

Special Management Area

Manual



Special Management Area *Manual*

A guide for staff of the Ministry of Fisheries working on the community-based Special Management Area program.



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Manual introduction

This manual was developed by the Food and Agriculture Organization of the United Nations (FAO) Subregional Office for the Pacific Islands (SAP), in collaboration with the Tonga Ministry of Fisheries (MoF), the Pacific Community (SPC) and Econnect Communication.

It is designed to provide a one-stop, updateable guide for fisheries officers working with communities on setting up, implementing and monitoring special management areas (SMAs) along their coastlines. As such, this manual's scope is primarily intended for SMAs established with communities for the purpose of community-based fisheries management (CBFM).

Manual objectives

- To guide fisheries staff on how to establish, implement and monitor an SMA.
- To ensure consistent messages and processes for work with communities and partners on SMAs.
- To provide a one-stop, current guide for information about SMA processes, plans and procedures.
- To provide a means to assist in streamlining SMA procedures and processes.

Who is the manual for?

This manual is intended for Tonga MoF officers.

How should the manual be used?

This manual details what needs to be done at each step in setting up, implementing and monitoring an SMA. It details what fisheries officers should do and also provides tips, examples, and sample forms and templates.

Acknowledgements

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An accompanying USB drive provides extra resources, templates and brochures as well as PowerPoint presentations.

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SMA Manual Acronyms

Attorney General's Office	AGO
Coastal Community Management Committee	CCMC
Coastal Community Management Plan	CCMP
Community-based fisheries management	CBFM
Community Compliance Strategy	CCS
Decimal degrees	DD
Degrees, decimal minutes	DDM
Degrees, minutes and seconds	DMS
FAO Subregional Office for the Pacific Islands	SAP
Fish aggregating device	FAD
Fish habitat reserve	FHR
Fisheries Management Advisory Committee	FMAC
Food and Agriculture Organization of the United Nations	FAO
Global Positioning System	GPS
Horsepower	HP
Ministry of Fisheries	MoF
Non-governmental organisation	NGO
Pacific Community	SPC
Polyvinyl chloride	PVC
Quantum Geographic Information System	QGIS
Division of Fisheries, Aquaculture and Marine Ecosystems	SPC FAME
Special management area	SMA
Specific, Measurable, Achievable, Relevant and Timely	SMART
Standard operating procedure	SOP
Strengths, Weaknesses, Opportunities and Threats	SWOT
Underwater visual census	UVC

Chapter 1

Introducing Special Management Areas

1

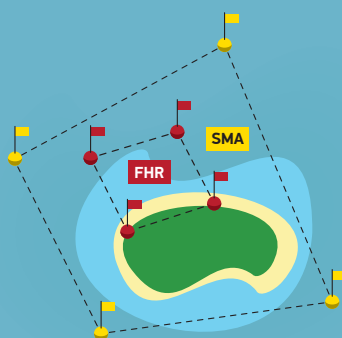
Explain SMAs

2

Describe how
a community
can get involved

3

Clarify roles
in SMAs



In your ongoing, general awareness-raising activities on SMAs, you can refer to this chapter to help explain the following to communities:

- What SMAs are, as well as their benefits and challenges.
- The process the community needs to take to initiate and establish an SMA.
- The responsibilities and commitments expected of the community.
- The supporting role of the MoF.

This information can also be presented at the confirmation meeting with a community who has requested an SMA to be established (see Chapter 2).

