

Action Plan for Vietnam Kien Giang Blue Swimming Crab
Fishery Improvement Project (FIP)

DRAFT REPORT

By

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Acronyms

Vietnamese Institutions Acronyms

DARD	Department of Agriculture and Resource Development
DECAFIREP	Department of Capture Fisheries & Resource Exploitation and Protection
MARD	the Ministry of Agriculture and Resource Development
NIO	Nha Trang Institute of Oceanography
PPC	Provincial People's Committees
RIMF	Research Institute for Fisheries Management
TFMC	Tuna Fisheries Management Council
VASEP	Vietnam Association of Seafood Exporters and Producers
WWF	World Wildlife Fund (Vietnam)

Fisheries Management Acronyms

EEZ	Exclusive Economic Zone
CAC	Crab Advisory Council
CMC	Crab Management Council
CMP	Crab Management Plan
IUU	Illegal, Unreported and Unregulated
MoU	Memorandum of Understanding
NTMP	National Tuna Management Plan
UNFSA	United Nations Fish Stocks Agreement

MSC Acronyms

BMT	MSC FIP Benchmarking and Monitoring Tool
CA	Consequence Analysis
EAFM	Ecosystem Approach to Fisheries Management
ETP	Endangered, Threatened and Protected
FIP	Fishery Improvement Project
MSC	Marine Stewardship Council
PRA	Participatory Rural Appraisal
PSA	Productivity Sensitivity Analysis
RBF	Risk Based Framework
RRA	Rapid Rural Appraisal

SICA

Scale Intensity Consequence Analysis

1. INTRODUCTION

The original fisheries improvement project (FIP) Action Plan was developed following a FIP stakeholder meeting held in Kien Giang, Vietnam in June 2010, and was finalized in July 2010. The purpose of this document is to update the revised 2013 Action Plan, based on results of the FIP review meeting held in Rach Giang, Vietnam on August 29-30, 2014, and to provide background information on the number of ongoing and new activities that are underway, reconfirm activities which have not yet been implemented, and revise activities based on new information, which may include revisions to the Marine Stewardship Council (MSC) Fisheries Assessment Methodology (FAM). The revisions to the Milestones have been made along with some deleted activities which were deemed to be too costly, or could be developed in a more efficient way. This revised Action Plan includes information on the proposed milestones for each activity, the scoring guideposts met, the stakeholder organization responsible for implementation, the expected timeframe to complete the task and the current status. Work plans for each outcome and activity had been set in 2010, but were later refined into milestones in December 2012. A project logframe was developed which integrated the milestones set, with the previously defined activities. The milestones and logframe have been adjusted to reflect the changed agreed in the August, 2014 workshop outputs. The document also includes the use of MSCs new Benchmark Tracking Tool.

The Units of Certification identified from the 2010 pre-assessment were:

- Blue swimming crab caught by tangle net, Kien Giang Province, Vietnam;
- Blue swimming crab, caught by trap, Kien Giang Province, Vietnam.

This document identifies the activities and range of activities required in the Action Plan for the fisheries to meet the Marine Stewardship Council (MSC) standard. The MSC fisheries assessment methodology, Version 1.3, is used to define the actions. The most important feature to this is that all target species (Principle 1), must focus on the stock status and management activities throughout the range of the stock, whilst ecosystem interactions (for other retained, bycatch and Endangered, Threatened, and Protected (ETP) species) relate specifically to the fishery under assessment. Further changes to the Action Plan may be required, if MSC changes some of the scoring guideposts as part of its Fisheries Standard Review that is currently in process.

This document serves to improve the guidance for the activities and milestones required in the Action Plan to reach the MSC Standard, integrating changes and clarifying any areas of uncertainty which may have been identified by the stakeholders during the FIP review meeting in August 2013.

WWF and the Vietnam Association of Seafood Exporters and Producers (VASEP) Crab Council have been leading implementation of the FIP and coordinating development of each activity. The overarching management issues fall to DARD. The Crab Advisory Council (CAC), formerly the Crab Management Council, is responsible for coordinating research and providing advice to DARD. The CAC comprises all associated stakeholder groups included DARD (Province and District), fishermen's representatives, processors and WWF. The research functions are supported by the Research Institute for Fisheries Management (RIMF). The Action Plan itself incorporates reference to Stakeholder Terms of Reference (Section 4), which are revised and developed to include changes to timelines and associated budgets. The results generated from the Action Plan are reviewed by the EEI FIP Coordinator and the FIP consultant (hired to monitor and review progress of the FIP).

2. FIP PROGRESS

An assessment of the current status of the fisheries against the MSC Performance Indicators (PI), based on results of the FIP review meeting, is summarized below. Four PIs that scored as “Fail” (<60) in the pre-assessment now score as “Pass with conditions” (60-80), and two PIs that scored as “Fail” (<60) in the pre-assessment now score as “Pass.”

Table 1: Summary of MSC pre-assessment scoring and revised scoring following the August 2013 FIP review meeting

Principle	Component	PI number	Performance Indicator	Pre assessment scoring	Revised scoring 2013	Revised scoring 2014
1	Outcome	1.1.1	Stock status	Fail	Fail	Fail. The stock assessment model needs to demonstrate where the biomass is relative to unexploited levels
		1.1.2	Reference points	Fail	Fail	Pass with Condition. The current reference point of F=0.8 is useful, but a new target based on biomass or an appropriate surrogate is required when the model is revised.
		1.1.3	Stock rebuilding		To be reviewed once the stock assessment is completed	Pass with condition as rebuilding should succeed if proposed measures are implemented, but an MSE is required to provide evidence of its effectiveness
	Management	1.2.1	Harvest Strategy	Fail	Fail	Pass with condition as the harvest strategy in place requires evidence that it will achieve its objectives
		1.2.2	Harvest control rules and tools	Fail	Fail	Pass with condition with a requirement to ensure that

						the main uncertainties are incorporated
		1.2.3	Information and monitoring	Fail	Pass with condition	Pass, but with a continuing commitment to data collection and a Frame survey to establish all other fishery removals from the stock.
		1.2.4	Assessment of stock status	Fail	Pass with condition	Standard errors to be incorporated /Uncertainty to be taken into account
2	Retained species	2.1.1	Outcome – Tangle net	Fail (outcome status unknown)	Fail	Risk assessment no threats to retained species
			Outcome – Trap	Fail	Fail	Risk assessment no threats to retained species
		2.1.2	Management – Tangle net	Fail	Fail	No retained species action required
			Management – Trap	Fail	Fail	Mesh size increase
		2.1.3	Information – Tangle net	Fail	Fail	Continued catch/observer monitoring
			Information – Trap	Fail	Fail	Continued catch/observer monitoring
	Bycatch species	2.2.1	Outcome - Tangle net	Potentially a default pass as all species caught are retained	Potentially a default pass as all species caught are retained	Default 100
		2.2.1	Outcome – Trap	Pass with condition	Pass with condition	Default 100
		2.2.2	Management – Tangle net	Pass		Default 100
		2.2.2	Management – Trap	Fail	Fail	Default 100

		2.2.3	Information – Tangle net	Pass with condition	Pass with condition	Default 100
		2.2.3	Information – Trap	Pass with condition	Pass with condition	Default 100
	ETP species	2.3.4	Outcome – Tangle net	Fail	Fail	Intermediate risk with threat to turtles
		2.3.1	Outcome – Trap	Pass	Pass	Pass
		2.3.2	Management Tangle net	Fail	Fail	Turtle awareness and mitigation to be developed
		2.3.2	Management – Trap	Pass	Pass	Default 100
		2.3.3	Information – Tangle net	Pass with condition	Pass with condition	Turtles encounter ability recorded
		2.3.3	Information – Trap	Pass with condition	Pass with condition	Turtles encounter ability recorded
		Habitats	2.4.1	Outcome – Tangle net	Pass	Pass
	2.4.1		Outcome – Trap	Pass	Pass	Pass
	2.4.2		Management – Tangle net	Pass	Pass	Pass
	2.4.2		Management – Trap	Pass	Pass	Pass
	2.4.3		Information – Tangle net	Pass with condition	Pass with condition	To be subject to the Risk Based framework
	2.4.3		Information – Trap	Pass with condition	Pass with condition	To be subject to the Risk Based framework
	Ecosystem	2.5.1	Outcome	Pass	Pass	To be subject to the Risk Based framework
		2.5.2	Management	Pass	Pass	To be subject to the Risk Based framework
		2.5.3	Information	Pass with condition	Pass with condition	Pass with condition
3	Governance and Policy	3.1.1	Legal and customary framework	Pass with condition	Pass with condition	Pass with condition

		3.1.2	Consultation, roles and responsibilities	Fail	Pass with conditions	Pass
		3.1.3	Long term objectives	Pass with conditions	Pass with conditions	Pass with condition that PAFM is included in the national strategy / Act
	Fishery specific management system	3.2.1	Fishery specific objectives	Fail	Pass	Pass
		3.2.2	Decision making processes	Fail	Fail	Documenting decision making
		3.2.3	Compliance and enforcement	Fail	Fail	Fail
		3.2.4	Research plan	Fail	Pass with condition	Pass
		3.2.5	Management performance evaluation	Fail	Pass	Pass

Specific milestones were incorporated into the Logframe and FIP tracking document by the FIP consultant in December 2011. These were amended in 2013.

The project goals are as follows:

- Stock status and fisheries management: *To ensure that the crab catch does not exceed sustainable levels*
- Ecosystem management: *To promote the ecosystem based approach to fisheries management*
- Governance systems: *To strengthen governance systems in the Kien Giang crab fishery*

The eight outcomes are as follows:

1. Stock status improved and reference points applied in management
2. Data collection and information systems strengthened
3. Crab management strategies applied
4. Other species caught subject to a management strategy
5. Legal framework implemented and governance systems strengthened
6. Effective system of roles and responsibilities and consultation processes
7. Effective application of compliance systems
8. Incentives system reviewed

Actions completed in 2013/214 included:

Goal 1: Stock status improved and reference points applied in management

The status of the Milestones for Goal 1 are listed below:

Milestone 1 (literature review) is completed (1)
Milestone 2 (observer program) is ongoing
Milestone 3 (independent surveys) was deleted
Milestone 4 (stock independence) has been redefined and will be added to the 2014 RIMF TOR and is ongoing
Milestone 5 Research Plan is to be implemented
Milestone 6 (Report on crab size) is completed (2)
Milestone 7 (External peer review) is completed (3)
Milestone 8 (Stock assessment) is ongoing
Milestone 9 (External Peer review) is ongoing
Milestone 10 (Reference points) is to be amended
Milestone 11 (logbooks) is ongoing
Milestone 12 (enumerators and data entry) is ongoing
Milestone 13 (logbook awareness) is ongoing
Milestone 14 (vessel data base) is ongoing
Milestone 15 is deleted
Milestone 16 (harvest strategy) is to be implemented
Milestone 17 (Measuring the harvest strategies effectiveness) is to be implemented
Milestone 18 is deleted
Milestone 19 (community awareness) is ongoing
Milestone 20 (input/output regulations) is to be implemented
Milestone 21 (positive incentives/crab banks) is ongoing
Milestone 22 is part of Milestone 19
Milestone 23 (assessment of tools effectiveness) is to be implemented

Blue = Completed

Green = Ongoing

Red = New

Activity 1.1.1: Scientific data collection research and sampling programme and Activity 1.1.2: Provide quantitative biological reference points

With **Milestone 1** completed, and **Milestone 2** ongoing (Activity 1.1.1), RIMF provided specific outputs from their research which went towards achieving the defined milestones in Activity 1.2.1, including a report on crab size structures (**Milestone 6**), and a stock assessment report (**Milestone 8**). These reports were peer reviewed (**Milestone 7 and 9** respectively) by a crab fisheries scientist, Dr Cameron Dixon of WWF Australia. The main stock assessment report and peer reviews are contained in drop box 5 and 6 respectively. Completion of these milestones has taken all but one of the milestones to SG 60-70. The requirement for **Milestone 3** was to be reassessed in 2013 was the need to undertake independent vessel surveys to support the stock assessment work. On the advice of Dr Dixon, it was felt that such a survey did not represent good value for money. However, **Milestone 4** is now re-defined to allow for a frame survey to assess the significance of the Kien Giang fishery, relative to the impact on the same stock from Cambodia and elsewhere. This is required in order to determine the **proportionality** of the Kien Giang relative to other fisheries, to illustrate that the measures will not be dissipated by lack of action elsewhere. **Milestone 5** will be to set a research plan by Q1 2016. This will include both stock assessment and other species interactions.

The stock assessment showed that the stock was overfished by 20%, with a very high percentage of pre adult crabs taken by the trap fishery.

Based on the completion of the milestones, some additional actions need to be incorporated into the work undertaken. However first it is important to highlight that the stock assessment work needs to be regular, with additions made to the work next year, but thereafter, possible every 2-3 years.

Milestone 8 needs to be extended to include additional work to take the stock assessment to SG 80 or beyond, and **Milestone 9** needs to review the stock assessment by year 5.

The main additions required to **Milestone 8**, which will take this fishery from SG 60 to SG 80 are:

- A management strategy evaluation (MSE), to ensure that there is evidence in place to show that the management actions are achieving their objectives. This will require comparison of outputs from the current stock assessment model, with the same model and new data added, in one or two years' time, depending on when the measures have been implemented.(Now added to Milestone 8/Milestone 17).
- Performance measures from the model are expressed as % unexploited biomass or an appropriate surrogate, rather than estimates of fishing mortality. Sources of uncertainty (ie statistical error) are incorporated into the model so that likelihoods can be estimated or inferred(Added to Milestone 8)
- Main uncertainties are taken into account when developing the revised harvest control rules (Added to Milestone 8)
- Other fishery removals from the stock should be calculated (clarifying Milestone 4)

For the present, based on the stock assessment by RIMF a Target Reference Point was to recommend a Target Reference Point (TRP) at 0.8 (**Milestone 10**). The Harvest Strategy (Activity 1.3.1) has been adopted. However, both Limit and Target Reference Points will need to amended (Milestone 16) once the above additional analysis is undertaken.

Activity 1.2.1: Logbook system design and in operation

Data collection has been correctly implemented (Activity 1.2.1), but needs to be continued and strengthened. **Milestone 11** (Logbook implementation), **Milestone 12** (Enumerators operating), and **Milestone 13** (fisher logbook awareness) are ongoing. **Milestone 14** (Vessel data collection) has been implemented by RIMF, but the links between RIMF and DARD District offices needs to be strengthened. The workshop recommended adding the requirement for a **web based interface**. This will also include provision for web based logbook data entry.

Activity 1.3.1 Harvest control strategy implemented / Harvest control tools reformed or established based on limit reference points.

In response to the stock assessment work and supporting information provided by Dr Cameron Dixon on examples of harvest tools applied in Australian fisheries, DARD resolved to implement a series of Harvest Control Tools (**Milestone 20**, Activity 1.3.2). These tools need to collectively achieve a reduction in effective effort of at least 20%, which is equal to the level of over-exploitation identified in the model.

- The Minimum landing size at 100 mm (already a legal requirement).
- An increase in trap mesh size, with the recommended specifications to be provided to DARD by the end of September, 2014.
- The implementation of the closed area and closed season.

