG history and challenges

Why do we do this?

Why do we need to innovate?

FIA PNG journey to make a robust and comprehensive management System - RSP





Where does our traceability start? – at Sea



iFIMS – integrated Fisheries Information & Management System

eForms Waiting to be Sent: 0

Version: 89

Vessel Name: TEST PS NO.123

IRCS: TEST001

Authorised User: FIMS


CHECK FOR UPDATE	TRIP SETTINGS	iFIMS Settings	REVIEW eFORMS
VDS Non-Fishing	Manual Positions	Report Sighting	eCDS
Tranship Activity	Landing	Zone Entry, Exit & Transit	Bunkering Notice
Tranship Notice	Port Call Notice	Observer Request	Bunkering Activity
Fuel Report	FADs	COVID-19 Check	SPC Species ID

- Single Point of Data Entry
- Near Real-Time Reporting
- Uses internationally recognized data formats
- Multi-Language Support
- Built-in Error/GIS checking
- Does NOT need connectivity during use. eForms stored and sent when Internet Connection becomes available.
- Verified Interoperable by GDST tool

FISHERIES INFORMATION MANAGEMENT SYSTEM



TRIP SETTINGS

iFIMS – integrated Fisheries Information & Management System 

Year:

Trip Number:

Port of Departure:

Date of Departure: 23.11.2020

Fish on Board at Start:

Fish on Board at Start: 0


Buoy on Board at Start: No

Buoy on Board at Start: 0

Buoy on Board at End: No

Buoy on Board at End: 0

Name of Observer on Board:

iFIMS – integrated Fisheries Information & Management System 

Year:

Trip Number:

Port of Departure:

Date of Departure: 23.11.2020

Fish on Board at Start: Yes

Fish on Board at Start: 0

Buoy on Board at Start: Yes

Buoy on Board at Start: 0

Buoy on Board at End: No

Buoy on Board at End: 0

Name of Observer on Board:

Fish on Board at Start: Yes

Retained Catch:

Species:

Weight (MT):

Well Number:

Species	Weight	Well	Other Species

Buoy On-Board Inventory

Buoy Manufacturer Serial No.

Buoy Communications ID

Buoy Type

Buoy Make

Buoy Model

Buoy Manufacturer Serial No.	Buoy Communications	Buoy Type	Buoy Make	Buoy Model

Sample of the e-solution
NFA - IFIMS



The rationale for including Social KDE in FIA PNG FIMS



- To develop how crew welfare data could be shared from Tuna fleets to the wider supply chain
- To analyse how this data could be used to help provide assurance to the wider supply chain on social accountability
- Accountability on board fishing vessels –to support third-party certification program e.g. FISH Standard
- To demonstrate control over several Events or Key Data Elements (KDE) of social accountability onboard our tuna fleet supported by FIMS.
- To implement an auditing tool per FIA PNG MSC trip that includes Social Accountability KDE in our certificate per fishing trip.
- Our FIMS traceability platform has passed the GDST Capability test



GLOBAL DIALOGUE
on Seafood Traceability



Research Conducted



- The KDE project started in October 2022
- Used their iFMS (Integrated Fisheries Management Systems) to give data to give assurance that no IUU or Social issues were reported on each fishing trip
- FIA PNG formed a Working Group 1s November – Fishermen/Crew, Fishing company representatives, NFA and FIMS officers and FIAO
- We developed a checklist of 31 data points that were needed to give assurance
- 1st December sent it to our Working Group for feedback
- March 2023 feedback reviewed and recommendations to FIA PNG Chairman and NFA
- FISH standard and GDST were informed about this project and asked for feedback



