



Fishery Action Plan The Small Pelagic Purse Seine Fishery Improvement Project (FIP) in Karnataka

This workplan is based on an evaluation of the fishery relative to the MarinTrust standard. The actions have been identified to improve the performance of the fishery relative to any indicator in the standards where the fishery is scoring below the required level.

Work Plan version	Version 2.0, March 2024
Name of the Fishery	Small Pelagic Purse Seine Fisheries, Karnataka State, Republic of India
Main Species	<ul style="list-style-type: none">• Indian Oil Sardine (<i>Sardinella longiceps</i>)• Indian Mackerel (<i>Rastrelliger kanagurta</i>)• Lesser sardines including<ul style="list-style-type: none">• Mauritian sardinella (<i>Sardinella jussieui</i>)• Goldstripe sardinella (<i>Sardinella gibbosa</i>)• Fringescale sardinella (<i>Sardinella fimbriata</i>)• White sardine (<i>Sardinella albella</i>)
Management Authority (Country/State)	India (Karnataka state)

Fishery Location	Karnataka - State waters and adjacent national waters
Gear Type (s)	Purse Seine
FAO major fishing areas	FAO area 51
Start Date	When approved
End Date	When approved + 5 years
FIP Lead	Yashaswi Fish Meal and Oil Company – Fish meal & Fish Oil Producer
FIP Stakeholders	Yashaswi Fish Meal and Oil Company- Branch 2
	The Malpe Fishermen’s Primary Co-Op. Society Ltd – Fisherman Association
	Purse Seine Boat Association, Malpe – Fisherman Association
	The Kumta Fisheries Co-Op. Society Ltd – Fisherman Association
	Honnavara Talluk Purse Seine Union, Honnavara – Fisherman Association
	The Fisheries & Fish Products Manufacturing Co-operative Society Ltd – Fisherman Association
	Devi Seafoods Ltd – Feed Mill
FIP Partner	Department of Fisheries – Government of Karnataka
	ICAR-Central Marine Fisheries Research Institute (ICAR-CMFRI) – Government Agencies

	College of Fisheries, Mangalore – Academic
	EURASIA Silk Road Company Limited
FIP Coordinator	EURASIA Silk Road Company Limited by Dr. Nimnual Piewthongngam
Workplan developed by	Mr. Duncan Leadbitter & Ms. Pakawan Talawat
Clauses Failed	A1.2, A2.1, A2.2, A2.3, A2.4, A3.2, A3.3, B1, D4.1, D4.2, F1.3, F3.3, M2.1, M2.3, M2.4

Part 1: Gap Identified & Improvement Recommendation

Table 1 General Result

General Clause	Outcome (Pass/Fail)
M1 - Management Framework	Pass
M2 - Surveillance, Control and Enforcement	Fail
F1 - Impacts on ETP Species	Fail
F2 - Impacts on Habitats	Pass
F3 - Ecosystem Impacts	Fail

Table 2 Species- Specific Results

Category	Species	% landings	Outcome (Pass/Fail)
Category A	<i>Sardinella longiceps</i>	95	Fail
Category B	<i>Sardinella longiceps</i>	95	Fail
Category C	n/a	n/a	n/a
Category D	<i>Rastrelliger kanagurta</i>	3	Pass
	<i>Sardinella fimbriata</i>	2	Pass
	<i>Sardinella gibbosa</i>	2	Pass
	<i>Sardinella jussieu</i>	2	GAP/FAIL
	<i>Sardinella albella</i>	2	Pass

Species categorisation rationale : Landings data were supplied by the client, which included an initial categorization of the catch by species and common name. The methodology of MarinTrust (IFFO RS) v2.0 was employed to identify the species eligible for assessment. All species with landings exceeding 0.1% were incorporated into the assessment, adhering to the 0.1% minimum proportion criterion.

Sardinella longiceps was initially assessed under Category A, but the authors note that the lack of a comprehensive and effective management plan necessitated its re-assessment under Category B. Although some management measures are in place (including gear

restrictions and closed fishing seasons), the absence of Total Allowable Catch (TAC) limits, clearly defined long-term objectives and formal mechanisms linking scientific findings with management decisions ultimately does not constitute a robust species-specific management plan.

Improvement Recommendation : The catch composition was provided by the client, but the assessment team deduce potential issues with the calculation of the catch composition due to contradictory evidence in Kamble et al. (2017) which suggests catch of demersal species. We recommend that empirical data are collected in order to accurately assess the catch composition.