1 What is an SMA?

1 Define an SMA

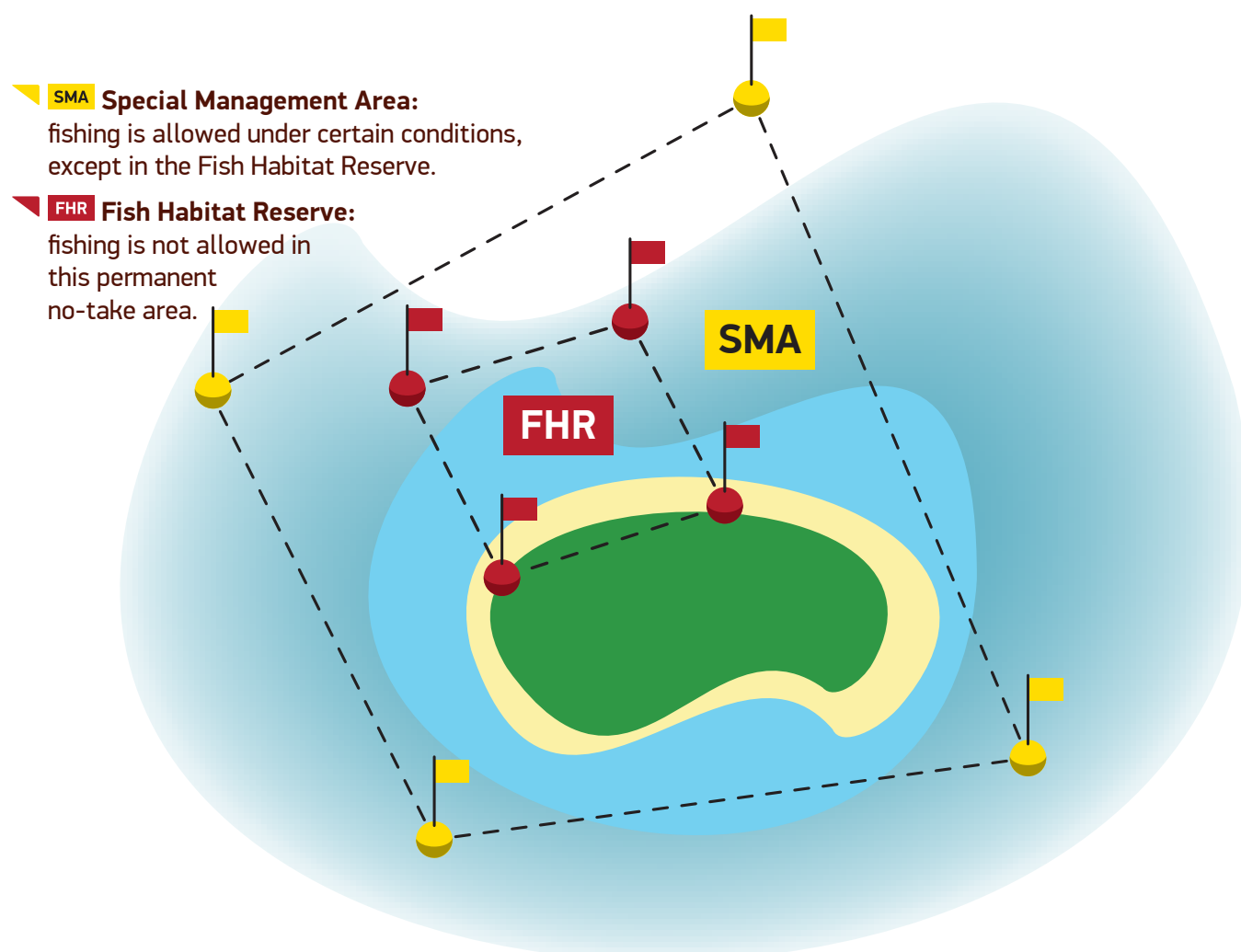
Under the Fisheries Management Act 2002, the Minister has the power to designate that any local community in Tonga can be a coastal community for the purposes of community-based management. The Minister may then allocate a Special Management Area for which each coastal community is responsible.

Thus, an SMA is an area in Tonga's fishery waters that has been allocated to a designated coastal community for the purpose of CBFM.

An SMA allows a local community to predominantly manage the fishing and marine resources in their adjacent coastal waters. Otherwise, those waters are open to anyone to fish in or collect marine resources from, subject to the requirements under Tonga's fisheries legislation.

A community works closely with MoF to set up their own SMA. This involves a series of processes or steps and activities conducted following or during implementing and monitoring the SMA, once it is established. Therefore, the overall SMA program refers to processes and activities that relate to setting up, implementing and monitoring SMAs.

The small, volcanic island of 'O'ua in the Ha'apai Group was the first community SMA in Tonga. This historical event was officially marked by the Minister for Agriculture and Food, Forests and Fisheries, Hon. Sione Peauafi Haukinima, on 1 November 2006.



② Why are SMAs important?

An open-access system is no longer appropriate.

Historically, Tonga has used an open-access system for fishing. All Tongans had equal fishing access to all Tonga waters. This is compatible with the sharing nature of Tongan society. While this system may have worked in the era of traditional subsistence fisheries, more advanced fishing methods and tools have led to the depletion of Tonga's coastal marine resources.