STANDARD FOR CREW



Our FIA PNG KDE analysis and proposal



KDE #	Document / Verifiable evidence available	KDE name	FISH standard compliance	RSP alignment and IUU
1	Crew list containing passport numbers	No Child labor	P1	YES
2	Crew list containing details based on FISH requirements	Crew List	P1	YES
3	Crew contract attached and audited per fishing vessel in annual basis	Protect migrant fishers	P1	YES
4	Crew contract attached and audited per fishing vessel in annual basis	Fair Recruitment and Placement of Fishers	P1	YES
5	Crew contract attached and audited per fishing vessel in annual basis	Provisions for Repatriation	P1	YES
6	Crew contract attached and audited per fishing vessel in annual basis	Fish Worker Agreement	P2	YES
7	Crew contract attached and audited per fishing vessel in annual basis	Fair remuneration	P2	YES
8	RSP, SR&CW, and Company employment policy	Non-discrimination in Employment	P2	YES
9	Crew contract attached and audited per fishing vessel in annual basis	Social security	P2	YES
10	Crew contract attached and audited per fishing vessel in annual basis	Health Protection and Medical Care	P2	YES
11	Crew contract attached and audited per fishing vessel in annual basis	Fisher's Compensation System	P2	YES
12	Fishing license and FFA certificate	KDE # 17 Occupational Safety and Health – General,	P3	YES
13	Fishing license and FFA certificate	KDE # 18 Occupational Safety and Health OSH review	P3	YES
14	FIA PNG audit report and annual planning	Safety Orientation and Training	P3	YES
15	Crew medical certificate annual support	Fitness Standards and Medical Exams	P3	YES
16	Fishing license and FFA certificate	KDE # 23 A Framework for Oversight	P4	YES
17	Fishing license and FFA certificate	KDE # 24 Accommodations are Appropriate	P4	YES
18	Fishing license and FFA certificate	KDE # 25 Spaces are Well Maintained	P4	YES
19	Fishing license and FFA certificate	KDE # 26 Spaces are Comfortable and Safe	P4	YES
20	Fishing license and FFA certificate	KDE # 27 Sanitary Facilities are Provided	P4	YES
21	Fishing license and FFA certificate	KDE # 28 Food and Potable Water	P4	YES
22	Fishing license and FFA certificate	KDE # 29 Galley and Other Facilities – Galley and Food storage	P4	YES
23	Fishing license and FFA certificate	KDE # 30 Galley and Other Facilities	P4	YES
24	Fishing license and FFA certificate	KDE # 31 Galley and Other Facilities – Recreational, Laundry, PPE storage	P4	YES

Methodology and Discussion



Each data point was discussed, reviewed, and agreed



The evidence that would need to be provided by a vessel owner to support each point using the iFIMS for reach the fishing trip



An analysis was done on how this evidence could be used to support compliance to the Fish Standard, and further to the National Fisheries Authorities enforcement department



We concluded that not all 31 data points could be considered as KDEs in their own right validating them could only be achieved by the use **by conducting of interviews with crew members**



FIA PNG tuna fleet: documents needed to support these 23 KDEs on Crew Welfare per fishing trip are:



1. Crew list per fishing vessel (verify by trip randomly)
2. Crew contracts (verified by FIA PNG remote audits)
3. Fishing license and
4. Good-standing certificate
5. RSP, SR&CW, and Company employment policy
6. Crew medical certificate (verified by local authority remote audits)
7. Annual audit report (both remote and on-board)

Download the paper from our website:

<https://www.fia-png.com/post/social-accountability-crew-welfare-keydata-elements-kde-ifims>

Documents to be loaded in FIMS per company, per fishing vessel, per fishing trip (under FIA RSP control)

Crew interviews still are needed for verification onboard.

Recommendations



- We intend to encourage our fishing company members (the global fishing industry) to provide and attach the recognised, verifiable evidence mentioned per fishing trip or annually, as needed, to the FIA office.
- FIMS is the platform where we collect data in almost real-time.
- We need the involvement of fishing companies' representatives and FIMS to make this project happen – next stage pilot (NFA & FIA PNG tuna fleet)
- It is an assurance model to auto-control our tuna fleet members.
- We recommend final approval and start to run and add KDE per an MSC trip trial with FIMS and onboard our FIA PNG fishing vessel.
- This due diligence is a good manner to demonstrate social and environmental sustainability alignment with our FIMS and support a Social Accountability Certification F.I.S.H