Section 1: Management Framework, Surveillance, Control and Enforcement

M1	Management Framework – Minimum Requirements		
	M1.1	There is an organisation responsible for managing the fishery.	PASS
	M1.2	There is an organisation responsible for collecting data and assessing the fishery.	PASS
	M1.3	Fishery management organisations are publicly committed to sustainability.	PASS
	M1.4	Fishery management organisations are legally empowered to take management actions.	PASS
	M1.5	There is a consultation process through which fishery stakeholders are engaged in decision-making.	PASS
	M1.6	The decision-making process is transparent, with processes and results publicly available.	PASS
Clause outcome:			PASS
M2	Surveillance, Control and Enforcement - Minimum Requirements		

	M2.1	There is an organisation responsible for monitoring compliance with fishery laws and regulations.	GAP
	M2.2	There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken.	PASS
	M2.3	There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing.	GAP
	M2.4	Compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS.	GAP
Clause outcome:			GAP

Improvement Recommendation : Clearly defining the authority responsible for enforcement of fishing regulations and reporting on violations and sanctions imposed for these violations would support increased transparency of the management process. Furthermore, coordination between state and national level enforcement bodies would improve monitoring, control and surveillance of fishing activities over territorial and EEZ waters, contributing to improved effectiveness of fishery management. Data collection by on-site fisheries enumerators, in addition to the implementation of MCS technologies (VMS, AIS), could enhance the reliability of information surrounding management and reporting of non-compliance in the fishery. These steps would also drive greater monitoring and control of IUU fishing, some indicators of which are reported in Karnataka.

Section 2: Category A Species

Species Name	Indian Oil Sardine (<i>Sardinella longiceps</i>)
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A1	Data Collection - Minimum Requirements		
	A1.1	Landings data are collected such that the fishery-wide removals of this species are known.	PASS
	A1.2	Sufficient additional information is collected to enable an indication of stock status to be estimated.	GAP
			Clause outcome: GAP
A2	Stock Assessment - Minimum Requirements		
	A2.1	A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock) and considers all fishery removals and the biological characteristics of the species.	GAP
	A2.2	The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.	PASS
	A2.3	The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.	GAP
	A2.4	The assessment is subject to internal or external peer review.	GAP
	A2.5	The assessment is made publicly available.	PASS
			Clause outcome: GAP
A3	Harvest Strategy - Minimum Requirements		

	A3.1	There is a mechanism in place by which total fishing mortality of this species is restricted.	PASS
	A3.2	Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.	GAP
	A3.3	Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).	GAP
Clause outcome:			GAP
A4	Stock Status - Minimum Requirements		
	A4.1	The stock is at or above the target reference point, OR IF NOT: The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT: The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.	GAP
Clause outcome:			GAP

Improvement Recommendation : The fishery would benefit from more frequent stock assessments, with formalised reporting procedures to improve the reliability of stock assessments. Current biological reference points only refer to target (i.e. MSY) not limit

reference points. It therefore remains uncertain if the stock has reached a point of recruitment impairment, risking stock collapse. Additionally, no formal procedures for mitigation (for example Harvest Control Rules) in cases of stock declines are in place. Generally speaking, landings data are not always clearly stratified by vessel and gear type, location (within or beyond the territorial waters) and date of data collection. In the case of the lesser sardines, the status of individual species' stocks are difficult to analyse as reports generally forgoe discrimination between these.

Section 3: Category B Species

Species Name		Indian Oil Sardine
B1	Species Name	<i>Sardinella longiceps</i>
	Table used (Ba, Bb)	Ba
	Outcome	Fail
<p>The status of the Indian oil sardine stock in Karnataka was overexploited and was likely fully fished or experiencing overfishing. The current biomass (B_{curr}) trailing below the target biomass for maximum sustainable yield (B_{MSY}), as reflected by a B_{curr}/B_{MSY} ratio of 0.732. Furthermore, an escalated exploitation rate was observed, denoted by an E_{curr}/E_{MSY} ratio of 1.04, implying an overfishing scenario where the catch rates surpassed the sustainable level (Rohit <i>et al.</i>, 2018). The current status of the stock in 2023 is uncertain.</p>		