A greater population, more sophisticated fishing gear, greater use of powered vessels and the growth of commercial fishing activities placed increased pressure on coastal marine resources. Fish habitat was degraded, fish stocks were given no chance to recover and overfishing was a consistent problem. Communities complained that locals or outsiders were poaching their stocks of fish and resources of valued species, and the efforts to conserve and manage their adjacent marine resources may turn into a useless exercise as outsiders move in to overharvest. By the late 1990s, the situation had become critical, so Tonga looked for a better approach. The concepts of CBFM, co-management or traditional forms of fisheries management are not new and have been successful in the Pacific, including Tonga's closest neighbours (Samoa and Fiji). Thus, the idea came up that coastal communities should be given powers to regulate fisheries in their own coastal areas. A nationwide consultation was held, and the idea was positively received. This led to a change in Tonga's fisheries legislation to allow local communities to manage fisheries through SMAs. The Fisheries Management Act 2002 gave power to the Minister to declare any area of the fishery waters to be an SMA for the purposes of coastal community management.

③ Advantages and challenges of SMAs

The main advantage of an SMA is the community is empowered to manage their local fishery, and this leads to better fish catches, higher incomes and better livelihoods. Local marine resources are also protected for current and future generations.

“ The main advantage of an SMA is that a community is empowered to manage their fishery. Secondly, the community will experience better fish catch, which mean[s] better incomes and better livelihood[s].

“But the community will have more obligations and roles to play. There are a lot of responsibilities for a[n] SMA. Communities should expect that they will be responsible for planning, enforcing any illegal fishing, managing the SMA, and for collecting catch data.
(Dr Siola'a Malimali, Tonga MoF)

”

These communities feel much greater ownership towards their adjacent marine resources than in any time in recent history. They have an incentive to conserve and protect for the future.

Outsiders are no longer able to fish in an SMA; they cannot take tomorrow what the community conserves today.



Controlling fishing

The SMA program allows communities to control fishing activities within their designated coastal areas. Under their management plans, communities can choose to establish various fisheries management tools or new fishing rules, such as the following:

- Limiting the number of fishers allowed to fish in the area.
- Limiting or restricting types of fishing gear permitted for fishing in the area.
- Limiting the size of fish caught.
- Limiting the total catch of different fish.
- Setting aside ‘no fishing’ areas or Fish Habitat Reserves (FHRs) within the SMA to protect marine life and habitats, including valued species such as lobsters, clams and sea cucumbers.

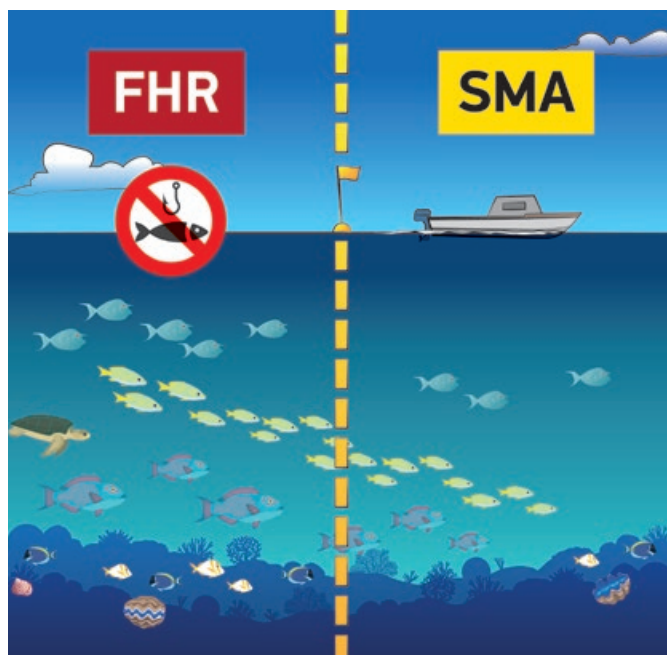
Any new fishing rule established in an SMA must not contradict national fisheries laws and regulations, but it can be more stringent. For example, a minimum size limit for a specific species cannot be smaller than its size limit in the national fisheries law, but it can be greater.

Fishers and harvesters who are not registered to fish in the SMA, including aquarium operators, are not allowed to fish for or remove any marine resources within the SMA. However, traveling through an SMA is allowed. By controlling fishing, the community can make sure there are enough fish to breed. This means that more young fish will survive to restock the FHR and SMA. Over time, fish populations will grow and move outside the SMA for all fishers to catch. Thus, everyone benefits from an SMA.



Controlling fishing activities through community action.

In an SMA, the community can look after their fish more easily than outside the SMA.



Restoring fish stocks and habitats in no-take FHRs.