If implemented, these will constitute **Milestone 16 and 20**. However, this milestone will only be achieved once the measures are implemented in Q1 2015. Precautionary measures (**Milestone 18**) scheduled for Q1 2015 were abandoned given the evidence that the stocks were already over exploited.

The effectiveness of the strategies will be assessed **Milestone 17** in Q1 2016 and thereafter.

Milestone 21 (incentives) will continue to support crab banks, but caution must be taken to ensure that the budget focus is set on achieving specific MSC related outcomes, which this is not. **Milestone 19 and 22** reflect community awareness programme which DARD is implementing, but will need to be adjusted to reflect the awareness of the revised management tools. The community milestone is ongoing but **Milestone 22** is deleted as the activities in Milestone 19 and 22 are combined. **Milestone 23** will measure the effectiveness of the measures and will comprise a joint scientific/management report by DARD and RIMF to the CAC.

Goal 2: Ecosystem management: *To promote the ecosystem based approach to fisheries management*

The status of the Milestones for Goal 2 are listed below:

Milestone 24 (Recruiting consultants) is deleted

Milestone 25 (RRA questionnaire) is deleted

Milestone 26 (RRA study) is deleted

Milestone 27 (RRA reporting) is deleted

Milestone 28 (Risk assessment) is partially completed

Milestone 29 (PRA/Community engagement) to be completed, but may be redundant pending Milestone 28

Milestone 30 (Bycatch recommendations) to be completed, but may be redundant pending Milestone 28

Milestone 30 (Bycatch mitigation strategy) to be completed, but may be redundant pending Milestone 28

Milestone 31 (Bycatch tool evaluation) to be completed, but may be redundant pending Milestone 28

Activity 2.1.1 Information gathering and risk assessment to determine the vulnerability of retained species, bait and bycatch species to overfishing

Milestone 24 to 27 had earlier sought to use PRA to qualitatively define outcome status. Because of the quality of observer data, this Milestone is redundant. The work implemented under **Milestone 28** (observer

data collection) managed to provide accurate and verifiable information on the catch of all retained species, noting also that no species are thrown overboard as a bycatch. Based on the quality of this data, there is a high degree of certainty that the information available is sufficient to quantitatively estimate outcome status. If ongoing monitoring is in place to ensure that no impact occurs (Guidance GCB3.3.2) the bycatch PI for information and strategy will achieve a score of SG 100. To attain a default score for the bycatch outcome status. No bycatch species (in v1.3 of CR), automatically scores 100 for the Outcome PI (2.2.1). In order to maintain a score > SG 80, the observer scheme will need to be retained.

The observer data collection scheme undertaken by RIMF collects data information on Endangered, Threatened and Protected species (ETP). This indicates no interaction. Anecdotal information from fishers indicates no interactions with tangle net and traps. Evidence of no interaction with ETPs will need to be documented in observer reports to ensure that information is sufficient to quantitatively estimate outcome status of ETP species with a high degree of certainty. If this information confirms no interaction, the outcome and management components will automatically score SG 100. However, this will require the retention of the observer scheme. It is also noted that TEP interactions already list turtles in the catch logbook (**Milestone 11**).

The Risk Based Training and Workshop has been completed (**Milestone 28**), with the support of MSC, but a report is presently being prepared by the FIP Consultant and RIMF. RIMF are expected to validate the PSA (Retained species) and SICA scores (Habitat and Ecosystems).

Some information has been made of the fishery habitats. It is likely that Habitat structure and function would be the most likely Consequence. Impacts would relate to estuarine and coastal areas (within 2 nautical miles) where fishing is not permitted. Other areas would include a range from inshore and continental shelf areas, including sandy, muddy or algal and seagrass. Habitat Consequence will feature as part of the ongoing Risk Based Assessment undertaken by RIMF/Poseidon (**Milestone 28**). Milestone 28 will also include a Consequence Analysis of the ecosystem PI.

Activity 2.1.2: Management mitigation measures introduced

Milestone 29 and 30 deal with the outcomes of the Risk Assessment, bycatch mitigation and community awareness. These milestones will be reviewed in Q4 2014, but from the workshop outputs, it is expected that all other species risks will be low.

Evidence of Risk to turtle interactions is low but requires confirmation in observer recordings (**Milestone 31**). This not expected until Q4 2015, and will respond to evidence provided from observers and logbooks.

Milestone 32 measures the effectiveness of the management mitigation actions. This will be reviewed based on whether actions are required (Q4 2016)

Goal 3: Governance systems: *To strengthen governance systems in the Kien Giang crab fishery*

The status of the Milestones for Goal 2 are listed below:

Milestone 33 (Effective national legal system) to be finalized in 2015

Milestone 34 (Crab Advisory council) completed

Milestone 35 (CAC and DARD decision making processes) to be documented to demonstrate use of advice

Milestone 36 (FIP and CMP) completed
Milestone 37 (PAFM measures incorporated into the Management Plan) completed
Milestone 38 (Redrafting FIP and CMP to incorporate the harvest strategy and supporting ecosystem management actions) ongoing
Milestone 39 (Review plans implementation to show effectiveness)
Milestone 40 (Coordinator appointed) completed
Milestone 41 (Training needs) requires updating to reflect management strategy and the management plan
Milestone 42 (Roles and responsibilities confirmed) completed
Milestone 43 (Co-management groups formed) to be done
Milestone 44 (Co-management groups participating in CAC) to be done
Milestone 45 (Joint compliance working group formed and functioning) ongoing
Milestone 46 (Risk assessment) to be implemented
Milestone 47 (Enforcement strategies) to be reformulated after Milestone 46
Milestone 48 (Compliance industry awareness workshops) to be implemented
Milestone 49 (Reporting on deployment actions, arrests and fines) to be implemented
Milestone 50 (Community co-management enforcement) to be implemented

Activity 3.1.1: Implementation of the new Fisheries Law containing the core elements which prioritize sustainable fisheries

Current laws in place are effective and broadly comply with the MSC standards (**Milestone 33**), but revisions are being made to these which are most likely to strengthen the legal system against international requirements. The new law improves the management of fishing operations, provides reference to maintaining sustainable fisheries resources and their habitats; harmonizes the law and policies; identifies the authorities and duties of organizations and individuals in the management. These changes are not likely to occur until the Law is submitted to the National Assembly. **National policy documents, either the New Law, or the Strategy must contain a reference to the Precautionary Approach to Fisheries Management (PAFM), or a similar definition that can be inferred as supporting the application of measures that support MSC principles 1 and 2.**

Activity 3.2.1 Fisheries Management Council established

The Crab Management Council (CMC) (**Milestone 34**) has been changed to the Crab Advisory Council (CAC). Whilst there is clear evidence that the milestone has been completed, the Terms of Reference should be clearly set out in the Management Plan, and minutes maintained to show that the CAC is operating effectively. **The CAC coordinator must record the linkages between the committee's decisions and recording how information made available is used and not used.** Milestone 35 has been revised to reflect this. The CAC has the opportunity to score > SG 80, but the appropriate structure needs to be documented (**Milestone 35a**).

New Activity 3.2.2 Fisheries Management Council established

The DARD decision making processes (**Milestone 35b**) needs to be clearly documented and follow a sequence that takes account of research, monitoring and evaluation, follows a precautionary approach and ensures stakeholder awareness of the decisions taken.

Activity 3.2.2: Prepare fishery Specific Management Plan

The FIP consultant will update the Management Plan to document the incorporation of the Harvest strategy and use of reference points, and acknowledge the use of risk assessment in determining bycatch related risks (**Milestone 36 and 38**). The application of precautionary actions (**Milestone 37**) was largely redundant based on the strong evidence of stock decline from RIMF, but the application of PAFM/EAFM is an inherent component of the Crab Management Plan. Specific FIP targeted actions will be updated and refined.

The Effectiveness of the Management Plan (**Milestone 39**) will be assessed in Q3 2015 as an action point before the 2015 review.

Activity 3.2.3 Strengthen the capacity of the fisheries administration to service the CMC

A new CAC coordinator has been appointed (*New appointment Feb 2014*) (**Milestone 40**). DARD requested formal training on key management principles to be undertaken as part of the FIP coordinators next visit (**Milestone 41**).

Milestone 42, Roles and responsibility weaknesses identified and addressed (August, 2013) has been completed.

Activity 3.2.4: Establish stakeholder associations

A co-management consultant has been recruited to further develop participatory management functions. Working with DARD, the consultant will commence work in Bai Thom commune and Bai Bon village, Ham Ninh commune which benefitted from the SIDA funded Wetlands Alliance Programme (**Milestone 43**). DARD will thereafter roll out similar organisations throughout the province. This action has not commenced. A significant milestone will be the function of these Co-management groups as part of these CAC (**Milestone 44**) in 2016. Co-management activity is to commence in Q4 2014 and be undertaken throughout 2015 and 2016.

Activity 4.1.1: Compliance deployment strategies determined and implemented /Activity 4.1.2: Co-management responsibilities determined based on above and provided for in legislation.

Joint Compliance working group has been created (**Milestone 45**), but whilst some documentation on decisions and actions are available (including 5 joint actions with the border guard), careful attention needs to be paid to reporting (**Milestone 49**) – decisions taken, deployment actions, arrests and penalties. At the beginning of the year, DARD and the border guard began working together. Actions are believed to be ad hoc, but it is proposed to formally establish this group and formalize reporting on actions and results. Enforcement strategies (**Milestone 47**) will be revised in 2015 following the implementation of a risk assessment (**Milestone 46**) exercise, which will be supported by the FIP consultant, also an expert in MCS risk assessment.

In order to foster a system of systematic compliance in the regulations, DARD will include compliance obligations as part of its community awareness workshops (**Milestone 48**). As part of this exercise (and the risk assessment / enforcement strategy, co-management compliance responsibilities will be determined and community education system commences.

A summary of the status is shown in the BMT Summary Table (Table 1), the Scoring Category Overview (Figure 1), the BMT Progress Tracker (Figure2) and the BMT Report Sheet (Table 2). These show an improvement in position from the time of the MSC pre-assessment in 2010 to the FIP review meeting in August 2014.

Table 1: BMT Summary Table

Last update: Actual Year 3

Scoring Level	Overall Number of PIs	Principle 1 Number of PIs	Principle 2 Number of PIs	Principle 3 Number of PIs
≥80	9	2	4	3
60-79	10	4	2	4
<60	11	1	9	1
BMT Index	0.47	0.57	0.33	0.63

Figure 1: Scoring Category Overview

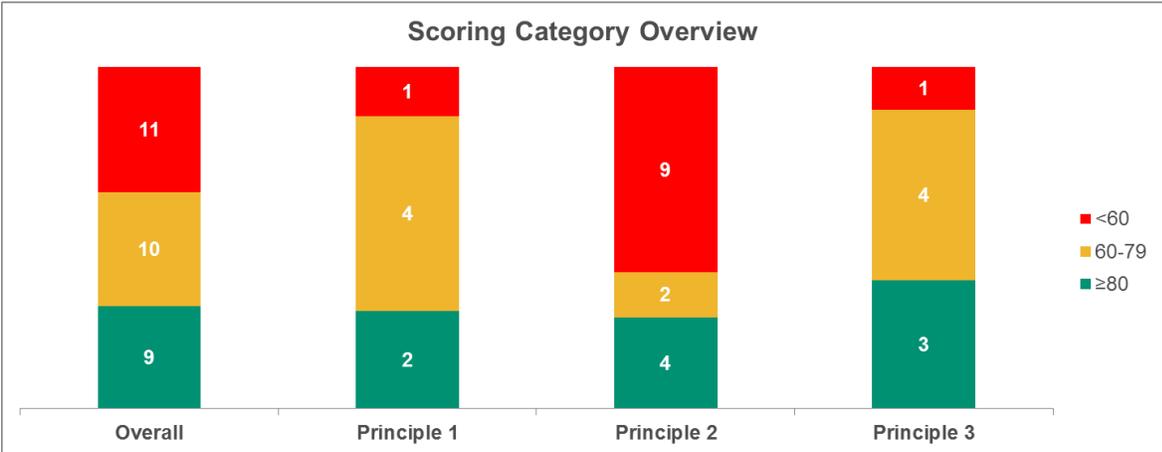


Figure 2: BMT Progress Tracker

BMT Progress Tracker

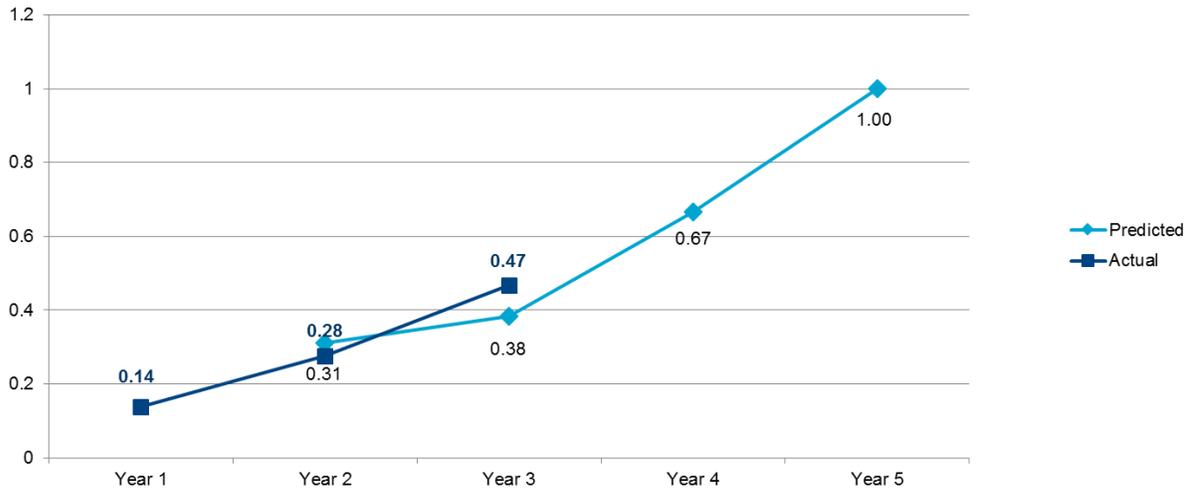


Table 4: BMT Report Sheet

Principle	Component	PI	Performance Indicator	Expected Scoring Category: Actual Year 3	Actual Scoring Category: Actual Year 3	Status
1	Outcome	1.1.1	Stock status	<60	<60	On Target
		1.1.2	Reference points	60-79	60-79	On Target
		1.1.3	Stock rebuilding	60-79	60-79	On Target
	Management	1.2.1	Harvest Strategy	60-79	60-79	On Target
		1.2.2	Harvest control rules and tools	60-79	60-79	On Target
		1.2.3	Information and monitoring	60-79	≥80	Ahead
		1.2.4	Assessment of stock status	60-79	≥80	Ahead
2	Retained species	2.1.1	Outcome	<60	60-79	Ahead
		2.1.2	Management	<60	60-79	Ahead
		2.1.3	Information	60-79	≥80	Ahead
	Bycatch species	2.2.1	Outcome	≥80	≥80	On Target
		2.2.2	Management	≥80	≥80	On Target
		2.2.3	Information	≥80	≥80	On Target
	ETP species	2.3.1	Outcome	<60	<60	On Target
		2.3.2	Management	<60	<60	On Target
		2.3.3	Information	<60	<60	On Target
	Habitats	2.4.1	Outcome	<60	<60	On Target
		2.4.2	Management	<60	<60	On Target
		2.4.3	Information	<60	<60	On Target
	Ecosystem	2.5.1	Outcome	<60	<60	On Target
2.5.2		Management	<60	<60	On Target	
2.5.3		Information	<60	<60	On Target	
3	Governance and Policy	3.1.1	Legal and customary framework	≥80	60-79	Behind
		3.1.2	Consultation, roles and responsibilities	≥80	≥80	On Target
		3.1.3	Long term objectives	≥80	60-79	Behind
		3.1.4	Incentives for sustainable fishing	---	---	
	Fishery specific management system	3.2.1	Fishery specific objectives	≥80	≥80	On Target
		3.2.2	Decision making processes	≥80	60-79	Behind
		3.2.3	Compliance and enforcement	<60	<60	On Target
		3.2.4	Research plan	<60	60-79	Ahead
		3.2.5	Management performance evaluation	<60	≥80	Ahead
Total number of PIs less than 60				15	11	
Total number of PIs 60-79				7	10	
Total number of PIs equal to or greater than 80				8	9	
Overall BMT Index				0.38	0.47	

3. THE REVISED ACTION PLAN

The revised logframe is provided in Appendix 1. It contains three basic goals, 8 outcomes, 13 activities and 50 milestones.