Section 4: Management Framework, Surveillance, Control and Enforcement

Species Name	Indian Mackerel (<i>R. kanagurta</i>)
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D1	PSA Risk Rating (From Table D3)	PASS
	Compliance rating	PASS
Species Name		Fringescale sardinella (<i>S. fimbriata</i>)
D1	PSA Risk Rating (From Table D3)	PASS
	Compliance rating	PASS
Species Name		Goldstripe sardinella (<i>S. gibbosa</i>)
D1	PSA Risk Rating (From Table D3)	PASS
	Compliance rating	PASS
Species Name		White sardinella (<i>S. albella</i>)
D1	PSA Risk Rating (From Table D3)	PASS
	Compliance rating	PASS

Species Name		Mauritian sardinella (<i>S. jussieui</i>)
D1	PSA Risk Rating (From Table D3)	GAP
	Compliance rating	GAP

D4	Species Name		Mauritian sardinella (<i>S. jussieui</i>)
	Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements		
	D4.1	The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.	GAP
	D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.	GAP
Outcome:			GAP

Improvement Recommendation : Key information on the life history and reproductive traits of this species should be collected before an accurate risk assessment can be conducted. Further information on the geographical distribution and details of the gear type are required.

Section 5: Further Impacts

F1	Impacts on ETP Species - Minimum Requirements		
	F1.1	Interactions with ETP species are recorded.	GAP
	F1.2	There is no substantial evidence that the fishery has a significant negative effect on ETP species.	PASS
	F1.3	If the fishery is known to interact with ETP species, measures are in place to minimise mortality.	GAP

			Clause outcome:	GAP
F2	Impacts on Habitats - Minimum Requirements			
	F2.1	Potential habitat interactions are considered in the management decision-making process.		PASS
	F2.2	There is no substantial evidence that the fishery has a significant negative impact on physical habitats.		PASS
	F2.3	If the fishery is known to interact with physical habitats, there are measures in place to minimise and mitigate negative impacts.		PASS
			Clause outcome:	PASS
F3	Ecosystem Impacts - Minimum Requirements			
	F3.1	The broader ecosystem within which the fishery occurs is considered during the management decision-making process.		PASS
	F3.2	There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.		PASS
	F3.3	If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals.		GAP
			Clause outcome:	GAP

Improvement Recommendation : An accurate assessment of the status of the captured stocks in this fishery would allow for a comprehensive analysis of potential negative impacts on the marine ecosystem and would inform precautionary measures to be taken. A wider understanding of the fishery ecosystem, assessment of key predator interactions with the stocks and the calculation of exploitation rates which consider the wider ecosystem could enhance the sustainability of this fishery.

A detailed analysis of the catch composition might show evidence of fishing within shallow inshore areas. Presence of demersal or benthic species would indicate spatial-temporal management measures need to be introduced and effectively monitored and enforced

Part 2: FIP Action

Objectives of FIP actions:

1. Improve data collection on species composition , catch and effort and biomass for small pelagic species taken in the purse seine fisheries in Karnataka State.
2. Contribute to a better understanding of the status of small pelagic fish stocks in Karnataka State with formalised reporting procedures.
3. Support government in putting in place a Small Pelagics Purse Seine Fisheries Management Plan to include clear fishery objectives, formal procedures for adjusting catches (Harvest Control Rules) in cases of stock declines, mechanisms to involve stakeholders in management discussions, ecosystem considerations, data collection (research and monitoring) priorities and MCS arrangements..
4. Clarify and document measures put in place to ensure compliance by the fishery with the relevant fishery laws.
5. Contribute to an improved understanding of the interactions between the small pelagics purse seine fisheries and other ecosystem components including dependent species and species of conservation concern.

6. Ensuring that vessels operating in the fishery adhere to internationally recognised guidance on human rights and commit to ensuring there is no use of child, enforced or unpaid labour in the fleet(s) operating upon the resource.

Proposed Actions and Fishery Action Plan (FAP)

Section 1: Catch Composition and stock assessment of small pelagics purse seine fisheries (including Indian Oil Sardine, Indian mackerel and Lesser sardines (*S. fimbriata*, *S. gibbosa*, *S. jussieui*, and *S. albella*)) in Karnataka State