The fish will breed and move to other areas.



Promoting sustainable fishing practices.



Improving living standards in the community.

Taumu'a 'o e **SMA** & **FHR** ('Elia Tapu)?



SMA

Feitu'u Pule'i Makehe

FHR

'Elia tapu



Ka 'ikai ha **SMA**,
'e kei hokohoko pē 'a
e toutai fakavalevale,
pea to e holoange ai
mo e ola 'a e toutai.

Ko e kakai pē 'o e kolo
matātahi ko ia 'e
ngofua ke toutai 'i loto
'i he'enau **SMA**, 'oku
holo ai tokolahi 'a e
kau toutai pea 'e to e
lalahi mo lalahiange ai
'a e ika.

'Ikai ngofua ki ha taha
ke toutai 'i loto 'i he
FHR. Fiema'u ke fanau
e ika ke lahi mo
lalahiange, pea toki
tafe atu ki he 'elia
'i tu'a.



Increasing communities' awareness of SMAs' benefits can also be done through the media, particularly radio and local newspapers. The best media stories about SMAs talk about real examples where communities have set up and are managing successful SMAs.



See [Appendix 1](#) for an example of a story on the Tonga Government website about the SMA program. This file is also included on the USB drive.

A community needs to invest time into making their SMA work.

SMAs require effort to maintain and monitor, and there is a cost to the community. The main disadvantage is that the community has obligations and roles to play. SMA programs need to be monitored and maintained to be successful. Fish stocks need to be managed sustainably to be healthy. All of these activities take time and consistent effort. With support from the MoF, a community is responsible for planning, enforcing the rules to stop or prevent any illegal fishing, managing the SMA, and collecting catch data.

How a community without an SMA is disadvantaged.

The biggest disadvantage is for the communities that do not have an SMA. These outside communities do not like the fact that they are restricted from open-access fishing or denied access to a place where they once fished. A community without an SMA can also have their local marine resources of valued species plundered by locals or non-residents.

In the past, it has been difficult to establish an SMA in a timely manner because of financial restraints in the MoF. Staff shortages have meant that there are not enough skilled fisheries officers to work with the communities and lead them through the process of establishing an SMA. Many communities have applied, knowing the advantages of the program, but the application process has been slow due to a lack of funding. Using more staff has helped overcome this problem.

We need to think about tomorrow.



As the Governor Finau of Ha'apai District, Mo'ale said:

The current culture of taking as much as we can without thinking about tomorrow must stop. By managing our coastal areas ourselves, we will ensure that the sharp decline in fish and other living things in our seas will stop [...].

We are seeing this happening all over Tonga; the abundance of fish that our grandparents enjoyed are no longer there. It's up to us to work together in our villages, towns and islands to reverse this decline now. No one else will do it for us.



4 Consider the legislation

The Fisheries Management Act

The Fisheries Management Act 2002 (also as amended in 2004 and 2009) is the main legislation governing SMAs and defines how they can be established.

Section 13 of the Act gives the Minister the power to declare any area of coastal water an SMA. It also specifies what is regulated in an SMA, including the following:

1. The persons or groups of persons, or types or classes of vessels, that may be allowed to fish or carry out a related activity.
2. The methods of fishing that may be used.
3. The terms and conditions of fishing or a related activity.
4. Any activity that may be prohibited, regulated, exempted from regulation, or subject to specified terms and conditions.
5. Any other necessary conservation or management measure that applies.
6. Any other matter that may be prescribed.

Section 14 gives the Minister the power to designate any local community as a coastal community. The Minister can allocate an SMA to that community, but in doing so, the Minister must take into account the concerns and interests of neighbouring communities. This section also says that a community must run an SMA properly, or in a manner that will lead “to the effective conservation and management of fisheries resources.” The Minister has the power to prescribe the rights and responsibilities of the community.

Section 15 gives the Minister the power to make regulations to implement an SMA fishery plan. This is after the Minister has consulted the local community. The Minister may not issue any permit or licence for fishing activities in the SMA without first consulting the local community.

Fisheries (Coastal Communities) Regulations 2009, as amended in 2016

Established under the Act, the Fisheries (Coastal Communities) Regulations 2009 are a practical guide for the legal requirements and conditions for an SMA. They also describe the following:

- How the boundaries are set.
- The election and processes of the community committee.
- The responsibilities of the community committee.
- Enforcement procedures.
- The content of a community plan.
- The Fishers Register and Fishing Vessels Register.
- The Ministry responsibilities.
- Permits and authorisations to fish.
- Fishing conditions in the SMA.
- FHR.