The specific activities will be addressed in the section below.

Outcome 1.1: Stock status and fisheries management: To ensure that the crab catch does not exceed sustainable levels

Activity 1.1.1: Scientific data collection research and sampling programme

~~Milestone 1: Literature Review (Completed);~~

Milestone 2: Expected Observer programme operational (*Ongoing*);

~~Milestone 3: An analysis of other relevant variables appropriate to fishery specific recruitment (Removed)~~

(New) Milestone 4: Stock interdependence and frame survey (Q1 2015);

(New) Milestone 5: Research work consolidated into a Research Plan (*Q4 2014*)

Having successfully completed the stock assessment report (Vu Vet Ha et al, 2015)¹, it is important that the stock assessment process is continues exercise that is required to support the management of the stock. A report should therefore completed at least once every two years, but should be available for 2015.

Central to this work is the maintenance of the observer scheme, which will also cover by-catch species (including ETPs). The outputs will also be strengthened to assess the interdependence/proportionality of this fishery against surrounding fisheries, especially the one in Cambodia.

Assigned stakeholders	RIMF
Priority	High
Status	Revised activity
Current scoring	> 60, with an expectation that this activity will contribute to a score > 80 when completed.
Timeframe	Ongoing but with further outputs expected October 2015.

¹ Vu Viet Ha, Tu Hoang Nhan, Tran Van Cuong and Nguyen Sy Doan (2015), Stock and fishery assessment report of blue swimming crab *portunus pelagicus* in Kien Giang waters, Viet Nam, Department of Marine Fisheries Resources Research, Research Institute for Marine Fisheries

MSC Performance Indicator(s)	Stock status (1.1.1), Reference points (1.1.2), and Information (1.2.3), stock assessment (1.2.4).
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Activity 1.1.2: Provide quantitative biological reference points

Milestone 6: Report on crab size @ 50% maturity (*Completed*);

Milestone 7: Assessment is subject to peer review (*Completed*);

Milestone 8: Report on crab stock assessment submitted to CMC (*Stock assessment report expected in Q4, 2015*);

Milestone 9: Scientific report is subject to peer review (*Q4, 2015*);

Milestone 10: Distinguish between Target and Limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity (*Expected Q1, 2016*).

The stock assessment work (*Vu Vet Ha, et al*) should be strengthened to include the following:

- A management strategy evaluation (MSE), to ensure that there is evidence in place to show that the management actions are achieving their objectives (Now added to Milestone 8/Milestone 17) and that it is **highly likely based previous performance that they will be able to rebuild the stock within the specified timeframe**. This will require comparison of outputs from the current stock assessment model, with the same model and new data added, in one or two years' time, depending on when the measures have been implemented.
- Performance measures from the model are expressed as % unexploited biomass or an appropriate surrogate, rather than estimates of fishing mortality. Sources of uncertainty (ie statistical error) are incorporated into the model so that likelihoods can be estimated or inferred (Added to Milestone 8)
- Main uncertainties are taken into account when developing the revised harvest control rules (Added to Milestone 8)
- Other fishery removals from the stock should be calculated (clarifying Milestone 4)

The work will again be peer reviewed by Cameron Dixon.

Currently the reference points for the fishery are based on fishing mortality (F). While reference points based on biomass are needed long term, this is a useful surrogate measure and easily explained in terms of the level of overfishing that is occurring. The target and limit reference point was chosen as $F = 0.8$ (i.e. fishing mortality to achieve BMSY) for simplification and for conservatism given this is the first time the model has been run. The model indicates that the fishery is currently fishing at $F=1.0$, or 20% above the

levels needed to achieve BMSY. In other words the fishery is currently outside of the LRP and is overfishing. In response, harvest control rules are to be implemented that aim to reduce effective effort in the fishery by AT LEAST 20%. It is anticipated that this level of effort reduction will facilitate a recovery in the stocks in the short term, while improvements in modelling and the harvest strategy (i.e. target and limit RPs and harvest control rules) are established over the next 2 years.

Future modelling development will require outputs expressed as % unexploited biomass or an appropriate surrogate, rather than estimates of fishing mortality. Also, statistical error needs to be built into the model so that the model can demonstrate that the stock is highly likely (i.e. >80%) to be above the point at which recruitment failure may occur (20% of unexploited biomass by default for the MSC guidelines).

These improved estimates will provide greater clarity on where the stock is currently at relative to BMSY and will allow for revised target and limit reference points, improved harvest control rules, and a better understanding of the trajectory for stock rebuilding. A Management Strategy Evaluation can be undertaken once additional data have been gathered to determine the effectiveness of the harvest controls that are about to be put in place. An effective way of conducting this MSE would be to compare outputs from the current stock assessment model, with the same model and new data added, in one or two years time, depending on when the measures have been implemented.

Working Group	RIMF
Priority	High
Status	Revising Action to increase the Scoring level > 80.
Current scoring	> 60, with an expectation that this activity will contribute to a score > 80 when completed.
Timeframe	Ongoing but with revised outputs expected August 2015.
MSC Performance Indicator(s)	Stock status (1.1.1), Reference points (1.1.2), stock assessment (1.2.4), and Research Plan (3.2.4)

Outcome 1.2: Data collection and information systems strengthened

Activity 1.2.1: Logbook system design and in operation

~~Milestone 11: Logbook design, printing, (Completed);~~

Milestone 12: Enumerators engaged, trained and begin undertaking data entry into a web based electronic fisheries information system (Ongoing);

Milestone 13: Fisher awareness (Ongoing);

(New) Milestone 14: Collection and reporting of fleet composition into a web based electronic fisheries information system (Ongoing).

DARD and RIMF are cooperating well in retrieving logbook data. The level of comprehensiveness is expected to improve with improved fisher awareness. A notable gap from logbook data was the absence of recording ETP actions. This is explained from anecdotal evidence that ETP interactions are not likely. However, changes to Milestone 11 and supported by observer coverage Milestone 2 will substantiate this fact. DARD and DARD District also intend to strengthen logbook recording and fleet composition by setting up a web based system. This is reflected by an amendment to Milestone 12.

The data collected in logbooks and from a sampling program (see 3.2 below) is incorporated into a RIMF MS Access database to record, integrate, and analyze the potentially large quantity of data. Such a database will need to be accessible to all the departmental stakeholders responsible for both the collection and analysis of the data, but confidentiality will need to be respected.

RIMF has addressed the weakness in fleet composition data and updated the fleet records to specifically identify those engaged in the crab fishery. However, in order to ensure sustainability RIMF will develop a web based crab vessel registry, which will be provided by DARD District and approved and populated by Provincial DARD.

Working Group	DARD
Priority	High
Status	Ongoing
Current scoring	60-80 with an expectation that this activity will contribute to a score > 80, provided that DARD shows a commitment to collecting and entering data.
Timeframe	Ongoing, with DARD taking on responsibility for logbook collection by 2015, RIMF for the development of online data bases (logbook and fleet registry, and DARD District for populating these data bases.
MSC Performance Indicator(s)	Information/Monitoring (1.2.3)

Outcome 1.3 Crab management strategies applied

Activity 1.3.1 Harvest control strategy implemented

<p>Milestone 15: Precautionary harvest strategy adopted based on size limits/closed seasons (Q4 2014);</p> <p>Milestone 16: Harvest strategy in place with set Reference points (Q1 2016);</p> <p>Milestone 17: Evidence that the harvest strategy is likely to work (Q4 2016).</p>
--

The status of the fishery has now been identified the target stock (Blue swimming crabs) as overfished and subject to overfishing. DARD has adopted a harvest strategy with the aim of rebuilding to 50% BMSY. This will require a reduction in effort by 20% to bring the stock back to sustainable levels.

Preliminary analysis from RIMF showed that the existing management measures (the minimum landing size (MLS) and the closed season) were not being applied systematically. A more worrying feature is that trap fisheries especially show very low levels of selectivity with a large number of pre-adults caught (Vu Vet Ha, *et al*).

Based on the information received, DARD is setting a mesh size limit, to be decided by the end of September, 2014 following advice from RIMF. DARD also proposes to strictly implement the minimum landing size regulation and closed season (Milestone 16). The urgency of the stock status removed the need for precautionary management measures to be implemented. Milestone 15 is deleted.

RIMF will continue with the stock assessment into 2015 to assess the impact of the strategy.

The CAC and DARD will also need to evaluate whether the strategy has been implemented effectively (Milestone 17). Evidence of a successful strategy would provide the green light for commencing a full assessment.

Working Group	CAC and DARD
Priority	High
Status	Ongoing
Current scoring	SG >60 (1.1.3, 1.2.1 and 1.2.2) with an expectation that this activity will lead to a score > 80 if implemented successfully.
Timeframe	2015
MSC Performance Indicator(s)	Rebuilding Strategy 1.1.3: 1.2.1 Harvest strategy; 1.2.2 Harvest Rules & Tools.

Activity 1.3.2: Harvest control tools reformed or established based on limit reference points

<p>Milestone 18: Precautionary measures set (Q1 2015);</p> <p>Milestone 19: Community awareness programme (Ongoing);</p> <p>Milestone 20: Input and output management rules and tools in place (Q1 2016);</p> <p>Milestone 21: Explore and implement positive incentives for improved gear selectivity and crab banks with Community groups (Q1 2015);</p> <p>Milestone 22: Community awareness with increased emphasis on co-management (Ongoing);</p> <p>Milestone 23: Evidence that the management tools are effective (Q4 2016).</p>
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Management tools are to be introduced which will implement a harvest strategy (Milestone 20). Milestone 18 and 19 are deleted for the same reasons as specified above.

DARD propose to provide some incentives to increase the minimum mesh size for crab pots Milestone 21). VASEP may assist in this area. A small pilot is expected to be adopted. Some caution is expressed to ensure that the incentive scheme does not undermine the application of the measure, with the expectation of some reward by fishers before the introduction of the measure.

Milestone 23 will be implemented as part of RIMF/DARDs review on the effectiveness of the measure. A report will need to be submitted to the CAC and DARD for consideration (Milestone 23).

Working Group	CAC and DARD
Priority	High
Status	Ongoing
Current scoring	>60 with an expectation that this activity will contribute to a score > 80, provided that the CMC demonstrates an ability to make clear recommendations on harvest rules and tools, and that these are acted upon by DARD.
Timeframe	2015
MSC Performance Indicator(s)	1.2.1 Harvest strategy

Outcome 2.1: Other species caught subject to a management strategy

Activity 2.1.1 Information gathering and risk assessment to determine the vulnerability of retained species, bait and bycatch species to overfishing.

Milestone 24: Recruit consultants to undertake RRA (Q3 2013)

Milestone 25: Design and pilot test RRA Questionnaire (Q4 2013)

Milestone 26: Undertake RRA (Q1 2014)

Milestone 27: Report on RRA outputs (Q2 2014)

Milestone 28: Risk Assessment training and workshop (Q3 2014)

With the exception of ETPs, bycatch species interactions in this fishery have been identified through the observer scheme. These include species caught in tangle net and trap. All species are in fact retained for

human consumption. A PSA covering the main interacting species (>2%)² is in the process of completion by RIMF supported by the FIP consultant (Milestone 28). This will be completed by Q4 2014.

Earlier actions, which sought to define a qualitative assessment of the retained and other non-species catch was abandoned because of the strength of the qualitative information available. Milestones 24 to 27 have now been deleted.

Habitats and ecosystems will need to be evaluated against the consequence analysis. Which for habitats

Includes:

Table CC12: Principle 2 SICA Consequence Table for PI 2.4.1, Habitats

Subcomponent	Consequence Category		
	1	2	3
Habitat types	No direct impact on habitat types. Impact unlikely to be detectable. Time taken to recover to pre- disturbed state on the scale of hours to days.	Detectable impact on distribution of habitat types. Time to recover from local impact on the scale of days to weeks, at larger spatial scales recovery time up to one year.	Impact reduces distribution of habitat types. Time to recover from local impact on the scale of months to a few years, at larger spatial scales recovery time of several years to less than two decades.
Habitat structure and function	No detectable change to the internal dynamics of habitat or populations of species making up the habitat. Time taken to recover to pre-disturbed state on the scale of hours to days.	Detectable impact on habitat structure and function. Time to recover from impact on the scale up to one year, regardless of spatial scale.	Impact reduces habitat structure and function. For impacts on non- fragile habitat structure, this may be for up to 50% of habitat affected, but for more fragile habitats, to stay in this category the % area affected needs to be smaller-- up to 20%. Time to recover from impact up to two decades.

² MSC is reported to be changing the classification of ‘main’ from the current minimum benchmark of 5% to 2%. A new Fisheries Assessment Methodology will be available at the beginning of 2012.

Table CC13: Principle 2 SICA Consequence Table for PI 2.5.1, Ecosystem

Subcomponent	Consequence Category		
	1	2	3
Species Composition	Interactions may be occurring which affect the internal dynamics of communities leading to change in species composition not detectable against natural variation.	Impacted species do not play a keystone role (including trophic cascade impact) – only minor changes in relative abundance of other constituents. Changes of species composition up to 5%. Time to recover from impact up to five years.	Detectable changes to the community species composition without a major change in function (no loss of function). Changes to species composition up to 10%. Time to recover from impact on the scale of several to twenty years.
Functional group composition	Interactions that affect the internal dynamics of communities leading to change in functional group composition not detectable against natural variation.	Minor changes in relative abundance of community constituents up to 5%.	Changes in relative abundance of community constituents, up to 10% chance of flipping to an alternate state/ trophic cascade.
Distribution of the community	Interactions that affect the distribution of communities unlikely to be detectable against natural variation.	Possible detectable change in geographic range of communities but minimal impact on community dynamics change in geographic range up to 5 % of original.	Detectable change in geographic range of communities with some impact on community dynamics Change in geographic range up to 10 % of original. Time to recover from impact on the scale of several to twenty years.
Trophic/size Structure	Changes that affect the internal dynamics unlikely to be detectable against natural variation.	Change in mean trophic level, biomass/ number in each size class up to 5%.	Changes in mean trophic level, biomass/ number in each size class up to 10%... Time to recover from impact on the scale of several to twenty years.