Objective Number and Name	<p>Objective 1. Improve data collection on species composition , catch and effort and biomass for small pelagic species taken in the purse seine fisheries in Karnataka State.</p> <p>Objective 2. Contribute to a better understanding of the status of small pelagic fish stocks in Karnataka State with formalised reporting procedures.</p>
Action Goal	<p>The data available for small pelagics purse seine fisheries from Karnataka is sufficient for robust stock assessments of key species (or species groups) (including Indian Oil Sardine, Lesser Sardine Species and Indian Mackerel).</p>
Action Description	<p>Improved data will allow for improved assessment of stock status and provide a firm basis for management of these stocks, both in Karnataka and more widely . Data sources may include fishery dependent surveys (e.g. documentation of fishing fleet landings and effort, on-board catch sampling, logbook data etc) , sampling at fishmeal factories (species composition and length) or fishery</p>

	independent data collection such as abundance surveys and biological information).
Expected Beginning Date	August 2024
Expected Completion Date	September 2026
Priority	High priority
Estimated Cost	112,000 USD
Responsible Parties	FIP Consultant, FIP members, Karnataka Department of Fisheries, scientific research bodies, fisheries experts purse seine operator members, fishmeal factory members
MarinTrust criteria addressed by the Action	Catch composition and stock status, A1.2, A2.1, A2.3, A2.4, Biological data for Mauritian sardinella (<i>S. jussieui</i>), D1, D4

Proposed Actions	Tasks	Priority	Responsible (lead)	Responsible (supporting role)	Starting date	Expected completion date	Budget (USD)	Evidence of completion / Output
1.1 Support scientific sampling of catches to determine catch	Conduct data collection of small pelagics purse seine fisheries program	High	Research provider	FIP consultant, purse seine operator	August 2024	July 2025	70,000	A report that will include:

<p>composition and types/configurations of nets used</p> <p>Outcomes of catch sampling will clarify the role and the contribution of key targeted species in the catches and will enable categorisation of species according to MarinTrust requirements</p>	<p>(including Indian Oil Sardine, Indian mackerel and Lesser sardines (including, but not restricted to <i>S. fimbriata</i>, <i>S. gibbose</i>, <i>S. jussieui</i>, and <i>S. albella</i>)</p> <p>Noted: The time of this action is depending with the fishing season.</p>			<p>members, fish meal factory members, Karnataka DoF, researchers</p>				<p>a. Catch composition report including outcome of catch sampling – catch composition to include key targeted species and sizes (for key species like Indian Oil Sardine, Lesser Sardine Species and Indian Mackerel)</p> <p>b. Information on any interactions between purse seining and ETP species and ecological significant species</p> <p>c. Options for increasing frequency of stock assessment</p>
<p>1.2 Collection of sufficient information on <i>S.jussieui</i> to enable risk assessment to be undertaken</p>	<p>Collection of basic biological information</p>	<p>High</p>	<p>Research provider</p>	<p>FIP Consultant, Karnataka DoF, research providers , Fisheries</p>	<p>August 2024</p>	<p>July 2025</p>	<p>10,000</p>	<p>Report on basic biological parameters and risk assessment in accordance with</p>

				expert				Marin Trust method
<p>1.3 Draft preliminary stock assessment of small pelagics to contain estimate of sustainable yield and assessment of current state versus draft reference points.</p> <p>Treat lesser sardines as one group.</p> <p>Explore option of developing an aggregate yield assessment of all small pelagics as a group (as per multispecies approach)</p>	<p>Work with scientists to develop stock assessments that will contribute to better management of the fishery.</p>	High	Research provider	<p>FIP Consultant, Karnataka DoF, research provider, Fisheries expert</p>	August 2025	December 2025	30,000	<p>A workshop on multispecies stock assessments suited to the small pelagic fisheries.</p> <p>A report that will include stock assessments to contain estimate of sustainable yield of selected small pelagic purse seine species</p>
<p>1.4 internal and external peer review of stock assessments of selected small pelagics species taken in purse seine fisheries of Karnataka,)</p>	<p>Arrange internal and external peer review of stock assessments of selected small pelagics species taken in purse seine fisheries,</p>	High	Internal and External Fishery Experts	<p>FIP Consultant, College of Fisheries (Mangalore), Karnataka DoF, CMFRI</p>	January 2026	March 2026	2,000	<p>A report of internal and external peer reviews</p>

Section 2: Develop and adopt fishery management plan for small pelagics purse seine fisheries (including Indian Oil Sardine, Indian mackerel and lesser sardines) in Karnataka State

Action Number and Name	Objective 3. Support government in putting in place a Small Pelagics Purse Seine Fisheries Management Plan to include clear fishery objectives, formal procedures for adjusting catches (Harvest Control Rules) in cases of stock declines, mechanisms to involve stakeholders in management discussions, ecosystem considerations, data collection (research and monitoring) priorities and MCS arrangements.
Action Goal	The small pelagics purse seine management plan sets out clear objectives for the fishery, stocks and ecosystem, along with actions to ensure that these objectives are met, as well as methods and means for these actions to be implemented.
Action Description	The small pelagics purse seine management plan is developed by the Karnataka Department of Fisheries in consultation with key stakeholders. .
Expected Beginning Date	October 2024
Expected Completion Date	December 2028
Priority	High priority
Estimated Cost	88,000 USD
Responsible Parties	FIP Consultant, FIP members, Karnataka DoF, research providers, fisheries management experts, purse seine fishers, fish meal factory members
MarinTrust criteria addressed by the Action	A3.2, A3.3, A4.1, F1.1, F1.3, F3.3