GLOBAL DIALOGUE
on Seafood Traceability



Scaling a Proven Model to: **Fisheries Globally**

To be discussed on GDST
round tables



GLOBAL DIALOGUE on Seafood Traceability



- GDST was established in 2017 to create the first-ever global industry standards for seafood traceability.
- [60 companies and associations](#) participated in the consensus-based drafting process, with strong participation from around the world, across the supply chain, and at all enterprise sizes.
- The GDST was facilitated by [World Wildlife Fund \(WWF\)](#) and the [Institute of Food Technologists \(IFT\)](#).
- The GDST set up the initial KDEs for Wild caught, Aquaculture, and Processing





Crew Welfare Project – base for GDST global round tables discussion



- In March 2023 FIA PNG shared the project outcomes with GDST
- In August 2023, GDST requested FIA PNG to have this research paper as part of the GDST Global round tables aiming to add more relevant KDEs to this Global Seafood Traceability Standard
 - Singapore - September 2023
 - South Africa – December 2023
 - Boston – March 2024
 - Barcelona – April 2024
- Global round tables aim to discuss this FIA PNG proposal and make recommendations for new social accountability KDEs to be added to the GDST standard.





Extended KDEs: Social Accountability

To be monitored per fishing trip

- KDE 1- Crew List
- KDE 2- Crew Contract/Agreement
- KDE 3- Vessel Fitness/Safety certificate
- KDE 4 – Crew Medical Certificate