A report, showing the results of the risk assessment should be prepared for the CAC and DARD.

Working Group	RIMF/DARD
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Priority	Medium to High
Status	Ongoing
Current scoring	Scoring ranges from <60 (retained) to pass. Passes however require justification based on information gathered during the RRA. This activity will contribute to a score > 80 for some groups and possibly 60-80 for any medium to high risk species identified. Medium to high risk will require a strategy to reduce interactions for the two methods.
Timeframe	Commence in year 2 and completion by Q 4 2014
MSC Performance Indicator(s)	Retained Sp, bycatch, ETP, habitat and ecosystem information (2.1.3, 2.2.3, 2.3.3, 2.4.3, 2.5.3) Retained Sp, bycatch, ETP, habitat and ecosystem status (2.1.1, 2.2.1, 2.3.1, 2.4.1, 2.5.1). and Research Plan (3.2.4)

Activity 2.1.2: Management mitigation measures introduced

Milestone 29: PRA engagement (Q4, 2014);

Milestone 30: Submit finding and recommendations to CAC (Q3, 2015);

Milestone 31: Bycatch strategy and tools commences and training and awareness campaign (WWF) begins (Q4, 2015);

Milestone 32: Evidence that the tools are effective (Q4, 2016).

In the event of the PSA identifying medium to high risks³, the mitigation strategies will be assessed for main species, and or any other vulnerable species or habitats by applying Participatory Rural Appraisal (PRA). This will explore the prospects for community orientated bycatch /ecosystem mitigation actions that will be introduced through the support of co-management. Identification of at risk species and the proposed co-management actions will be submitted to the CAC (Milestone 30).

Mitigation strategies may take a number of formats, including voluntary closed areas where interactions with vulnerable species are high, catch and release, community interactions through participatory mediums and information gathering exercises for village communities.

An assessment of the effectiveness of the measures will need to be undertaken by DARD, to show that the mitigation strategy, if required, is effective.

A report on outcomes and recommendations for promotion of community based management mitigation measures should be prepared for the CAC.

³ Early indications from the PSA workshop are that all retained species are likely to be low risk which will remove the need for management mitigation actions.

Working Group	RIMF/DARD/CAC
Priority	Medium to High
Status	To commence in 2015
Current scoring	Scoring ranges from >60 (retained) to pass. Passes however require justification based on information gathered during the risk assessment. Medium to high risk species will require a strategy to reduce interactions for the two methods.
Timeframe	Completed by 2015, and reporting on the effectiveness in Q4, 2016
MSC Performance Indicator(s)	<i>High</i> Retained, Bycatch, ETP, Habitat and Ecosystem management strategies (2.1.2, 2.2.2, 2.3.2, 2.4.2, 2.5.2).

Outcome 3.1: Legal framework implemented and governance systems strengthened

Activity 3.1.1: Implementation of the new Fisheries Law containing the core elements which prioritize sustainable fisheries

Milestone 33: National legal documentary system effective (Q3, 2013)

Amendments to the current National fisheries law are not likely to be advanced until 2015. The amendments will need to be checked to ensure that the law supports management outcomes consistent with MSC Principles 1 and 2.

MARD and the provincial peoples committee should ensure that a number of core principles are applied with its fisheries specific laws:

- Fishing activities are sustainable and effective, in a manner consistent with preserving marine resources;
- Fishing operations must ensure conservation of related marine ecosystems and biodiversity, protecting marine environment and its natural landscapes.
- Fisheries sector development strategies must be planned to be associated with national and local fisheries management plans.
- The national legislation or strategy document to include reference to the Precautionary approach to fisheries management.

Working Group	PPC and MARD
Priority	High
Status	Clarification of existing laws and decrees

Current scoring	60-80.
Timeframe	Q4, 2015
MSC Performance Indicator(s)	Legal and customary framework (3.1.1), Fishery specific objectives 3.2.1

3.2: Effective system of roles and responsibilities, consultation processes and decision making processes

Activity 3.2.1 Fisheries Management Advisory Council established

Milestone 34: CAC established (Q 3, 2011);

Revised Milestone 35a: The consultation process regularly seeks and accepts relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used (Q1 2015).

The Crab Advisory Council (CAC) (formerly the Crab Management Council) was set up in Law in Q3 2011. The CAC serves the important purpose of closely reevaluating current management measures to formulate interim precautionary management measures, as well as long term, management measures for both the blue swimming crabs and any associated species and habitat interactions. DARD is responsible for supporting the CAC including provision of the Chairman and Secretary.

The members of the CMC and PMU are listed below:

The Crab Advisory Council (Decision no. 88/QD-SNNPTNT dated 14 April 2014)

1. Quang Trong Thao, Vice Director of DARD, Chairman of CAC
2. Duong Xuan trung, Vice head of sub-DECAFIREP, DARD, CAC coordinator
3. Le Van Tinh, head of Financial and Planning Division, DARD
4. Nguyen thi Dieu Thuy, WWF-VN
5. Samboon Chonpricha, YCC company, represent of VASEP CC
6. Nguyen Van Hien, Vice Head of Agriculture and Fisheries Extension Centre, DARD
7. Kim Hoang Thanh, Vice head of Inspection Division, DARD
8. Duong Quang Binh, Head of the Economic Unit, Ha Tien district
9. Nguyen Minh Truc, Head of the Economic Unit, Phu Quoc district
10. Nguyen Hong Cuong, Director of Phu Quoc MPA, DARD
11. Nguyen Khac Bat, Vice Director of RIMF
12. Bui Hong Tai, middlemen in Phu Quoc
13. Giang Ngoc Ly, fishermen in Ha Tien
14. Le Van Dung, fishermen in Phu Quoc
15. Le Quang Da, Vice Head of Agriculture division, DARD, CAC secretary

The Project Management Unit (PMU) (Decision no. 01/HDTV dated 18 April 2014)

A. Standing group

1. Duong Xuan Trung, Head of the PMU
2. Thai Thanh Lap, member
3. Sam Phuong Trinh, Accountant

B. Members

4. Le Van Tinh, head of Financial and Planning Division, DARD
5. Nguyen Van Hien, Vice Head of Agriculture and Fisheries Extension Centre, DARD
6. Kim Hoang Thanh, Vice head of Inspection Division, DARD
7. Nguyen Thanh An, staff of sub-DECAFIREP, DARD
8. Pham Van Trung, staff of sub-DECAFIREP, DARD
9. Ngo Phuoc Sang, staff of sub-DECAFIREP, DARD
10. Ly Vanh Tha, staff of Phu Quoc MPA

The Council has now met 4 times.

A CAC coordinator is now appointed to undertake the CMC actions, and this funded by the fishery sector on cost recovery basis. The coordinator's role, expected by the FIP, is to:

- Liaise with all stakeholders;
- Organise meetings, reporting and distribution of minutes;
- Coordinate inputs for supporting organisations, as required – sub DARD and municipal offices, RIMF, VASEP and fisher co-management groups;
- Formulate statutory decisions (management measures) following the deliberation of the council for transmission to DARD;
- Organize workshops community workshops, with DARD and other stakeholders (RIMF and WWF) to optimise the receipt of relevant information, to promote the harvest strategy and explain the decisions taken by the CAC;

There has been some confusion in the role of the CAC and DARD, with DARD being responsible for decisions, and CAC responsible for providing the advice.

The core requirements of the Council are to ensure that DARD regularly seeks and accepts relevant information, including local knowledge. The management system should be able to demonstrate that consideration is given to information and explains how it is used or not used. This may be taking place, and is evident through the FIP consultation, but it is important that the CAC coordinator is made aware of the specifics, and records the linkages between the committee's decisions and recording how information made available is used and not used. Milestone 35 has been revised to reflect this.

New Activity 3.2.2 Fisheries Management Advisory Council established

There has been some confusion in the role of the CAC and DARD. DARD is responsible for decisions, and CAC responsible for providing the advice.

New Milestone 35b: Evidence that DARDs decision making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions (*Q1 2015*)

DARD must be able to demonstrate that decisions are taken and that the decision making process follows the order set out below:

- A coherent decision making process, results in measures and strategies to achieve fishery specific objectives, as laid down in the Crab Management Plan (CMP);
- The decisions taken respond to all issues identified in relevant research, monitoring and evaluation and consultation in a transparent and timely manner, and take account of the wider implications of decisions;
- The decision making process use the Precautionary Approach to Fisheries Management (PAFM) and based on best available information;
- Formal reporting systems are implemented to ensure stakeholder awareness of the decisions taken;
- Consultation processes that regularly seek to accept relevant information and encourages all interested and affected parties to participate.

It is important to be able to document these decisions which are in conformity with the CMP and advice provided. DARD should also adopt a formal reporting process to ensure that stakeholders are aware of these processes. These issues will be clarified in FIP Consultant training in 2015.

Working Group	CAC and DARD
Priority	High
Status	New activity, but now implementation needs to be seen to be effective
Current scoring	60-80. This will achieve a score > 80 once the CAC is shown to effectively implement recommendations, and that these are acted upon by DARD.
Timeframe	Q41 2015
MSC Performance Indicator(s)	Roles, responsibilities, consultation (3.1.2) and decision making (3.2.2)

Activity 3.2.2: Prepare fishery Specific Management Plan

Milestone 36: FIP budget, log frame, and FMP (*Subject to annual review*);

Milestone 37: PAFM measures incorporated into the Management Plan and the Harvest Strategy *(Completed)*;

Milestone 38: Full harvest strategy and bycatch mitigation incorporated into management plan *(Q1 2015 and thereafter)*

Milestone 39: Review of Management Plan implementation *(Q4 2014 and ongoing)*.

Several of these activities commenced on project inception, and are ongoing as the project requires. A Crab Management Plan was completed in May, 2011 (Milestone 36), following a FIP planning group meeting with stakeholders. This plan is being updated in 2014 to reflect the agreed harvest strategies and will be revised when further changes to management activities are made (Milestone 38).

The Plan includes a reference to the Precautionary Approach to Fisheries Management (PAFM). This is an integral part of the decision making process, and is expected to allow for 'uncertainty' when making decisions.

The following core objectives are clearly set out in a fishery management plan:

Main objectives

To ensure the long term sustainable livelihood of fishers and fishing companies by establishing sustainable resource management for crab, allied with sustainable exploitation of associated targeted commercial and non-commercial bycatches.

Proposed goals

1. Maintain an ecologically sustainable crab biomass
2. Ensure equitable distribution of crab between resource users⁴
3. Provide community based alternative livelihood programme for displaced fishers
4. Minimize impacts on the ecosystem
5. Enable effective and participative management of the fishery

The CMP sets out the goals into a series of expected result outcomes and actions that form the basis of the sections described below. The development should be carefully planned so as to provide measurable means of verification (reporting systems) and objectively verifiable indicators.

In order to ensure that there is a reviewed process in place, the management plan should be reviewed annually. The FIP process constitutes a review up until the time of assessment. However, thereafter, the plan should be reviewed independently, and any recommendations acted upon (Milestone 39). The CMP will be reviewed in Q3 2015, facilitated by the FIP consultant.

⁴ Explore probable rights based systems including Territorial User Rights

The FIP Logframe and budget is reviewed by the FIP working group, and adjusted by the FIP consultant. Any proposed changes to the budget is reviewed by WWF and VASEP. This action should now incorporate more active involvement in the process by the CAC coordinator.

Working Group	CAC and DARD
Priority	High
Status	New activity, but now implementation needs to be implemented, and the CMP used as a management and monitoring tool
Current scoring	A score > 80 once the CMP is shown to effectively implement the activities. Measurable indicators has the potential to score up to 100.
Timeframe	Q4, 2011 and ongoing up until the assessment
MSC Performance Indicator(s)	Fishery specific objectives (3.2.1) and performance review (3.2.5)

Activity 3.2.3 Strengthen the capacity and decision making of the fisheries administration to service the CMC

Milestone 40: CAC coordinator appointed (<i>Reaffirmed, August, 2013</i>)
Milestone 41: Training needs assessment undertaken in DARD support functions (<i>CAC functionality presentation, August 2013</i>)
Milestone 42: Roles and responsibility weaknesses identified and reevaluated (August, 2013).

The CAC is operational, having had 4 meetings with the support of a Project Management Unit. Funding is being reviewed by WWF and VASEP to ensure that CAC and DARD are more proactively involved, and to allow for some release of pressures from the WWF FIP Coordinator. However, funding will depend on specific outputs secured (Milestone 42).

Following a request from the DARD Vice Director, **training for the CAC and its officers will need to be provided in 2015** (Milestone 41).

Working Group	CAC and DARD
Priority	High
Status	Ongoing activity
Current scoring	SG 6080.
Timeframe	Revised and commencing activities from Q4 2013
MSC Performance Indicator(s)	Consultation, roles and responsibility (3.1.2)

Activity 3.2.4: Establish stakeholder associations

Milestone 43: Development of community co-management groups (Q1, 2015)
Milestone 44: Co-management groups commence participation in CMC functions (Q1, 2015)

National policy is seeking to promote the development of co-management as a mechanism to secure a partnership arrangement between government and the community fishers, to share the responsibility and

authority for management of a resource. Some preliminary work has been on going with the Wetlands Alliance funded by (Sida), in Phu Quoc (Da Chong village, Bai Thom commune and Bai Bon village, Ham Ninh commune) but this project has been completed but these villages will form the pilot for the comangement work..

As a core component of the CAC’s activities, supporting the strengthening of roles and responsibilities, and participatory processes, over the course of the next 2 years, the project will work with and establish 6 functioning Districts. The organization will be similar in structure to other effective community systems operating in Vietnam (e.g., Ben Tre clam) and seek to adapt a similar system to Kien Giang province. Core community group interactions must:

- Clarify a community structure – group leaders and officers;
- Reaffirm broad goals and strategies;
- Clarify expectations and determine the co-management activities;
- Clearly outline management obligations to the Crab Management Council;
- Set up support structures and mentoring roles to facilitate the development of community organizations;
- Create a system of financial sustainability supported by seed funding (Year 1 only);
- Develop a culturally appropriate process, create a community support structure to facilitate implementation (a village Fisheries Advisory Council), define actions to be undertaken by the community (including compliance actions), and support functions required by the higher authority;
- Set up codes of conduct linked to crab stocks and bycatch/ecosystem management (to be done by the community groups, facilitated by the NIO);
- Ensure continuing community commitment - regular contact between communities and extension staff, exchange of information between communities, a review of fisheries management structures;
- Ensure participation of other stakeholder – Fish processors, WWF, DARD, NIO, RIMF; and
- Establish communication linkages with other community groups.

Working Group	CAC, DARD and co-management specialist
Priority	High
Status	New activity
Current scoring	60-80.
Timeframe	Revised and commencing activities from Q1 2015
MSC Performance Indicator(s)	Consultation, roles and responsibility (3.1.2)

Outcome 4.1: Effective application of compliance systems

Activity 4.1.1: Compliance deployment strategies determined and implemented

Milestone 45: Joint Compliance working group created (Q4 2014)

Milestone 46: Risk assessment of management measures undertaken and deployment strategies determined (Q1 2016)

Milestone 47 Enforcement strategies implemented (*Q1 2016*)

Milestone 48: Industry awareness workshops (*Q2 2016*)

Milestone 49: MCS Reports prepared and publicly available identifying violations detected (*Q4 2016*)

The Joint Crab Compliance Working Group (JCWG) is the implementing body to enforce the management measures set by DARD (Milestone 45). An elected officer from the JCWG is a member of the CAC (To be clarified) Minutes demonstrating JCWG strategies should be produced, along with the results (inspections, arrests and violations).