Proposed Actions	Tasks	Priority	Responsible (lead)	Responsible (supporting role)	Starting date	Expected completion date	Budget (USD)	Evidence of completion / Output
2.1 Evaluate options for establishment of Small Pelagics Purse Seine Fisheries Management Plan including reference points and harvest control rules	Organize a workshop to discuss and agree on a plan development process.	High	FIP Consultant	FIP members, Karnataka DoF, research providers, fisheries management experts	October 2024	December 2024	6,500	Establishment of a process for the development of a Small Pelagics Purse Seine Fisheries Management Plan including, but not limited to, reference points and harvest control rules
2.2 Establish a regular series of meetings with Karnataka DoF and relevant research providers to update them on new information from the FIP and seek updates from them on plan development, including creation of mechanisms for formally adopting	Adoption of mechanism for working with government and stakeholders on the creation of a formal Small Pelagics Purse Seine Fisheries Management Plan	High	FIP Consultant, FIP members	Karnataka DoF, research providers, fisheries management expert,	January 2025	December 2027	30,000	Contributing to the development of the small pelagics purse seine management plan in Karnataka State

the plan								
2.3 Establish the small pelagics purse seine management plan	Discussion with fisheries agencies aimed at adopting the proposed small pelagics purse seine management plan	High	FIP Consultant, FIP members	Karnataka DoF, CMFRI, fisheries management expert,	January 2025	December 2028	10,000	Seek agency agreement to adopting the small pelagics purse seine management plan fisheries
2.4 Securing stakeholder support for the proposed management plan	Stakeholder workshops aimed at generating support for the proposed small pelagics purse seine management plan	High	FIP Consultant, FIP members	Karnataka DoF, CMFRI, fisheries management expert,	January 2025	December 2028	30000	3 workshops, translation into local language and meeting translation
2.5 Generate support for the the small pelagics purse seine management plan	Organize a workshop to agree on the small pelagics purse seine management plan	High	FIP Consultant	FIP members, Karnataka DoF, research providers,, fisheries management expert, stakeholders	January 2028	June 2028	6,500	A Workshop report to cover - agreed reference points - agreed harvest strategy - agreed harvest control rules - other key

								components of the plan as adopted by government and stakeholders.
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Section 3: Surveillance, Control and Enforcement

Action Number and Name	Objective 4. Clarify and document measures put in place to ensure compliance by the fishery with the relevant fishery laws.
Action Goal	The fishery complies with the relevant fishery laws with evidence support. Monitoring, Control, and Surveillance system is effectively implemented with coordination between state and national level enforcement bodies.
Action Description	This action aims to develop a full description of the legal and regulation regime, evidence on the control of IUU fishing and monitoring the compliance, as well as documentation of surveillance techniques used
Expected Beginning Date	April 2024
Expected Completion Date	April 2025
Priority	Medium and High priority
Estimated Cost	5000 USD

Responsible Parties	FIP Consultant, FIP members, Karnataka DoF, research providers, fisheries management expert, purse sine fishers, fish meal factory members
MarinTrust criteria addressed by the Action	M2.1, M2.3, M2.3

Proposed Actions	Tasks	Priority	Responsible (lead)	Responsible (supporting role)	Starting date	Expected completion date	Budget (USD)	Evidence of completion / Output
3.1 Clarify Monitoring, Controls, and Surveillance (MCS) arrangement both at the National level and State Level	Discussion with fisheries agencies (Karnataka DoF) to prepare a short report and evidence that covers arrangements for the control of IUU fishing including the surveillance, control and enforcement measures required at both the National level and State Level	High	FIP Consultant	Karnataka DoF, CMFRI	April 2024	October 2024	5,000	Short report and evidence that covers arrangements for the control of IUU fishing and monitoring compliance with fishery laws and regulations - Authorities responsible for enforcement of fishing regulations and reporting on violations and sanctions both at State and National Levels are identified