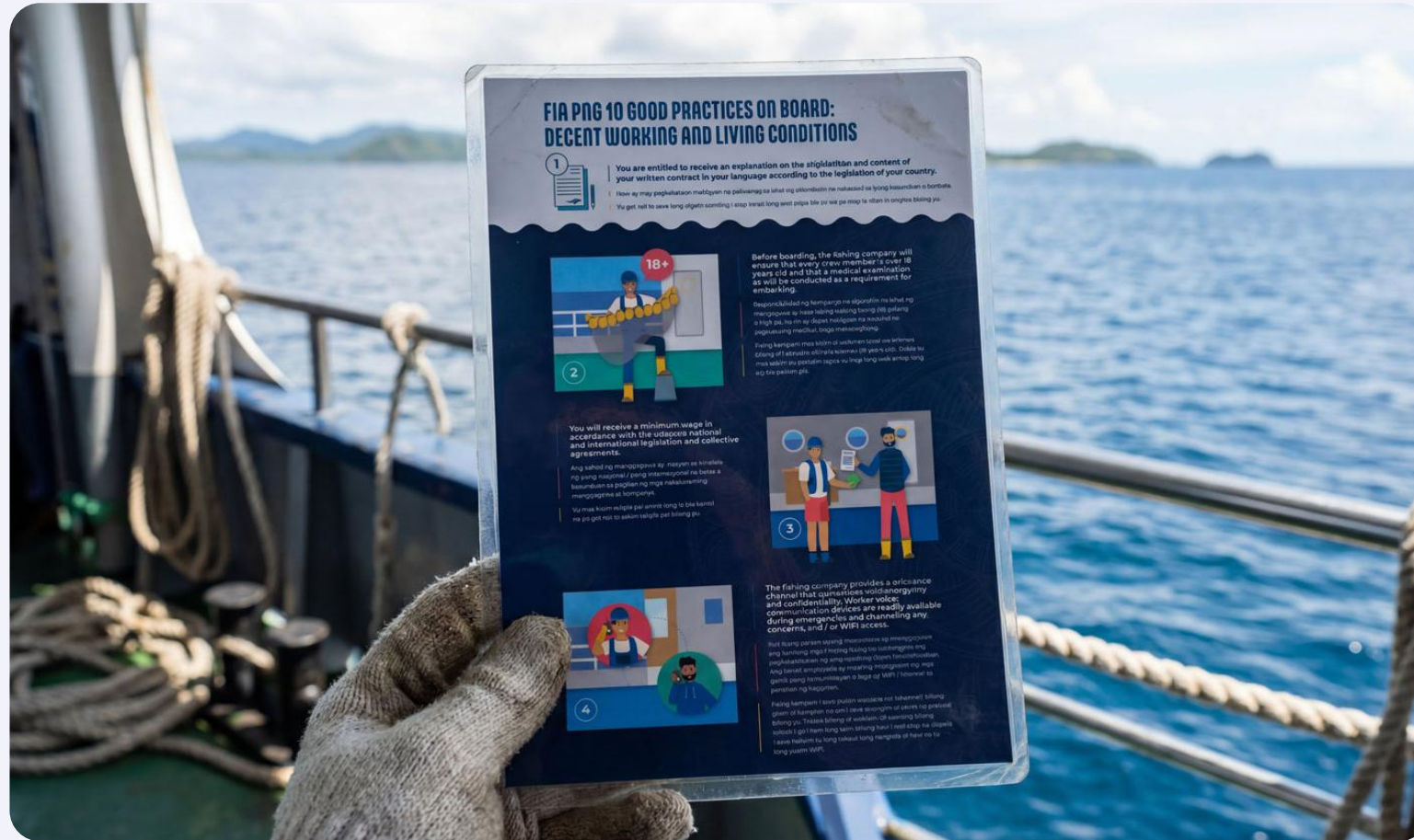
Social Accountability Virtual Dialogues

March 4, 2025





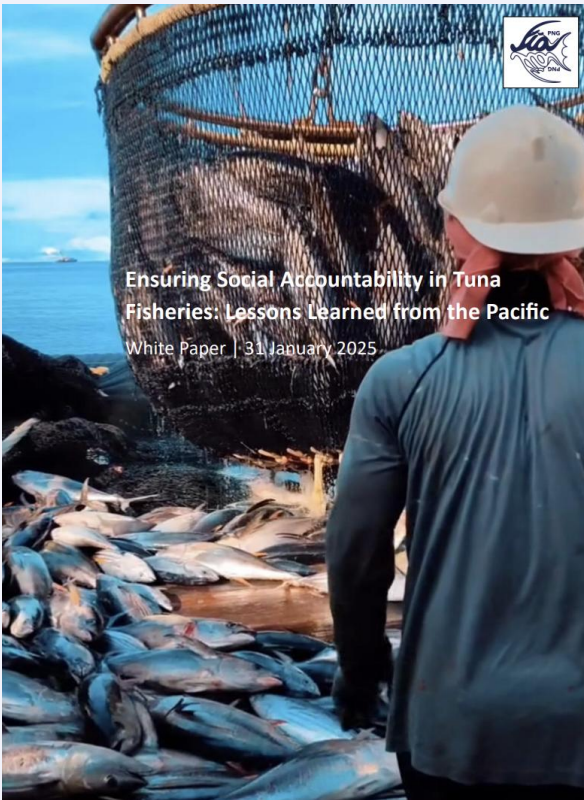
For Our People





For Our People

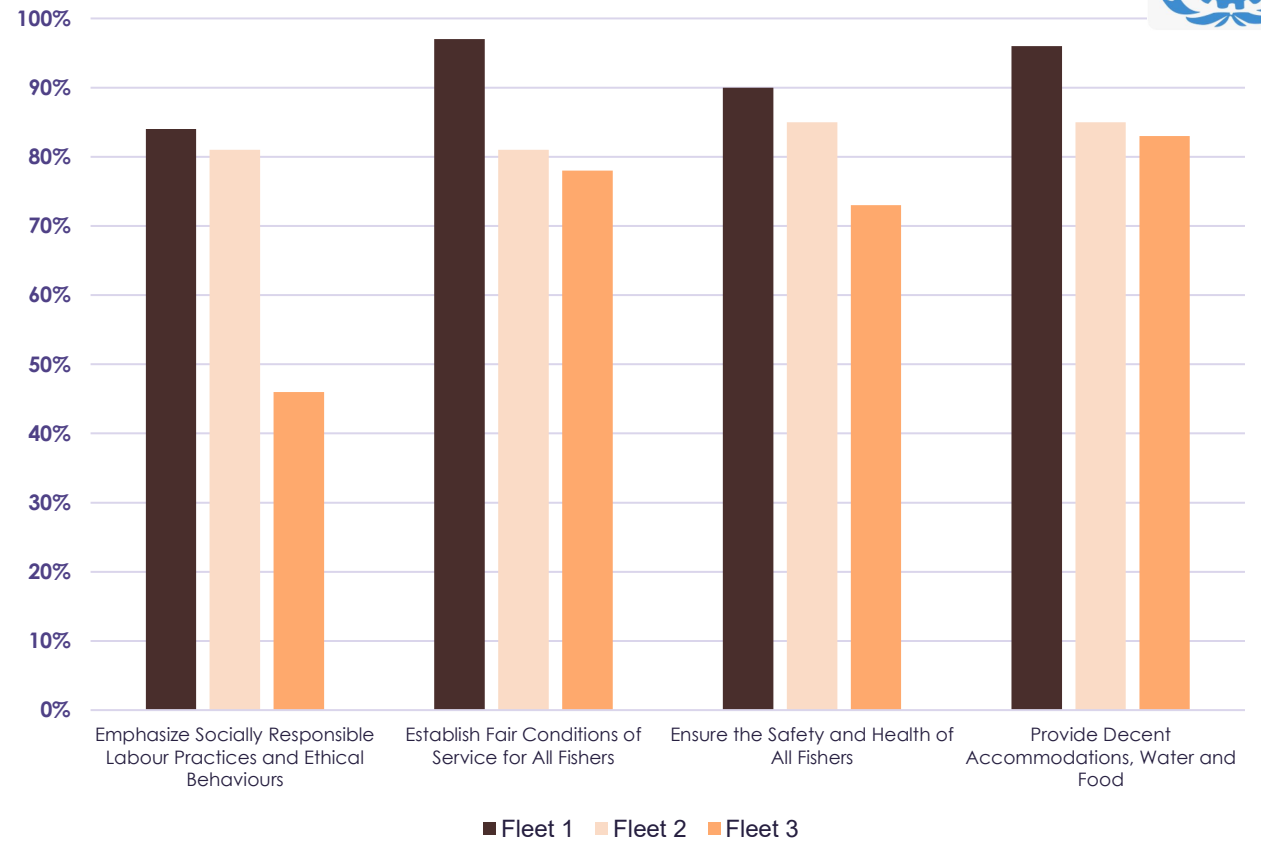
Ensuring Social Accountability in Tuna Fisheries: Lessons Learned from the Pacific
White Paper | 31 January 2025



**KEY DATA ELEMENTS
ON TRACEABILITY – SOCIAL ACCOUNTABILITY
& CREW WELFARE ON BOARD
2025**



FIA PNG Tuna Fleet: FISH for Crew standard





Scaling a Proven Model
to:

Small-Scale Fisheries

Case Study Pole & Line
South Africa



Pole & Line - SSF

A Proven Scalable Model People and Planet

- From 7 to 15 crew
- Length: < 15 mts
- Fishing trips: 36 – 56 hours
- Two landing Ports
- Buyers asking for Human & Labor rights monitoring
- Ratified ILOC 188
- Target species: Tuna and Small Pelagic fish



Tuna fishing





Scaling Human & Labor Rights to Artisanal Small Scale Fisheries (SSF)



- 8 P&L assessed
- 27 crew members interviewed
- 12 Captains/ officers
- 6 days in 2 Ports
- Interviews = 25 – 30 minutes
- Language: English and Africans
- EU market requirement

Small
Scale
Fisheries





Scaling Human & Labor Rights to Artisanal Small Scale Fisheries (SSF)



- KDE 1- Crew List
- KDE 2- Crew Contract/Agreement
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- KDE 4 – Crew Medical Certificate

Small
Scale
Fisheries

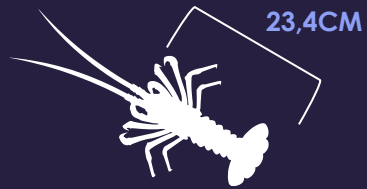


Small Scale Fishery one-by-one

Total rock lobster catches in 2023 (MT)



Average size of a harvested rock lobster



Dories anchored in the reef



Platforms

Dinghies associated with dories



Dinghies /dory



Dinghies in total

Lobster processors



Maru United Ltd & Aquila Enterprise Ltd.