The JCWG's duties include:

1. Following decisions made by DARD, and resulting Legal decisions put in place, the JCCWG should prepare, with the support of an international compliance consultant, a risk assessment, to determine appropriate deployment strategies;
2. Organisations and individuals involved in the compliance process should be well understood with a clear hierarchy of decision making and active coordination functioning between the various groups – sub DARD, Border Police, etc;
3. Weaknesses in human and hard capacity identified and strengthened (including MCS training);
4. Evidence should be in place of deployment actions taken (collection centre checks, boardings at sea), and results (penalties and confiscations). A time series of these activities and results should illustrate a demonstrably effective deterrent;
5. Awareness workshops should be promoted in cooperation with all stakeholder groups to explain the reasons for the measures and drawing on information received from community groups and fishers to support the effective implementation of the enforcement system.

DARD fisheries controllers, border police and the licensing division should assess the most likely levels of infringement and their capacity, along with partner organizations and community groups, to deal with them by undertaking a risk analysis. The system of risk analysis would need to be used to evaluate the risks of non-compliance and the effectiveness and weaknesses of the current tools in place. The FIP consultant will provide a day to illustrate the risk analysis process.

Options for strengthening compliance activity should center around:

- Strict enforcement of the existing minimum landing size;
- Sporadic targeting of fishing demarcation areas, especially during known crab migration periods;
- Regular monitoring of seasonal closures;
- Strict adherence to licensing controls, log books and associated catch certification;
- Registering and recording gears;

- Active community participation in monitoring zones, closed areas and gear deployment;
- Regular landing checks to evaluate crab sizes;
- A code of conduct amongst processors (berried hens and sizes).

Implementing the above may require an increase in the number of enforcement officers.

Based on precautionary management measures identified, it is important to establish Provincial decrees that endorse the Provincial fisheries management initiatives. Legislation will require updating to list the series of restrictions and penalties including:

- Operating without a fishing license (as a mechanism to endorse the capping of new entrants);
- Fishing with mesh size below the minimum set (Crab pots);
- Fishing in closed seasons or closed areas;
- Landing undersized crab (< 100 mm);
- Receiving undersized crab.

The range of potential violations as defined above would need to be accompanied by a schedule of penalties⁵, which ultimately result in license removal (for the third offence). Fishing without a license would have to result in confiscation of boat, gear and heavy penalty. Penalties should take account of the risk assessment (see below), such that regular/high risk offences should result in heavier penalties. A system of reporting on violations (Milestone 49) should be undertaken, with the results of violations detected and offences implemented, distributed to the co-management organisations to promote the deterrence effect.

Working Group	DARD, Community Based controllers and processors
Priority	High
Status	Commenced Q3 2014
Current scoring	< 60 (Some evidence of systematic non compliance), but there is some progress on increasing fisheries inspections.
Timeframe	Operating within 12 months but ongoing on a continuous basis
MSC Performance Indicator(s)	3.2.3. Compliance & enforcement

Activity 4.1.2: Co-management responsibilities determined based on above and provided for in legislation

Milestone 50: Co-management responsibilities determined and community education system commences (Q2 2016)

⁵ These must be added to the drop box.

Under the Supervision of DARD and the Border Police, fishers should agree to a set of standards, and allocate responsibilities to a number of community control officers. A system of circulating day-to-day monitoring responsibilities among fishers could be explored. A system adopted amongst fishers in Thailand, Indonesia and the Philippines is to devise a self-funded community compensation to fishers allocated to monitoring rather than fishing duties, but to circulate these activities to all willing participants. Fishers would need to be allocated some basic equipment such as binoculars, life jackets and two way VHF radios to strengthen their ability to support their compliance duties.

Community fisher households should be educated in fisheries co-management and control measures. Fishing communities will have to be made aware of the ramifications of non-compliance, most especially the consequences of effort control with the decline in CPUE, targeting immature females, and fishing in prohibited areas. This work should include educational outreach undertaken by DARD with visible support from the buyers and intermediaries, with supporting innovative and artistic “Don’t” (land below size limits, no scrubbing of eggs, no fishing other group exclusive zones and calendar restrictions) and “Do’s” (land larger crabs, land clean females, stay inside assigned demarcation areas) and posters and additional education outreach in local schools. A very clear message would be the need to prevent other would-be fishers from entering the fishery.

The process of educational outreach should be further extended by regular community based meetings which can also be used to obtain feed-back on the success or problems encountered with the management measures.

Working Group	DARD and Community Based controllers, processors and NGOs
Priority	High
Status	New.
Current scoring	< 60, There has been no advancement in this area
Timeframe	Operating within 12 months but ongoing on a continuous basis
MSC Performance Indicator(s)	<i>High Priority</i> 3.2.3. Compliance & enforcement

Outcome 5.1: Incentives system reviewed

Activity 5.1.1: Review of fishery subsidy scheme

Milestone 51: Review of positive and negative subsidies (<i>Ongoing</i>)
Milestone 52: All negative subsidies removed (<i>Q22016</i>)

Milestone 52 has been removed due to an expected change in the MSC Assessment methodology.

Working Group	MARD, DARD and CMC
Priority	High

Status	New
Current scoring	< 60, There has been no advancement in this area
Timeframe	Exploring gear incentives as part of precautionary actions 2015-2016
MSC Performance Indicator(s)	3.1.4. Incentives for sustainable fishing

Outcome 2.9. REVIEW PROCESSES

To fully implement the various tasks outlined in this Action Plan, further management planning is required by the CMC to extend and further develop each task to include specific roles and responsibilities of each stakeholder group, develop detailed timelines and budgets in addition to performance indicators with which to monitor the success of the program. This complex task began with the first FIP review undertaken in August 2013 and was revisited in August 2014. This document represents the resulting Revised Action Plan, Budget and Terms of Reference.

Working group	All Stakeholders supported by a Fisheries M&E consultant
Priority	High
Status	Ongoing
Timeframe	12 months
MSC Performance Indicator(s)	Management performance evaluation 3.2.5.

4. TERMS OF REFERENCE

4.1 STOCK ASSESSMENT & DATA COLLECTION: RIMF

BACKGROUND

The Provincial Peoples Committee of Kien Giang Province (PPC), supported by the Department of Agriculture for Rural Development (DARD), Vietnam Association of Seafood Exporters and Producers (VASEP) and the World Wide Fund for Nature (WWF), is implementing a Fishery Improvement Project (FIP), to be carried out over 5 years (2011-2016), to support the long term goal of Marine Stewardship Council certification of the blue swimming crab (*Portunus pelagicus*) fishery (trap and tangle net). To this end, all stakeholders have endorsed a Fishery Improvement Plan and supporting Crab Management Plan. As part of this process, WWF and the Crab exporters, will set up a scientific assessment programme which will be responsible for determining stock status, and allied assessments, that will assist the Crab Management Council in proposing a management strategy that will meet the MSC standard by 2016.

This TOR is in process, with a contract agreed. One variation is identified in red, to address the issue of fishery specific management dependence for a genetically similar stock

DESCRIPTION OF the ASSIGNMENT

Global objective

The expected position by year 5 is that:

- There is an adequate assessment of the stock status;
- The stock assessment results will demonstrate that the stock is at a level which maintains high productivity and has a low probability of recruitment overfishing;
- A comprehensive range of information on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other environmentally related information is available;
- A fishery research plan exists that addresses the information needs for management.

Specific objectives

The purpose of the TOR is to set out the requirements for the Research Institute of Marine Fisheries (RIMF) to provide and update its scientific support for the implementation of appropriate stock assessment.

Requested Services

RIMF will provide services supported by in-house scientists for a period of 5 years, undertaking required of stock status and implementation of a number of measures that support a Harvest Control Strategy for blue swimming crab in Kien Giang Province. A number of specific outputs need to be introduced along with supporting measures, which require deliberation by the Crab Advisory Council in order to set harvest strategies. These are:

- Advising on both Limit and Target Reference Point above the level at which there is an appreciable risk of impairing reproductive capacity;

- The target reference point is set such that the stock is maintained at a level consistent with BMSY or some measure or surrogate with similar intent or outcome⁶⁶;

As part of the institution's undertakings, the team of scientists and technicians will:

- Prepare a Research Plan for the Kien Giang blue swimming crab fishery;
- Identify information requirements which will support knowledge of stock structure, stock productivity, stock abundance, fishery removals and other information such as environmental variables;
- Design and implement a data collection system that evaluates spatial and temporal changes in average crab carapace width, sex ratio, moult condition and proportion berried (ovigerous, i.e., carrying eggs), which prevent the opportunity to assess stock status and provide quantitative biological reference points and precautionary harvest control rules for stock management;
- Assess the historic levels of catches and determine the principal changes in volume, cpue and sizes that have occurred over the years;
- Design and implement a sample system that measures catch rates and catch composition for tangle net and trap fisheries, log book records and observer catch data – including identification of independent and quantifiable bycatch observations;
- Implement an electronic fisheries information system to record, integrate, and analyze the potentially large quantity of data;
- Apply the most fruitful approaches for stock assessment;
- Ensure that outputs from the model are expressed as % unexploited biomass or an appropriate surrogate, rather than estimates of fishing mortality.
- Ensure that sources of uncertainty (i.e. statistical errors) are incorporated into the model so that likelihoods can be estimated or inferred
- Main uncertainties are taken into account when developing the revised harvest control rules
- Undertake a management strategy evaluation (MSE), to ensure that there is evidence in place to show that the management actions are achieving their objectives. Ensure that any actions recommended can be managed on a fishery specific scale⁷, i.e that irrespective of genetic similarities with other South China Sea fisheries management actions will be able to demonstrate pay-back to the stakeholders in the Kien Giang fishery, and not be impacted by fishing activities, for example in other Vietnamese provinces, or in Cambodia or Thailand. This will require an analysis of currents and other variables that might affect the specific recruitment to the Kien Giang fishery (ADDED).
- Provide technical advice to the CAC and DARD which will lead to the establishing of a robust and precautionary harvest strategy.

The outputs that must be achieved are as follows:

⁶⁶ MSC requires a level set at 0.5 BMSY. Any variation to this would require justification, but most explicitly must be shown to be sufficiently precautionary.

⁷ Louisiana blue crab http://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/western-central-atlantic/louisiana_blue_crab is also a separate stock within a genetic population.

MILESTONES	Timeline	REPORTING MEANS OF VERIFICATION
Milestone 1: Literature Review	Completed	Literature review
Milestone 2: Expected Observer programme operational;	Ongoing	Observer reports, and evidence that it the work is incorporated into scientific analysis
Milestone 3: An analysis of other variables	Deleted	Survey outputs
Milestone 4: Frame survey to assess independence of the stock and management implications	Q1 2014 (New Activity)	Report on impact on fishery specific management measures
Milestone 5: Research Plan	Q1 2016	Research Plan publically available
Milestone 5: Report on crab size @ 50% maturity	Becomes part of milestone 7	Scientific report
Milestone 6: Assessment is subject to peer review	Becomes part of Milestone 8	Peer review report
Milestone 7: Report on crab stock assessment submitted to CAC, but to address new additions to the TOR	Ongoing, Q4 2015	Report to CAC
Milestone 8: Scientific report is subject to peer review	Ongoing, Q4 2015	Peer review report
Milestone 9: The limit and target reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity	Q1 2016	Report to CAC
<i>Timeline priority</i>		
Immediate: Year 3 (2013-2014)	Medium: Year 3 (2015)	Before FIP completion: Year 3 (2016-2017)

EXPERT'S PROFILE

Senior scientist

1. *Qualifications and skills*

- A post graduate qualification in stock assessment

- Knowledge of tropical crustacean fisheries

2. *General professional experiences*

- Proven track record in stock assessment from a Vietnamese Research Centre and at least 5 years of professional experience in the provision of advice to fishery managers
- A track record in setting up data collection systems and appropriate electronic fisheries information systems
- Working knowledge of biomass dynamic models, delay-difference models and depletion methods
- Clear knowledge of suitable harvest control strategies and rules and tools that are appropriate for linking the prescribed TRPs
- A working knowledge of English

Junior Scientist

1. *Qualifications and skills*

- A BSc in Marine sciences
- A high level of computer literacy with a capacity to understand mathematical models

2. *General professional experiences*

- Working knowledge of biomass dynamic models, delay-difference models and depletion methods
- Strong communication skills to facilitate problem solving in data collection
- A working knowledge of English

Technician

1. *Qualifications and skills*

A high level of computer literacy with experience in data entry and extraction

2. *General professional experiences*

- Working knowledge of data collection
- Strong communication skills to support problem solving in data collection

Data collectors

1. *Qualifications and skills*

- A bachelors degree in marine science and / or statistics is preferred
- A high level of computer literacy with experience in data entry and extraction

2. *General professional experiences*

- Field experience in data collection

- Strong communication skills to support problem solving in data collection

Peer Reviewer/Senior scientist (ADDED)

3. *Qualifications and skills*

- Doctorate in fishery or applied sciences
- Experience in tropical species, but specific to Blue Swimming Crab would be preferable
- Experience in the MSC fisheries assessment methodology

DURATION

The assignment will be for 5 years with a view to establishing long term linkages thereafter based on performance.

PLANNING

The assignment comprises a combination of scientific and technical input supported by a data collection, sampling and marine survey programmes.

4.2. LOGBOOK DATA COLLECTION SYSTEM: DARD

BACKGROUND

The Provincial Peoples Committee of Kien Giang Province (PPC), supported by the Department of Agriculture for Rural Development (DARD), Vietnam Association of Seafood Exporters and Producers (VASEP) and the World Wide Fund for Nature (WWF), is implementing a Fishery Improvement Plan (FIP), to be carried out over 5 years, to support the longer term Certification of Blue Swimming Crab (*Portunis pelagicus*) fishery with the Marine Stewardship Council. To this end, all stakeholders have endorsed a Fisheries Improvement Plan and supporting Crab Management Plan. As part of this process, DARD will strengthen its existing logbook data collection programme which will form the basis for a strong fishery specific information system, supporting both research and review of fishing effort. This information will provide support to the Crab Advisory Council in proposing a management strategy that will meet the MSC standard by year 5.

DESCRIPTION OF the ASSIGNMENT

Global objective

The expected position by year 5 is that:

- Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species;
- The expected position by year 5 is that relevant information is collected to support the harvest strategy.

Specific objectives

The purpose of the TOR is set out the requirements for DARD to provide information that will support information on fishery and bycatch removals and fishing effort that will support stock assessment and monitoring of the effectiveness of the harvest control strategy. The specific requirements are:

- Information is of a standard to quantifiably support the RIMF stock assessment requirements;
- Information is sufficiently accurate to support a comprehensive strategy to manage crab and to assess whether the strategy is achieving its objective;
- That the information available will support a comprehensive strategy on managing bycatch (other fishery removals **including retained species and ETPs**);
- Sufficient data are continually collected to detect any increase in risk to crab and bycatch species⁸

Requested Services

DARD will ensure that accurate and verifiable information is available on catch of crab and bycatch species, and that this, data is collected to a high standard complying with the above specific objectives across all sizes of vessel. A number of specific outputs need to be introduced along with supporting measures, which require deliberation by the Crab Management Council and the scientific research institution in order to monitor the effectiveness of Harvest strategies and provide accurate and certifiable information to RIMF.