The regulations are written in both English and Tongan. They also include the list of SMA areas, maps and the wording of fishing permits.

Fisheries Management (Conservation) Regulations 2008

Established under the Act, the Fisheries Management (Conservation) Regulations 2008 contain a number of conservation and management measures, which govern all fishing activities in Tonga. They specifically regulate fishing methods and gear, species conservation, fisheries plans, aquarium fishing, fish fences, and fish aggregating devices (FADs). These laws also apply to fishing in an SMA.

SMA consultation at one of the SMAs in Vava'u



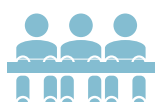
2 Describe how a community can get involved

There are eight key steps that a community needs to take to set up an SMA.



1 Expression of interest

The community applies by submitting a letter of request to the Ministry of Fisheries.



2 Community confirmation meeting

The Ministry of Fisheries meets with the community to confirm its interest.



3 Coastal Community Management Committee election

Fisheries officers and community meet together to establish a Coastal Community Management Committee (CCMC).



4 Coastal Community Management Plan development

The community develops a draft Coastal Community Management Plan (CCMP) for the SMA with the help of the Ministry of Fisheries.



5 Consultation processes

Consultations are held on the draft management plan, which includes presenting it to the proposed SMA community as well as to neighbouring communities and announcing it publicly to invite and address any comments or concerns on the proposed SMA.



6 Submission for approval

The Coastal Community Management Plan is finalised and submitted for approval by the Fisheries Management Advisory Committee, then the Minister for Fisheries and the Cabinet.



7 Gazette and regulation of plan

The CCMP is translated into regulations or an Order for the SMA to be gazetted and legally enforced.



8 Announcement and implementation

The SMA is announced publicly and implemented.

Details for each of these steps are provided in Chapter 2.

3 Clarify roles in SMAs

While the next chapters explain in more detail the activities that different key actors involved in the SMA program carry out, here is a summary of their general key roles:

① Role of the SMA community

Before the SMA is established, the community initiates the process by formally requesting the MoF for support to set up an SMA in their coastal area. The community will then work closely with the Ministry to fulfil the requirements for setting up an SMA.

Coastal Community Management Committee

The CCMC's main function, in cooperation with the Ministry, is to assist the community to conduct their operations in a manner that is conducive to the effective conservation and management of fisheries resources in the SMA. This includes developing the CCMP with the Ministry and the rest of the SMA community, implementing the CCMP, and assisting with the enforcement of the SMA. Section 12 of the Fisheries (Coastal Communities) Regulations 2009 lists the functions and responsibilities of the CCMC.

During the process of establishing the SMA, the community is responsible for electing a CCMC, which is a powerful body with many functions and responsibilities that acts on the community's behalf.

Overall, the SMA community is encouraged to take the lead role in the management and monitoring of the SMA, with support from the MoF.

② The Ministry of Fisheries' role

Ministry staff will work with the community through every stage of the SMA process. The staff members also play a crucial role in ongoing engagement with the community, which includes the following:

1. Raising awareness on SMAs' benefits through media and presentations.
2. Facilitating the CCMP development process with the community, as well as obtaining approval for the plan and ensuring it is legislated.
3. Assisting the community in the implementation of the management plans and monitoring of the SMAs.
4. Delivering trainings to communities and other local partners, such as non-governmental organisations (NGOs), who are involved in SMA work.
5. Conducting regular site visits to check on progress and encourage the community in their work.
6. Providing technical support and advice on SMA-related legal and compliance issues.

It is important to note that the SMA program is largely 'home grown' and to a great extent, it has been developed by Tonga for Tonga into its current form. The officers of the MoF are justifiably proud of the system they have created.

Benefits to Fisheries Officers from working with communities

“ It is nice to get out of the office into a different office with a different environment and different people. You experience different things in different communities.

Your knowledge regarding communities and fisheries increase[s]; you gain a lot of experience that you don't learn sitting in the office or at the university. ”

(Dr Siola'a Malimali, Tonga MoF)



Fisheries Officer, Sosefina Vili (standing), and Dr. Malimali (sitting with the laptop) facilitating an SMA consultation in Ha'apai

Fisheries Management Advisory Committee

Under the Fisheries Management Act 2002, FMAC is an advisory body established to advise the Minister of Fisheries on matters related to the conservation, management, sustainable use and development of fisheries in Tonga. FMAC members include representatives from relevant Government ministries, local fishers, women and coastal communities. All new SMAs are submitted to FMAC for review and approval before being passed to the Minister and then Cabinet for final approval and gazetting.