Direct workers

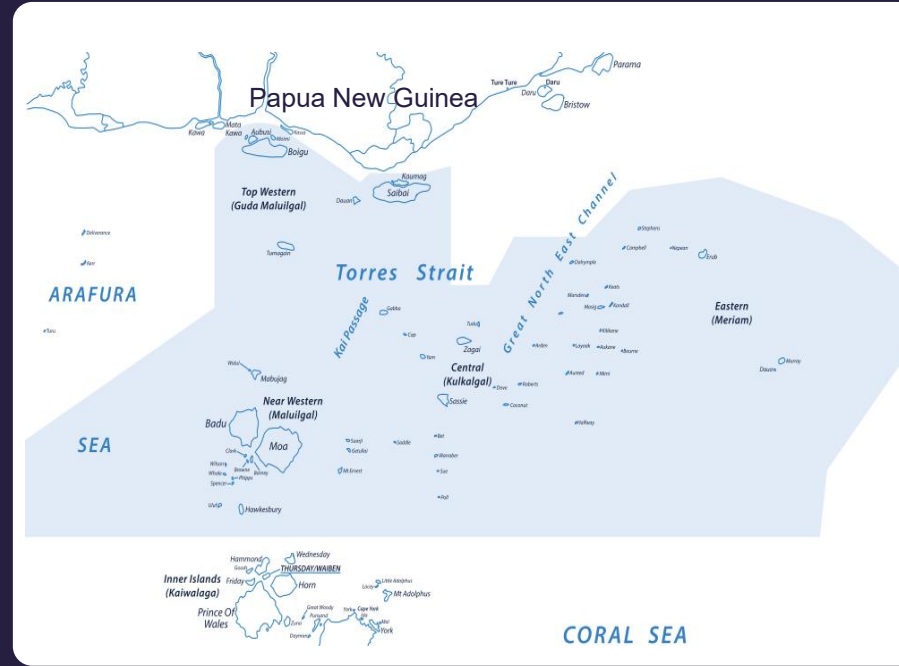
Apnea and hooka divers per dinghy



Divers



Skippers



Small Scale Fishery

Full traceability from fishing – tracking – landings - exports



Solar VMS transmitter



Mobile Apps



Big data platform

Key Features

The NEMO System includes a hybrid mobile-satellite solar-powered VMS transceiver, a big-data fisheries monitoring platform, mobile apps for fishermen and installers, and a whole range of related services. It is the only SSF system designed by fisheries experts.

Mobile/satellite vms

- Easy to use
- Plug-and-fish
- Solar-powered VMS
- Low-cost global coverage
- Continuous onboard data storage

Mobile Apps

- Electronic catch reports
- Navigation charts

Fisheries Monitoring Platform

- Big data-analytics
- Vessel detection and identification
- Scalable to your needs

Services

- Consulting & expertise
- Customized analytics & alerts
- Tailored fisheries monitoring center (FMC)



* NEMO: An NFA initiative to improve SSF supply chain management decisions



MUDCRAB

21.000
Local
collectors



- SeafoodMAP tool - reporting
- Join task force NFA/FIA PNG
- Chose a CAB
- Organizing in-house MSC pre-assessment
- **Embarking on the full assessment**
- CAP implementation
- In – Transition to MSC (ITMs)
- TWG extended
- RSP implementation
- Singapore and Hong Kong



Navigating Changes in Small Pelagic Fish and Forage Communities 2026



Thank You

www.seafoodmatter.eu

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