The following deliverables are expected:

MILESTONES	Timeline	REPORTING MEANS OF VERIFICATION
Milestone 10: Logbook design, printing and distribution	Completed but amended to include web based recording	Logbook reports and data summaries
Milestone 11: Enumerators engaged, trained and begin data entry into an electronic fisheries information system	Ongoing	Training workshop reports
Milestone 12: Fisher awareness	Ongoing	Workshop reports
Milestone 13: Collection and reporting of fleet composition and incorporation into a web based system	Ongoing	Tables on fleet composition by size and gear type
<i>Timeline priority</i>		
Immediate: Year 3 (2013-2014)	Medium: Year 3 (2015)	Before FIP completion: Year 3 (2016-2017)

⁸ Bullets 3 & 4 are added to ensure that the Logbook system complies with the need to collect sufficient data to detect any increase in risk for bycatch species as part of the Ecosystem Approach.

Expert's profile

Supervisor⁹

1. *Qualifications and skills*

- A Bachelors degree in statistics or superior knowledge data systems to supervisory levels
- Experience in data verification, entry and analysis

2. *General professional experiences*

- Knowledge of fisheries or agricultural statistics
- A track record in setting up data collection systems and appropriate electronic fisheries information systems
- A working knowledge of English

Technician (Short term technical assistance)

1. *Qualifications and skills*

- A computer science degree, or experience in data programming
- A high level of computer literacy with experience in data entry and extraction

2. *General professional experiences*

- Programming skills sufficient to provide adaptations to revise the MARD Fisheries Information system to suite the fishery requirements

Enumerator

1. *Qualifications and skills*

- A bachelors degree in marine science and / or statistics is preferred
- A high level of computer literacy with experience in data entry and extraction

2. *General professional experiences*

- Field experience in data collection
- Strong communication skills to support problem solving in data collection

Data collectors

1. *Qualifications and skills*

- A bachelors degree in marine science and / or statistics
- A high level of computer literacy

⁹ This may require contracted out inputs for support work from RIMF or NIO.

- A high level of computer literacy with experience in data entry and extraction

2. *General professional experiences*

- Field experience in data collection
- Strong communication skills to support problem solving in data collection

DURATION

The DARD programme will commence to the start of Project approval and will be continuous over 5 years leading up to the Fishery assessment, and continual thereafter.

PLANNING

The assignment comprises a combination of scientific and technical input supported by a data collection, sampling and marine survey programmes.

4.3 BYCATCH & ECOSYSTEM IMPACT ANALYSIS: NHA TRANG INSTITUTE OF OCEANOGRAPHY

BACKGROUND

The Provincial Peoples Committee of Kien Giang Province (PPC), supported by the Department of Agriculture for Rural Development (DARD), Vietnam Association of Seafood Exporters and Producers (VASEP) and the World Wide Fund for Nature (WWF), is implementing a Fishery Improvement Plan (FIP), to be carried out over 5 years ending December, 2016, to support the longer term Certification of Blue Swimming Crab (*Portunus pelagicus*) fishery with the Marine Stewardship Council. To this end, all stakeholders have endorsed a Fisheries Improvement Plan and supporting Crab Management Plan. As part of this process, WWF and VASEP is supporting an assessment of bycatch ecosystem interactions which will be responsible for determining the extent of ecosystem management mitigation measures that will ensure compliance with MSC standards by year the end of 2016.

DESCRIPTION OF the ASSIGNMENT

Global objective

The expected position by 2015 is that:

- The fishery does not pose a risk of serious or irreversible harm to the retained, bycatch, ETP species or habitats and does not hinder recovery for managing retained species that is desired to ensure the fishery does not pose a risk of serious or irreversible harm to retained species;
- There is a strategy in place for managing retained, bycatch, ETP species or habitats interactions in order to avoid the risk of serious irreversible harm from the fishery;
- Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of management mitigation strategy.

Specific objectives

The purpose of the TOR is to set out the requirements for Nha Trang Institute of Oceanography (NIO) to provide three services, all of which will relate to:

- Supporting the collecting information on bycatch and ecosystem interactions;
- Exploring management mitigation strategies with fisher communities;

- Promoting the concept of community actions; and awareness training.

Requested Services

RIMF will provide services to WWF and the Crab Advisory Council. The following outputs must conform to the principles:

- Ensuring that accurate and verifiable information is available on catches of all species;
- That the information available is sufficient to estimate the risks with respect to productivity and susceptibility limits, including mortalities and injuries to all bycatch species;
- That the distribution of habitat types is known over the range, with particular attention to the occurrence of vulnerable habitat types;
- That changes in habitat distribution over time are recorded;
- Promote community based management decision making to facilitate a strategy that reduces interaction with at risk species – turtles, sharks, ray and others, as appropriate;
- Raise awareness on bycatch avoidance and ecosystem interactions, and developing a system that measures the effectiveness of the strategy.

In as much as is practical, the team will attempt to combine their assignment so as encompass as much as they can in specific village orientated working sessions:

Stage 1:

- Participate in Risk Based Training, coordinated by the FIP consultant and MSC
- Based on retained species observer data, undertake a PSA following the Risk Based Framework Guidance
- Evaluate the Consequence scores for habitat and ecosystems based on best available data
- Provide a report presenting the outputs of the PSA

Stage 2:

- Using Participatory Rural Appraisal (PRA), explore the prospects for community orientated bycatch / ecosystem mitigation actions;
- Prepare a report on outcomes and recommendations for promotion of community based management mitigation measures to be supported by the CMC

Stage 3: Make an evaluation of the effectiveness of the bycatch mitigation measures implemented through co-management.

Senior Researcher

1. *Qualifications and skills*

- A post graduate degree in fisheries science or marine studies
- At least 10 years research experience
- Strong communication skills

2. *General professional experiences*

- Knowledge of Vietnamese fisheries and / or Vietnamese rural development
- Demonstrated skills in report dissemination and report writing
- A working knowledge of English

Junior researchers

1, *Qualifications and skills*

- A graduate qualification in marine sciences

2. *General professional experiences*

- Strong communication skills to facilitate problem solving in data collection
- A working knowledge of English

DURATION

The assignment will be for 1 year with a view to establishing long term linkages thereafter based on performance.

PLANNING

The assignment comprises a combination of scientific and technical input supported by a data collection, sampling and marine survey programmes.

REPORTING

The following deliverables are expected:

MILESTONES	Timeline	REPORTING MEANS OF VERIFICATION
Milestone 23: Recruit consultants to undertake RRA	Deleted as alternative data made available	Contract
Milestone 24: Design and pilot test RRA Questionnaire	SDeleted	Questionnaire
Milestone 25: Undertake RRA	Deleted	Record of village meetings

Milestone 26: Report on RRA outputs	Q2 2014	Final report on outcomes
Milestone 27: Risk Assessment training, workshop and PSA / CA reporting	Q3 2014	Training PPTs and workshop attendance records and risk assessment training
Milestone 28: PRA engagement (If required)	Q2 2015	PRA workshop reports
Milestone 29: Submit finding and recommendations to CAC for implementation as co-management measures	Q3 2015	Report and CAC deliberations
Milestone 30: Implement co-management codes of conduct	Q4 2015	Voluntary codes, or compulsory legislation (for red listed species)
Milestone 31: Bycatch strategy and tools commences and training and awareness campaign (WWF) begins	Q4 2015	Voluntary codes and decrees
Milestone 32: Evidence that the - tools are effective	Q4 2016	NIO evaluation report
<i>Timeline priority</i>		
Immediate: Year 3 (2013-2014)	Medium: Year 3 (2015)	Before FIP completion: Year 3 (2016-2017)

4.4 INSTITUTIONAL STRENGTHENING: CRAB MANAGEMENT COUNCIL, CMC COORDINATOR and CO-MANAGEMENT CONSULTANT

BACKGROUND

The Provincial Peoples Committee of Kien Giang Province (PPC), supported by the Department of Agriculture for Rural Development (DARD), Vietnam Association of Seafood Exporters and Producers (VASEP) and the World Wide Fund for Nature (WWF), is promoting a Fishery Improvement Plan (FIP), to be carried out over 5 years, ending December 2016, to support the longer term Certification of Blue Swimming Crab (*Portunus pelagicus*) fishery with the Marine Stewardship Council. To this end, all stakeholders have endorsed a Fisheries Improvement Plan and supporting Crab Advisory Plan. As part of this process, the consultation and decisions on management actions will be taken by a Crab Management Council, with DARD acting as the implementer and enforcer of such actions; or in some cases, actions will be shared via co-management actions with fisher stakeholders.

The process thus requires:

1. Consultation through the CAC
2. Recommendations based on information procured by the CAC
3. Decision making, by DARD based on the recommendations of the CMC

4. Implementation by DARD and fisher co-management actions
5. Monitoring and evaluation, for and on behalf of the CMC.

DESCRIPTION OF THE ASSIGNMENT

Global objective

The expected position by year 5 is that:

- There is a robust and precautionary harvest strategy in place which is responsive to the state of the stock and is designed to achieve stock management objectives in the target and limit reference points;
- There are well defined and effective harvest control rules in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as the limit reference points are approached;
- There are strategies in place for managing retained, bycatch, ETP species, and habitats;
- Evidence is in place to ensure that the strategies have been implemented successfully identified. Functions roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction;
- The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of information and explains how it is used or not used;
- The consultation process provides opportunity and encouragement for all interested affected parties to be involved, and facilitates their effective engagement;
- Clear long and short term objectives are in place that guide decision making are in place, and are explicit within a Fishery Specific Management Plan;
- The Council's decision making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent , timely and adaptive manner and take account of the wider implications of decisions;
- Explanations are provided for any actions taken and recommendations emerging from research, monitoring and evaluation and review activity;
- The Council has in place mechanisms to evaluate all parts of the management system and is subject to internal and external review processes.

Specific objectives

The purpose of the TOR is to set out the requirements for the Crab Management Council, the CMC Coordinator, DARD and the co-management organisations.

A. CRAB ADVISORY COUNCIL

Requested Services

The Kien Giang Crab Advisory Council (CMC) will be created, and its role supported by provincial law, or if fishing exists outside 24 nautical miles, by national law.

DARD: “must try, as far as practicable, to ensure that the membership of the Advisory Council includes an appropriate number of members engaged in, or with experience in, the industry in the fishery in relation to which the Advisory Council is established.” Under the Law, the CAC will consist of a chairperson, an assigned DARD manager for that fishery and up to ten (to be decided) other members appointed following consultation. These should comprise a research member (RIMF), a member representing provincial government (PPC), an MCS manager (sub DARD), four industry members (two fisher representatives, and two processors), and a conservation member (WWF). This Council will play a central role in helping DARD meet its objectives by acting as key liaison bodies between DARD and those with an interest in a particular fishery. They will also provide direct advice to DARD on fisheries-management policies and compliance with the activities set out in the Crab Management Plan, and assist in the development of cost-efficient management arrangements.

The role of the CAC should be defined in Provincial Law and its decisions promulgated into management regulations. The CAC’s duties include:

- a) Prepare an annual Management Plan including setting of management indicators (stock abundance, CPUE, stock fecundity, economic indicators);
- b) Propose a management strategy and harvest rules and tools that ensure that the Plan can be implemented effectively;
- c) Promote the co-management of fisheries;
- d) Promote research, education, and training in relation to fisheries and the management of fisheries;
- e) Report on the outcomes of the plan, most specifically on how the management system responds to findings and relevant recommendations emerging from research. Monitoring and evaluation;
- f) Determine the fee structure to pay for a research and development fund, the operating expenses for the Council, and an independent peer review;
- g) Prepare or promote codes of practice concerning matters of relevance to fishery authorities and other stakeholders;
- h) Select of Council Members that fully represents the range of stakeholders involved in the fishery.

The core requirements of the Council would be:

Although consultation with industry and other interest groups can often be time-consuming, the experience suggests that it is the key to gaining broader acceptance and ownership of management decisions. Involving industry and other stakeholders in the decision-making process brings with it certain obligations and responsibilities, and DARD has made a concerted effort to inform all members on the CMC of the importance of their role. Specifically, Council members must be able to satisfy the following:

- They must act in the best interests of the fishery as a whole, rather than as an advocate for any particular organization or interest group.
- They must also be prepared to observe confidentiality and to exercise tact and discretion when dealing with sensitive issues.
- They must be able to put views clearly and concisely and be prepared to negotiate to achieve acceptable compromises where necessary.

- Industry members must have industry's confidence and authority to undertake their membership functions.
- They must avoid pursuing personal agendas, but participate in discussion in an objective and impartial manner.

The core requirements of the Council are to ensure that DARD regularly seeks and accepts relevant information, including local knowledge. The management system should be able to demonstrate that consideration is given to information and explains how it is used or not used. This may be taking place, and is evident through the FIP consultation, but it is important that the CAC coordinator is made aware of the specifics, and records the linkages between the committee's decisions and recording how information made available is used and not used. Milestone 35 has been revised to reflect this.

COUNCIL MEMBER'S PROFILE

DARD should develop a specific code of practice for CAC and require each member to sign their acceptance of this code formally. Involvement of industry in the decision-making structure through the CAC has brought with it significant industry responsibility and accountability. A most important benefit will be informed discussion and acceptance of management arrangements, research priorities, bycatch mitigation and stock assessment. Overall, the process will make significant progress towards overcoming the previous underlying mistrust between fishers and fisheries managers and researchers, and factional differences within the fishing industry. The PPC member is responsible for providing input to management decision. The PPC member will normally be a Director of Fisheries or experienced senior officer and is appointed on a 1-year rotational basis with the agreement of the PPC.

The research member is selected on the basis of his/her knowledge of a particular fishery. The Council requires research members to be persons of seniority and standing in the research community, and most are also actively involved in current research in the fishery. The research member not only provides scientific input to the deliberations but is also the conduit between fishers and the research community. The DARD member is normally the manager of the fishery, and is responsible for participating in discussion on a functional basis, contributing fisheries management expertise to the deliberations, providing an understanding of relevant Government policy, and for ensuring that the Council is aware of, and understands, PPC policy and the DARD's obligations under its governing legislation. In managing provincial fisheries, DARD and the CMC will strive to achieve a balance between resource use and conservation. In doing so they also draw upon scientific advice RIMF, NIO or VIFEP, representatives from scientific, economic, and management fields (see typical example in [Table 1](#)). RIMF will be responsible for producing annual assessments on the crab stock. Environmental/conservation interests are included in the consultation process. Fishers are represented by the separate communities in the region (Provisionally identified as 5, and no more)¹⁰. Finally, the CMC will appoint a Joint Crab Compliance Working Group comprising the all Provincial MCS / compliance organizations, including the Border police, and DECAFIREP (if fishing occurs outside 24 nm). This group will be responsible for assessing enforcement risks and determining actions, and an appointed individual from the JCCWG will sit on the CMC.