③ Other Government Ministries' roles

Other Government Ministries also play key roles in the SMA program. These key roles include the following:

- Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications: Assists SMA communities to address issues related to the environment and climate change (e.g., sand mining, coastal tree replanting and coastal erosion). The Ministry also assists in SMA research and monitoring activities.
- Ministry of Lands, Survey and Natural Resources: Assists with SMA land boundaries and producing SMA maps.
- Tonga Police: Assists in the monitoring, control, surveillance and enforcement of SMAs (see Chapter 4 for more details).
- Attorney General's Office (AGO) (Crown Law): Assists in the review and gazetting of SMA regulations (see Chapter 4 for more details).

④ Neighbouring communities' role

The neighbouring communities who share a boundary with the community applying for an SMA also have a role. They must have an opportunity to comment on the draft CCMP before it is submitted to MoF as a final draft. After the SMA has been approved and gazetted, they also play a role in abiding by the CCMP and regulations.

⑤ NGOs' role

NGOs may have a role to engage with and enhance the capacity of the community to successfully develop, implement and/or monitor an SMA. They may also assist a community to explore funding opportunities for related projects (such as livelihood opportunities).

😊 Top tips for new Fisheries Officers

1 Go into the community with experienced Fisheries Officers to see what an SMA is and find out how it works.

“ When I started, I did not even know what a[n] SMA [was]. I did not know what would happen in a village or how it looked. I needed to go out to the community with one of my experienced colleagues; you need to go out there and learn. It is important not to be scared and to go out there. I watched my colleague during his talk, and after a few weeks he got me to come out to present some parts of the talk, and eventually I was confident enough to facilitate the whole process. How things have changed - when I was at high school and university, I could not stand in front...of a community and lead a conversation with them. ”
(Latu 'Aisea, Tonga Fisheries Officer)

2 Use the manual to guide you. If there is something in it that you do not know, then ask a question.

3 Ask questions and talk to your colleagues about your expectations. They will quickly say if you are correct or not.

4 When you go out to talk to remote communities and have to stay away overnight, be prepared to stay at families' homes or in a community hall. Water and electricity can be limited in some of the outer islands, so use them wisely.

5 Respect local customs and protocols (e.g., if a funeral suddenly happens in the community, seek advice from the Town Officer on whether or not to proceed with your meetings).

6 When speaking to the community, speak loudly and clearly so that everyone can hear you. Speak in the local language when addressing community members.

7 Look in the manual for templates (e.g., the CCMP) and examples.

8 Keep going out into the community and observe what happens. This is very important as you need to feel confident and passionate to work with the community. It is important to build up your experience and skills dealing with the community. It is also important to build positive relationships.

9 Practice makes perfect. Once you are out in the community working on an SMA, aim to move forward step by step until you are confident.



Chapter 2

Establishing a Special Management Area

Establishing an SMA is a cooperative effort between Fisheries Officers and the community. The community needs to initiate their own SMA, but Fisheries Officers need to be there to guide and support each community's process. NGOs and other partners may also provide technical support and funding in coordination with the MoF for a community to establish an SMA.

The goal of all parties involved in the establishment phase is to have a Government-approved CCMP and regulations endorsed for the plan to become effective. Once these are in place, the SMA rules and processes established in the plan can be implemented (detailed in Chapter 3).

This chapter provides a practical guide for carrying out the eight steps needed to set up an SMA in a community.





1 Expression of interest

The community applies by submitting a letter of request to the Ministry of Fisheries.

The first step for any community wanting to set up an SMA is to formally write to the MoF. There are two main points to advise the community about this letter of request:

- The letter is meant to specifically request an SMA and explain the purpose of the request, e.g., what issues or concerns the community is facing related to their coastal fisheries resources and livelihoods.
- The letter should be addressed to the Chief Executive Officer for Fisheries and signed by the Town Officer.

 See examples of community request letters in a folder on the manual USB stick.

Once the letter of request is received by the MoF, the MoF should complete the following tasks:

- Provide a response letter to the community.
- Ensure that copies of the request and response letters are kept for records.

 See an example of a response letter in a folder on the manual USB stick.