								<ul style="list-style-type: none">- Fishery monitoring activities undertaken by the relevant authorities e.g., Vessel Monitoring System (VMS), vessel based, landing sites etc. both at State and National Levels - Information on the number of offences detected and the action taken overall both at State and National Levels - Full description of the legal and regulatory regime under which the fishery operates both at the State and National Levels - Surveillance techniques used to detect breaches of control measures both at the State and
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								National Levels - Coordination between state and national level enforcement bodies is documented
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Section 4: Impact on ETP Species and Ecosystem impact

Action Number and Name	Objective 5. Contribute to an improved understanding of the interactions between the small pelagics purse seine fisheries and other ecosystem components including dependent species and species of conservation concern.
Action Goal	The fishery is not having a significant impact on the ETP Species and ecosystem, including important ecosystem components such as seabirds, marine mammals, mangrove forests, seagrass beds, coral reefs and other predators dependent on small pelagics.
Action Description	This action aims to ensure that ETP species are addressed, as well as the ecosystem management, and that the requirements of the ecosystem are taken into consideration in management decision-making.
Expected Beginning Date	January 2025
Expected Completion Date	June 2028
Priority	Medium priority

Estimated Cost	35,000 USD
Responsible Parties	FIP Consultant, FIP members, Karnataka DoF, research providers, Fisheries management experts , purse seine fishers, fish meal factory members
MarinTrust criteria addressed by the Action	F1.1, F1.3, F3.3

Proposed Actions	Tasks	Priority	Responsible (lead)	Responsible (supporting role)	Starting date	Expected completion date	Budget (USD)	Evidence of completion / Output
4.1 Review of local projects and published information that addresses ETP and potential habitat interactions	Literature review on local projects and published information from local fisheries agencies and academic institutions	Medium	Research provider	FIP Consultant, Karnataka DoF, research providers	January 2025	June 2025	5,000	A report on potential small pelagic purse seine fisheries interactions with ETP species and habitats
4.2 Evaluate options for managing any significant fishery impacts on ETP species identified in 4.1	Organize a workshop to discuss options for better documenting ETP interactions if required	Medium	FIP Consultant, Research provider	Karnataka DoF, CMFRI, fisheries management expert, Purse Seine fishers	July 2024	June 2025	10,000	a. Short report on options for improving knowledge of ETP interactions
4.3 Ensure that ETP species are addressed (note that this area may require	Depending on the results of 4.1 and 4.2 develop mechanisms	Medium	Research provider	FIP Consultant, Karnataka DoF, research	July 2026	December 2026	10,000	Workshop and report on mechanisms for

further development if ETP interactions found to be significant)	for ensuring that ETP interactions are addressed			provider, gear specialists				addressing any ETP interactions including safe release guidelines
4.4 Ensure that any impacts of small pelagics purse seine fisheries on important ecosystem components are addressed	Update existing Ecopath with Ecosim (EwE) mode for the South West of India and evaluate the impacts of removals of small pelagics on ecosystem structure and function	Medium	EwE specialist	FIP Consultant, Karnataka DoF, CMFRI, Fisheries Expert	July 2025	June 2026	10,000	a. A report with a comprehensive analysis of potential impacts of the fisheries on ecosystem structure and function b. Possible recommendations for actions to be included in the proposed fishery management plans

Section 5: Social Criterion

Action Number and Name	5. Ensuring that vessels operating in the fishery adhere to internationally recognised guidance on human rights and commit to ensuring there is no use of child, enforced or unpaid labour in the fleets operating upon the resource
Action Goal	The Fish meal factory and the fishing fleets operation following to the guidance

	on human rights and commit to ensuring there is no use of child, enforced or unpaid labour.
Action Description	This action aims to ensure that the Fish meal factory and the fishing fleets operation following to the guidance on human rights and commit to ensuring there is no use of child, enforced or unpaid labour.
Expected Beginning Date	January 2024
Expected Completion Date	June 2024
Priority	High priority
Estimated Cost	5000
Responsible Parties	Purse Seine Operator members, Fish meal factory members, Feed Mill & Seafoods factory members
MarinTrust criteria addressed by the Action	Social Criterion

Proposed Actions	Tasks	Priority	Responsible (lead)	Responsible (supporting role)	Starting date	Expected completion date	Budget (USD)	Evidence of completion / Output
5.1 Ensuring that vessels operating in the fishery, fish meal factory members, feed mills and seafood factory	Submit commitment on human rights, no use of child, enforced or unpaid labour to	High	Purse seine fishers , fish meal factory	FIP Consultant	January 2026	June 2026	-	A written commitment on - adherence to internationally