¹⁰ Community fisher representatives should not be allowed to dominate the committee, but should be sufficiently representative of stakeholder structure in the region

B. CAC CO-ORDINATOR

CAC co-ordinator's profile

The CAC will appoint to full time position. The officer will have the following tasks;

- Liaising with all stakeholders;
- Organisation of meetings, reporting and distribution of minutes. **These minutes must record the linkages between the committees decisions and recording how information made available is used and not used**;Coordinating inputs for supporting organisations, as required – sub DARD and RIMF;
- Supervising the implementation of FIP actions, with the support of other coordinating bodies, WWF and VASEP
- Organising workshops community workshops to optimise the receipt of relevant information, to promote the harvest strategy and explain the decisions taken by the CAC.

The required outputs:

- Crab Advisory Council operational
- Draft Crab Management Plan endorsed, but updated annually;
- CAC co-ordinator appointed within 6 months;
- CAC weaknesses addressed and rectified by year 2;
- Co-management systems endorsed by CAC and bottom up participation fully operational by year 4;
- Support materials procured for CAC/DARD.

CMC co-ordinator

1. Qualifications and skills

- At least 10 years historic experience at Senior Fisheries management level;
- Specific experience on formulating fisheries management decisions.

2. General professional experiences

- Knowledge of the Kien Giang fisheries;
- Strong communication skills.

C. DARD IMPLEMENTATION

DARD is organization responsible for implementing the management actions through Decrees.

DARD will undertake the following tasks:

- Implement a decision making process which is consistent with MSC requirements (Milestone 35b)
- Support the CAC, through participation and general in kind support for the secretarial services

- Refine its decision making processes to ensure decisions are made in response to management advice received from the CAC, which takes account of scientific research, stakeholder concerns and other inputs
- Act as a conduit for funding sources from the PPC in order to support key activities – enforcement, licensing, data collection and community support
- Implement the supporting management Decrees
- Provide support to awareness programmes, which underpin the proposed changes to management actions
- Assist the CMC in measuring the effectiveness of the management measures

The required outputs will be:

- Revising Provincial Decrees
- Implementing licensing, management and control actions
- Supporting awareness
- With the support of the PPC, providing financial support to implement incentive systems, e.g. selective gears.

CO-MANAGEMENT SPECIALIST

The Provincial Peoples Committee of Kien Giang Province (PPC), supported by the Department of Agriculture for Rural Development (DARD), the Crab Processors Association (CPA) and the World Wide Fund for Nature (WWF), is promoting a Fishery Improvement Plan (FIP), to be carried out over 5 years, to support the longer term Certification of Blue Swimming Crab (*Portunus pelagicus*) fishery with the Marine Stewardship Council. To this end, all stakeholders have endorsed a Fisheries Improvement Plan (Annex 1) and supporting Crab Management Plan (Annex 2). As part of this process, CMC will seek to promote the creation of Community fisher groups. These groups will be formed into a network for the purpose of supporting co-management initiatives and providing an active role, through their nominated representatives, in the Crab Management Council. In order to facilitate the evolution of an effective network of community co-management groups, WWF/DARD will procure the services of a national co-management specialist.

DESCRIPTION OF the ASSIGNMENT

Global objective

The expected position by year 5 is that:

- Organisations and individuals involved in the management process have been identified;
- The management system includes consultation processes that regularly seek to accept relevant information including local knowledge;
- The consultation process provides opportunity and encouragement for all interested and affected parties to be involved and facilitates their effective engagement;

- There is a high degree of confidence that fishers comply with the management system under assessment including providing information of importance to the effective management of the fishery.

Specific objectives

The purpose of the TOR is to set out the requirements for a national expert to provide services to set up a system of community fisher organisations and train and assist fishers in establishing group networks.

Requested Services

The national expert will identify a structure similar to other effective community systems operating in Vietnam, e.g., Ben Tre and seek to adapt this system to Kien Giang province. Core community group interactions must clarify the following:

- A community structure – group leaders and officers;
- Reaffirming broad goals and strategies;
- Clarifying expectations and determining the co-management activities;
- Clearly outlining management obligations to the Crab Management Council;
- Setting up support structures and mentoring roles to facilitate the development of community organizations;
- Creating a system of financial sustainability supported by seed funding (Year 1 only);
- Developing a culturally appropriate process and creating a community support structure to facilitate implementation (a village Fisheries Advisory Council), and defining actions to be undertaken by the community (including compliance actions) and support functions required by the higher authority;
- The community groups, facilitated by the NIO, setting up management plan linked to crab stocks and bycatch/ecosystem management;
- Ensuring continuing community commitment - regular contact between communities and extension staff, exchange of information between communities, a review of fisheries management structures;
- Ensure participation of other stakeholder – Fish processors, WWF, DARD, NIO, RIMF;
- Establishing communication linkages with other community groups.

The outputs that must be achieved are as follows:

- A number of community fisher groups operating effectively by year 5;
- Clear evidence of participation in management decision making, and linkages with the CMC by year 2;
- Clear evidence of community compliance by year 4.

Expert's profile

National consultant

1. Qualifications and skills

- Experience within Vietnam, in developing community fisher organisations

- Experience at Senior management level of a national government institute.

2. General professional experiences

- Knowledge of Vietnamese fisheries and / or Vietnamese rural development

DURATION

Following the signature of the contract, the consultant will be available for mobilisation within 10 working days. The exact date shall be agreed with WWF and DARD.

The expected outputs covering all institutional functions are as follows:

MILESTONES	Timeline	Supporting agencies	REPORTING MEANS OF VERIFICATION
Consultation, roles & responsibilities,			
Milestone 34: CAC established	Completed	PPC & DARD	Decree
Milestone 40: CAC coordinator appointed	Completed	DARD and stakeholders	Contract of appointment
Milestone 41: Training needs assessment undertaken in DARD/CAC support functions	Requested for 2015	DARD	Terms of Reference on CMC elaborated
Milestone 42: Roles and responsibility weaknesses identified and addressed.	In process	DARD	Terms of Reference (refined)
Milestone 43: Development of community co-management groups	Q1 2015	DARD	Record of meetings
Milestone 44: Co-management groups commence participation in CMC functions	Q1 2016	DARD	Evidence of meetings and discussions on CMC requirements
Decision making and fishery specific monitoring			
Milestone 35a: The consultation process regularly seeks and accepts relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used.	Q1 2015	DARD and other stakeholders	CMC Minutes
Milestone 35b: Evidence that DARDs decision making processes respond to all issues identified in relevant research,	Q1 2015	DARD	Crab Management Plan

monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions (Q1 2015)			
Milestone 36: FIP budget, log frame, and CMP is completed	Ongoing	All stakeholders	Crab Management Plan
Milestone 37: PAFM measures incorporated into the Management Plan and the Harvest Strategy	Incorporated	DARD	CMP
Milestone 38: Full HS and Bycatch mitigation incorporated into management plan	Q4 2015	DARD	CMP
Milestone 39: Review of Management Plan implementation	Q4 2016	DARD	Review Plan against MSC criteria
Fisheries management			
Milestone 14: Precautionary harvest strategy adopted based on size limits/closed seasons	Implemented	DARD	Harvest strategy incorporated into the CMP
Milestone 15: Harvest strategy in place with set Reference points	Q1 2015	DARD	Crab management decrees
Milestone 16: Evidence that the harvest strategy is likely to work	Q4 2015	RIMF/DARD	Scientific evaluation report
Milestone 17: Precautionary measures set	Q4 2014	DARD	Decree
Milestone 18: Community awareness programme	Q1 2015	DARD/Co-management groups	Programme, tools and workshops
Milestone 19: Input and output management rules and tools in place	Q1 2015	DARD	Decree
Milestone 20: Explore and implement positive incentives for improved gear selectivity and crab banks with Community groups.	Q1 2015	DARD/VASEP/Co-management groups	DARD/PPC incentive programme
Milestone 21: Community awareness with increased emphasis on comanagement	Q2 2015	DARD/Co-management groups	Programme, tools and workshops
Milestone 22: Evidence that the management tools are effective	Q4 2015	RIMF/DARD	Evaluation report

Milestone 31: Bycatch strategy commences and training and awareness campaign (WWF) begins	Q4 2015	Co-management organisation/DARD	Voluntary codes and decrees
Milestone 32: Evidence that the tools are effective	Q4 2016	NIO/ Co-management	NIO validation report
<i>Timeline priority</i>			
Immediate: Year 3 (2013-2014)	Medium: Year 3 (2015)	Before FIP completion: Year 3 (2016-2017)	

4.5 COMPLIANCE: JOINT CRAB COMPLIANCE WORKING GROUP

BACKGROUND

The Provincial Peoples Committee of Kien Giang Province (PPC), supported by the Department of Agriculture for Rural Development (DARD), VASEP and the World Wide Fund for Nature (WWF), is promoting a Fishery Improvement Plan (FIP), to be carried out over 5 years, to support the longer term Certification of Blue Swimming Crab (*Portunus pelagicus*) fishery with the Marine Stewardship Council. To this end, all stakeholders have endorsed a Fisheries Improvement Plan and supporting Crab Management Plan. As part of this process, DARD, supported by the Crab management Council will set up a Joint Crab Compliance Working Group which will be responsible for implementing compliance and enforcement activities in the Kien Giang fishery.

DESCRIPTION OF THE ASSIGNMENT

Global objective

The expected position by year 2016 is that:

- A comprehensive monitoring, control and surveillance system has been implemented in the fishery and has demonstrated a consistent ability to enforce the management measures set by the Crab Management Council;
- Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide an effective deterrent;
- Evidence exists that fishers comply with the management system, including providing information of importance to the effective management of the fishery;
- There is no evidence of systematic non-compliance.

Specific objectives

The purpose of the TOR is to set out the requirements for the Joint Crab Compliance Working Group and lay out the support requirements and activities required to implement an effective compliance and enforcement system.

Requested Services

The Joint Crab Compliance Working Group (JCWG) will be the implementing body to enforce the management measures set by the CMC. An elected officer from the JCWG will be a member of the CMC.

The JCWG’s duties include:

6. Following decisions made by the CMC, and resulting Legal decisions put in place, the JCCWG should prepare, with the support of an international compliance consultant, a risk assessment, to determine appropriate deployment strategies;
7. Organisations and individuals involved in the compliance process should be well understood with a clear hierarchy of decision making and active coordination functioning between the various groups – sub DARD, Border Police etc;
8. Weaknesses in human and hard capacity identified and strengthened (including MCS training);
9. Evidence should be in place of deployment actions taken (collection centre checks, boardings at sea), and results (penalties and confiscations). A time series of these activities and results should illustrate a demonstrably effective deterrent;
10. Awareness workshops should be promoted in cooperation with all stakeholder groups to explain the reasons for the measures and drawing on information received from community groups and fishers to support the effective implementation of the enforcement system.

WORKING GROUP MEMBER’S PROFILE

The working group should comprise all those organisations actively engaged in enforcement activities, notably sub DARD, sub DECAFIREP (Logbook and catch certificates, Marine Police and Border guards.

The outputs that must be achieved are as follows:

- Evidence that a risk assessment system is being applied by year 1 and ongoing
- Evidence that inspections are taking place and compliance is increasing by year 1
- Evidence that sanctions are acting as an effective deterrent by year 1
- Evidence that awareness groups are taking place and that these act as a supporting deterrent as well as a source of valuable information to the enforcement organisations by year 2

DURATION

Following the adoption of management measures by the CMC

PLANNING

To be decided by DARD. The International Expert will provide instruction on risk based techniques. A working example is shown in Appendix 3 of the Fishery Improvement Plan.

BUDGET

The budget for this work will be determined by DARD and funded by the PPC. WWF will fund the international expert.

REPORTING

The following deliverables are expected:

MILESTONES	Timeline	REPORTING MEANS OF VERIFICATION
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Milestone 45: Joint Compliance working group created	Q4 2014	Meeting minutes
Milestone 46: Risk assessment of management measures undertaken and deployment strategies determined	Q3 2015	Risk assessment report
Milestone 47 Enforcement strategies implemented	Q4 2015	DARD/Border police resources and report on actions
Milestone 48: Industry awareness workshops	Q1 2015	Workshop reports
Milestone 49: MCS Reports prepared and publicly available identifying violations detected	Q2 2016	Report on violations and sanctions
Milestone 50: Co-management responsibilities determined and community education system commences	Q3 2016	

COMPLIANCE TRAINING – NATIONAL EXPERT

BACKGROUND

The Provincial Peoples Committee of Kien Giang Province (PPC), supported by the Department of Agriculture for Rural Development (DARD), the Crab Processors Association (CPA) and the World Wide Fund for Nature (WWF), is promoting a Fishery Improvement Plan (FIP), to be carried out over 5 years, to support the longer term Certification of Blue Swimming Crab (*Portunus pelagicus*) fishery with the Marine Stewardship Council. To this end, all stakeholders have endorsed a Fisheries Improvement Plan (Annex 1) and supporting Crab Management Plan (Annex 2). As part of this process, DARD, supported by the Crab management Council will set up a Joint Crab Compliance Working Group which will be responsible for implementing compliance and enforcement activities in the Kien Giang fishery. The different organisations represented on this group will require enforcement training from national expert.

DESCRIPTION OF THE ASSIGNMENT

Global objective

The expected position by year 5 is that:

- A comprehensive monitoring, control and surveillance system has been implemented in the fishery and has demonstrated a consistent ability to enforce the management measures set by the Crab Management Council;
- Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide an effective deterrent;

- Evidence exists that fishers comply with the management system, including providing information of importance to the effective management of the fishery;
- There is no evidence of systematic non-compliance.

Specific objectives

The purpose of the TOR is to set out the requirements for an MCS training programme for sub DARD, sub DECAFIREP, Marine Police and Border Police.

Requested Services

A national compliance officer will recruited to strengthen the capacity of fishery inspectors.

The following training activities will include:

1. Communication Intelligence gathering;
2. Standard operating procedures;
3. Evidence collection;
4. Safety at sea;

PROFILE

Compliance training officer

1. Qualifications and skills

- Experience in training MCS officers within Vietnam.

2. General professional experiences

- Strong communication skills.

DURATION

Following the adoption of management measures by the CMC

PLANNING

To be decided by DARD.

BUDGET

The budget for this work will be determined by DARD and funded by the PPC. WWF will fund the international expert input to support the risk assessment process.

REPORTING

The following outputs would be expected:

- Training Certificates issued

4.6 PROJECT MANAGEMENT

INTERNATIONAL INSTITUTIONAL SPECIALIST

BACKGROUND

The Provincial Peoples Committee of Kien Giang Province (PPC), supported by the Department of Agriculture for Rural Development (DARD), VASEP and the World Wide Fund for Nature (WWF), is promoting a Fishery Improvement Plan (FIP), to be carried out over 5 years, to support the longer term Certification of Blue Swimming Crab (*Portunus pelagicus*) fishery with the Marine Stewardship Council. To this end, all stakeholders have endorsed a Fisheries Improvement Plan and supporting Crab Management Plan. As part of this process, DARD, WWF and the VASEP, require the support of an international consultant with specific strengths across a number of fields: Monitoring and evaluation, Participatory and Rapid Rural Appraisal, Environmental Risk Assessment, Compliance Risk Assessment, Institutional strengthening and training needs analysis and Monitoring and evaluation

DESCRIPTION OF THE ASSIGNMENT

Global objective

The expected position by year 5 is that:

- The fishery has in place mechanisms to evaluate all parts of the management system and is subject to regular internal and external review;
- Evidence is in place to ensure that the management strategies have been implemented successfully identified. Functions roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction;
- Information systems are adequate to determine the risks to target, retained, ETP species and habitats;
- A comprehensive monitoring, control and surveillance system is in place.