Introducing the community confirmation meeting

Explain the following to the community:

- What an SMA is;
- The benefits and challenges of SMAs, using specific examples;
- The legislated role and responsibilities of the community and the CCMC, including the commitments they need to make in terms of time and resources;
- The roles of Fisheries Officers and the MoF;
- The eight main steps to establish an SMA (explaining the remaining steps they need to take); and
- Any questions or issues included in the community's request letter to discuss during the meeting.



2 Community confirmation meeting

The Ministry of Fisheries meets with the community to confirm their interest.

After the community sends an expression of interest to the MoF to set up an SMA, contact the community's Town Officer to discuss the application and establish a time for the first community "fono," or meeting (confirmation meeting).

The purpose of the confirmation meeting is to explain to the community what an SMA is and what it means to take part in the SMA program. In the end, the community can confirm whether or not they wish to continue with the process. It is important to remind the Town Officer that fishers should be present at this meeting. Through the Town Officer, the community should discuss and agree on the timing of the meeting to be well informed on the purpose of the meeting before it takes place.

What to take with you:

- Meeting agenda,
- PowerPoint presentation to the community,
- Copies of SMA awareness materials to distribute to the community,
- Attendance sheets.

 Check out the presentation, SMA request presentation REV 1.pptx, available on the accompanying USB stick.

There should be time allowed for a community question and answer (Q&A) session. Refer to [Appendix 2](#) for a list of frequently asked questions and tips.



How to confirm agreement from the community.

- At least 30-50% of all community households should attend the meeting.
- The general consensus is formed when community participants verbally express that they agree to undertake the SMA program.

If the community has confirmed their agreement to undertake the SMA program, proceed to the next step (Step 3) at the same meeting.

However, if the community does not come to an agreement, a decision will not yet be made at this meeting, and the community and Town Officer will discuss it further on their own time. If they later come to an agreement, the community will inform the MoF¹ before proceeding with conducting the program. This agreement process can take up to three confirmation meetings, and some communities may not make the decision until a few years later.

1. The Town Officer of the community can just inform SMA staff of the Ministry via phone.





3

Coastal Community Management Committee election

Fisheries officers and community meet together to establish a Coastal Community Management Committee (CCMC).

Introducing this session

Remind the community of the following:

- It is their responsibility to elect a CCMC.
- The key functions and responsibilities of the CCMC are as follows:
 - Refer to Regulation 12 of the Fisheries (Coastal Communities) Regulations 2009 for the functions and responsibilities of the CCMC.
 - Develop a CCMP with the MoF and the rest of the community for “the conservation, management, sustainable utilisation and development of fisheries resources.”
 - Meet regularly to discuss progress and SMA implementation (See meeting agenda outline in [Chapter 3, Section 4](#)). One suggestion for how often to meet is quarterly, or four times per year, at least when the SMA is being introduced and established.

When the community has confirmed their agreement to undertake the SMA program, the next step, which is electing a CCMC, can be held during the confirmation meeting. The Town Officer often leads this meeting, with assistance from fisheries officers.

In accordance with Regulation 6 of the Fisheries (Coastal Communities) Regulations 2009, as amended in 2016, the coastal community will elect the CCMC members, who are as follows:

- A chairperson elected by the coastal community,
- Two members representing fishermen’s interests,
- Two members representing women’s interests, and
- Three additional representatives² of the coastal community (nominated by the chairperson only).

The committee also includes one MoF representative, the Town Officer and/or the District Officer within which the coastal community is situated. Once the committee has been formed, the members will appoint a treasurer and a secretary, according to the committee’s own rules and procedures. Committee members will be included in the CCMP (described in the next step).

² You can suggest specific members (male and female) to represent the youth in the community.





4

Coastal Community Management Plan development

The community develops a draft Coastal Community Management Plan (CCMP) for the SMA with the help of the Ministry of Fisheries.

After the community has elected a CCMC, the next step is to hold workshops with the community to develop a CCMP. Refer to [Appendix 3](#) for the step-by-step process on how to facilitate workshops with the community to develop the CCMP for the SMA.

The CCMP and its template

In preparing to develop the draft CCMP, it helps to first refer to the CCMP template ([Table 1](#)).

The template will guide in preparations for community meetings to facilitate and gather information for the draft CCMP. Fisheries Officers will use the template to draft the CCMP after community meetings.

According to the Fisheries (Coastal Communities) Regulations 2009, the plan shall include the following:

- A trend analysis, which contains details of the past and present environmental and socio-economic situations of the coastal community and surrounding area;
- A problem analysis of the coastal community and surrounding area;
- A description of the boundary of the SMA and justification for such boundary;
- A map that illustrates the boundary of the SMA, including any other management areas within the SMA; and
- A list of the committee members.