Specific objectives

The purpose of the TOR is to set out the requirements for an International institutional specialist/M&E consultant to strengthen a series of activities relating to monitor the FIP outcomes and to provide support and training in a number of activities including questionnaire methodologies, risk assessment. institutional strengthening and compliance.

Requested Services

The International consultant will be deployed biannually and will undertake a series of activities during his/her tenure. The consultant will report directly to WWF US (and VN), and DARD, and will liaise with the VASEP, and other stakeholders as required.

The following duties are required:

- Monitoring the performance of the stock assessment specialist and RIMF activities;
- Providing editorial oversight into documents produced by RIMF to ensure that they meet international standards, and are reader friendly;

- Monitoring the proposed NIO methodology for Rapid and Participatory Rural Appraisal, and Risk assessment and supervising one pilot test study;
- Undertaking a training needs assessment to CMC members, the CMC Officer, the Community management specialist, WWF Project Officer and supporting DARD officials;
- Training Compliance officers in risk assessment;
- Evaluating the performance of the CMC and related activities, and outcomes in management actions proposed;
- Reviewing reports from the WWF Project manager;
- Mentoring to various stakeholders as required;
- Supporting WWF US in a number of duties including preparing support input to reports for funders.

Expert's profile

International consultant

1. *Qualifications and skills*

- Post-doctoral degree in fisheries sciences, economics or community and social studies
- At least 10 years-experience in Programme Planning
- An intricate knowledge of the Marine Stewardship Council Fisheries Assessment methodology
- Experience in Environmental Risk Assessment, Compliance Risk Assessment and Rapid and Participatory Rural Appraisal
- Experience in Institutional Strengthening and Training Needs analysis in South and Sou East Asia

2. *General professional experiences*

- Knowledge of Vietnamese fisheries and / or Vietnamese rural development
- Working knowledge of English

DURATION

Following the signature of the contract, international consultant will be available for mobilisation within 10 working days. The exact date shall be agreed with WWF and DARD.

The assignment will be for 5 years with a view to establishing long term linkages thereafter based on performance.

PLANNING

REPORTING

1. Modification to FIP Action Plan, Logframe, FIP Tracking documents and Terms of Reference
2. Back to Office Reports
3. Budget amendments

PROJECT MANAGER

BACKGROUND

The Provincial Peoples Committee of Kien Giang Province (PPC), supported by the Department of Agriculture for Rural Development (DARD), the Crab Processors Association (CPA) and the World Wide Fund for Nature (WWF), is promoting a Fishery Improvement Plan (FIP), to be carried out over 5 years, to support the longer term Certification of Blue Swimming Crab (*Portunus pelagicus*) fishery with the Marine Stewardship Council. To this end, all stakeholders have endorsed a Fisheries Improvement Plan (Annex 1) and supporting Crab Management Plan (Annex 2). As part of this process, WWF requires the services of Vietnamese national Project Manager.

DESCRIPTION OF THE ASSIGNMENT

Global objective

The expected position by year 5 is that:

- The fishery has in place mechanisms to evaluate all parts of the management system and is subject to regular internal and external review;
- Evidence is in place to ensure that the management strategies have been implemented successfully identified. Functions roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction;
- Information systems are adequate to determine the risks to target, retained, ETP species and habitats.

Specific objectives

The purpose of the TOR is to set out the requirements for the Project Manager to strengthen a series of activities relating to liaising with stakeholders.

Requested Services

The Project Manager will be expected to undertake a series of activities during his/her tenure. The national officer will report directly to WWF and the M&E consultant, and will be responsible for coordinating the FIP budget and tracking quarterly progress of the FIP

The following duties are required:

- Monitoring the progress of each Activity as defined in the Programme LogFrame (see CMP), and the above defined reports as provided in the above TORs
- Managing the budget on behalf of WWF , and monitoring programme expenditure
- Communicating with DARD, and other stakeholders, as required
- Participating in workshops, and the activities of the CMC
- Reporting and liaising with WWF and the International consultant
- Mentoring to various stakeholders as required
- Supporting WWF in a number of duties including preparing support input to reports for funders

Expert's profile

WWF Programme Manager

3. *Qualifications and skills*

- A degree in environmental science
- Experience in Project management
- Knowledge of the Marine Stewardship Council Fisheries Assessment methodology

4. *General professional experiences*

- Knowledge of Vietnamese fisheries and / or Vietnamese rural development
- Working knowledge of English

DURATION

The assignment will be for 5 years with a view to establishing long term linkages thereafter based on performance.

PLANNING

APPENDIX 1: Project Logframe

Goal 1: To maintain an ecologically sustainable crab biomass

1.1 Results	1.2 Objectively Verifiable Indications	1.3 Timeline from 2012 base year	1.4 Responsible Organisations	1.5 Means of Verification	1.6 Assumptions
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Outcome 1.1: The capacity for crab research within Vietnam strengthened, and Limit and Target Reference points established for the fishery

Activity 1.1.1: Stock assessment staff engaged	Senior scientist and technician engaged with support from expatriate scientist.	Within 6 months	RIMF engaged with support from senior scientist	Contracts	Availability of funding
Activity 1.1.2: Scientific data collection sampling programme	Observer programme initiated	1 year and ongoing Crab maturity before 1 year.	RIMF/ Capture Fisheries of Resource Protection/DARD collection centres and processors	Observer reports	Availability of funding
Activity 1.1.3: Literature review	Review of other stock assessment work from other countries –Thailand, India and Australia.	Within 6 months	RIMF	Report	Research implemented or other country experiences publically available

<p>Activity 1.1.4: Stock status and provide quantitative biological reference points and precautionary harvest control rules for stock management</p>	<p>Target Reference Points/Limit Reference Points set at 0.xx Biomass Optimum Sustainable Yield (or as appropriate)</p> <p>Target Reference Points set to incorporate the ecological/trophic role of the stock</p>	<p>3 years</p>	<p>RIMF</p>	<p>Stock assessment reports</p>	<p>Reference points fully substantiated and endorsed</p>
<p>Outcome 1.2: The system of data collection strengthened in order to enhance the knowledge of prospective vulnerabilities</p>					
<p>Activity 1.2.1: Logbook revision to include retained catch, bycatch including ETPs,</p>	<p>New (simplified) log book template for all fleet categories, and compliant with CCS requirements with additional support from RIMF (Activity 1.2.2).</p> <p>To provide guidelines and instructions on how to keep logbooks</p>	<p>1 year and ongoing</p>	<p>DARD and District DARD</p>	<p>Completed logbooks</p>	<p>Support from DARD</p>
<p>Activity 1.2.2: Logbook collection</p>	<p>Logbook returns</p>	<p>1 year and ongoing</p>	<p>DARD</p>		
<p>Activity 1.2.3: Data systems operating</p>	<p>Enumerators engaged</p> <p>RIMF Fisheries Management Information System adapted to suite local fishery needs.</p>	<p>1 year and ongoing</p>	<p>DARD</p>	<p>Data base outputs Report dissemination, analysis and sharing</p>	<p>Availability of funding</p>
<p>Outcome 1.3: Harvest control strategies adopted with adherence to the precautionary principle of fisheries management</p>					

Outcome 1.4 Harvest control tools adopted					
Activity 1.4.1: Harvest control tools reformed or established based on Limit Reference points	Minimum landing sizes reaffirmed or revised (Margin of tolerance removed)	3 years	CMC, and Provincial DARD, RIMF, NIO.	Incorporated into State and Provincial regulations	Stakeholder support
	Mesh size limits established Periods set for closed areas Spatial closed areas demarcated Other restrictions to be decided	3 years			
Activity 1.4.2: Ongoing training and awareness programme	Fisher education curriculum and workshops activities identified. Outreach to middlemen/collectors	Ongoing	RIMF, DARD, Community fisher organizations and processors	Record of training workshops	Willingness of stakeholders to engage Adequate resourcing by Institutions

Goal 2: To ensure the application of the ecosystem approach to fisheries management is integrated into crab management policy					
1.7 Results	1.8 Objectively Verifiable Indications	1.9 Timeline	1.10 Responsible Organisations	1.11 Means of Verification	1.12 Assumptions
Outcome 2.1: Management systems introduced to mitigate against at-risk retained, bycatch, ETP and benthic systems					
Activity 2.1.1 Appropriate ecosystem data collected through Observers and logbooks	Observer data collection reports	1 year	NIO/RIMF/DARD/Stakeholders	Observer report	Adequacy of data collection design and process
Activity 2.1.2 Undertake risk assessment to determine the vulnerability of by-catch and by-product species to overfishing	Stakeholder orientated Risk Assessment undertaken	3 years		PSA Risk Assessment reports	In house capacity to undertake risk assessment
Activity 2.1.3: Management mitigation measures introduced for bycatch	Bycatch Reduction Devices / gear conversion programmes. Spatial closed areas to protect environmentally sensitive zones	2-5 years		State Statutory regulations	Strengthening of inspection systems to allow effective control
Activity 2.1.4: Provide training to avoid interactions with ETP species (if interactions are confirmed).	Fisher education curriculum and workshops activities identified.	Ongoing	WWF	Record of training workshops	Willingness of stakeholders to engage Adequate resourcing by Institutions

Goal 3: To enable effective and participatory management of the fishery					
1.13Results	1.14Objectively Verifiable Indications	1.15Timeline	1.16Responsible Organisations	1.17Means of Verification	1.18Assumptions
Outcome 3.1: Crab Management Council established					
Activity 3.1.1: Creation of Fishery Advisory Council	<ol style="list-style-type: none"> 1. Members of Council identified 2. Terms of reference set out 3. Existing legislation reviewed to formalise the CAC 	6 months	PPC, DARD and all stakeholders (DARD (management & licensing, compliance), VIFEP, RIMF, Crab association, collectors, WWF	Decision on the formation of the Council (DARD)	<p>Funding sources available</p> <p>State Government support concept of crab specific measures</p> <p>Widespread stakeholder support</p>
Activity 3.1.2: Prepare fishery Specific Management Plan	<p>Crab Management plan finalised</p> <p>Centrally sponsored Budget produced with clearly defined budget headings</p>	2 years	CMC / DARD	Crab Management Plan (CMP) (and subsequent revisions)	<p>DARD support to CMC implementing activities</p> <p>And adequate budget to support CMC functionality</p>
Outcome 3.2: Fisheries management capacity and decision making of the regional (Province) and community administrations is improved					
Activity 3.2.1: Strengthen the capacity of the fisheries administration to service the CMC	<p>Responsible Institute personal and support staff appointed / re confirmed</p> <p>Staff Terms of reference revised linked to CAC support roles</p> <p>Training needs analysis undertaken</p>	2 years	DARD	<p>Staffing reporting hierarchy</p> <p>TORs</p> <p>Training Certificates</p>	<p>Widespread stakeholder support</p> <p>Budget determined and supported commensurate with the requirements</p>

Activity 3.2.2: Implementing an effective decision-making processes	Decision making process formulated as part of the CMP	1 year	DARD	Training	DARD acceptance of decision making principles
Outcome 3.3 Co-management systems strengthened					
Activity 3.3.1: Establish stakeholder associations	System established for demarcated bottom up responsibility and representative roles Co management made part of National Fisheries Act. Institutional strengthening	2 years	MARD/DARD, District Economic Divisions, Fisher organisations	Association rules	Fisher support, and support from available institutions to provide capacity building

Goal 4: To provide a system of strong compliance and facilitating industry participation in all aspects of decision making					
1.19Results	1.20Objectively Verifiable Indications	1.21Timeline	1.22Responsible Organisations	1.23Means of Verification	1.24Assumptions
Outcome 4.1: Fishery compliance systems strengthened					
Activity 4.1.1: Joint crab compliance working group created and risk assessment strategies undertaken and deployment strategies determined	Risk assessment workshop and regular reviews by JCWG.	6 months and ongoing	DARD	Risk Assessment Table	Awareness of risk assessment process

1.25	1.26	1.27 Objective			
Activity 4.1.2: MCS measures put in place	<p>Designated landing centres</p> <p>Logbooks</p> <p>Marine and land inspection systems established</p>	1 and ongoing	DARD	Annual DARD compliance report	<p>Availability of public funding</p> <p>Stakeholder support for measures and comply</p>
Activity 4.1.3: Strengthening Legislation to support compliance actions	<p>Legislation incorporated in the National Fisheries Act</p> <p>Sanction schedule prepared levels of fines commensurate (with illegal benefits and high enough to act as real deterrent)</p> <p>Evidence of sanctions implemented</p>	1 yr	DARD	<p>Provincial Decisions</p> <p>Reports of inspections and prosecutions</p>	Political support for increased compliance
Activity 4.1.4: Compliance training – Fisheries administrations and fisher groups	Training curriculums developed and ongoing workshops	Ongoing	DARD	<p>Inspector certificates</p> <p>Fisher certificates</p> <p>Workshop attendance reports</p>	Adequate in house training capacity available
Output 4.2: Co management systems established					

Activity 4.2.1: Co-management responsibilities determined based on above and provided for in legislation	Co-management implemented through the Fisheries Act	1 year and Ongoing	DARD/MARD/CMC	Provincial decrees and National Fisheries Act	Support for Co management principle by GoV and DARD
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Goal 5: To promote structural reform for fishermen which will allow them to sustain their livelihoods					
1.28Results	1.29Objectively Verifiable Indications	1.30Timeline	1.31Responsible Organisations	1.32Means of Verification	1.33Assumptions
1.34	1.35	1.36	1.37	1.38	1.39
1.40Outcome 5.1: Management of fishing capacity strengthened through setting a limited entry licensing system across the Provincial fishery					
Activity 5.1.1: Establishing a limited entry licensing system	Limited entry licensing in place, seeking to reduce vessels over time as they end their economic life.	2 years and ongoing	DARD	License records	Political support
Outcome 5.2: Alternative livelihood strategies promoted and adopted					
Activity 5.2.1: Establishing alternative livelihoods for community fishers	Alternative livelihoods identified based on equivalent or better earnings capacity MARD to identify activities	1 year and ongoing	PPC/ MARD/DARD	Alternative livelihood guidance plans	Funding availability

Goal 6: To create a monitoring and evaluation framework to assess results of blue-print implementation					
1.41Results	1.42Objectively Verifiable Indications	1.43Timeline	1.44Responsible Organisations	1.45Means of Verification	1.46Assumptions
Outcome 6.1: Monitoring and evaluation system established					
Activity 6.1.1: Develop / document a M&E plan	Monitor inputs/outputs,	Year 2	DARD, CAC	M&E Plan	Transparent process

	Evaluate results/objectives (who will report on what, when)				
Activity 6.1.2: Agree on monitoring and evaluation <i>practices/processes</i> that ensure credibility, impartiality, transparency, and usefulness	Appoint a DARD internal review team Contract out to External review for Mid Term and Ex Post assessment	Year 3 and 5	NIO, CAC	Reviewer reports	Transparent process