The CCMP also sets out the specific fishing rules in the SMA, as well as actions to be implemented by the MoF and the SMA community through the CCMC. It is important to note that any new fishing rules in the CCMP cannot be enforced by law until they are published in the gazette, i.e., included in the Fisheries (Coastal Communities) Regulations.

In addition to the above requirements, and where relevant to the SMA, the plan shall include the following item:

- The objectives to be achieved in the management and development of the fishery, including any management, licensing, permitting or other authorisation and development of measures to be applied, as well as statistical and other information to be gathered on the fishery.

Table 1: Coastal Community Management Plan outline

Also refer to [Appendix 3](#) for details on the step-by-step process on how to facilitate workshops with the community to develop each of these CCMP sections.

CCMP section heading	Examples of CCMP sub-section headings	Description of CCMP section	Source of information
Summary page (optional)		<ul style="list-style-type: none"> No more than 1 page Include map and rules for the SMA and FHR areas. 	
Introduction	<ul style="list-style-type: none"> Coastal community description Community vision and SMA objectives 	<ul style="list-style-type: none"> Introduces the community and background on the SMA request Includes the community's vision and SMA objectives 	Activities 1, 2 and 5 of Appendix 3
CCMC	<ul style="list-style-type: none"> Members Roles and functions 	<ul style="list-style-type: none"> Lists CCMC members Describes the members' roles and functions 	Outcome of Step 3 in this chapter
Analysis of fishing changes in the coastal community	<ul style="list-style-type: none"> Fishing households Fishing vessels and methods Health of habitats and marine resources in the SMA area 	<ul style="list-style-type: none"> Includes a summary of the main trends (summary table can be added in the CCMP annex, if necessary) Includes a summary of baseline survey results, if available 	Activity 3 of Appendix 3
Problem-solution analysis, with an optional Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis added	<ul style="list-style-type: none"> List problems, causes and effects. List solutions and actions to address problems. List strengths and weaknesses in the community. List opportunities and threats in the community. 	<ul style="list-style-type: none"> Includes a summary of problems to identify, solutions and actions Includes a SWOT summary 	Activity 4 of Appendix 3
SMA and FHR	<ul style="list-style-type: none"> Map of the SMA and FHR Description and justification of the SMA and FHR boundaries Global Positioning System (GPS) locations of boundaries 	<ul style="list-style-type: none"> Describe SMA area and boundaries Describe FHR area and boundaries Provides map of SMA and FHR Provides information on how the boundaries were selected (justification) Provides GPS coordinates of the boundaries 	Activity 6 of Appendix 3
Fishing rules within the SMA and FHR	<ul style="list-style-type: none"> Fishing rules within the SMA Rules for the FHR 	<ul style="list-style-type: none"> Describes the types of fishers and vessels that are eligible to be added to the Fishers Register and Fishing Vessels Register or that can be issued permits to fish in the SMA. Describes any new rules for fishing in the SMA (in addition to existing national fisheries legislations) Describes any new rules in the FHR, in addition to existing rules under the Fisheries (Coastal Communities) Regulations 	Activity 7 of Appendix 3
Community capacity development	<ul style="list-style-type: none"> Community's capacity development and training needs 	<ul style="list-style-type: none"> Lists any of the community's capacity development and training needs, including any trainings for the MoF to provide Includes specific requests for any community livelihood activities (enhancing existing or introducing new ones), including how they will be supported and reduce impacts on fisheries 	Activities 8 and 10 of Appendix 3
Monitoring and evaluation		<ul style="list-style-type: none"> Identify what types of monitoring will be undertaken in the SMA, including the following: <ul style="list-style-type: none"> What to monitor to see how well the SMA is being managed (monitoring management effectiveness) What to monitor to see whether there are any changes to the health of marine and fisheries resources in the SMA (biological, environmental, etc.), as well as the socio-economic status of the SMA community (monitoring management outcomes) <p>Refer to chapter 3 for more details on SMA monitoring and chapter 4 for specific details on SMA compliance monitoring</p>	<p>Activity 9 of Appendix 3</p> <p>Chapter 3 on SMA monitoring and Chapter 4 for specific details on SMA compliance monitoring</p>

Once the provisions of the CCMP have been gazetted as regulations and the SMA is officially created, the community takes the leading role in managing their coastal fisheries resources, with assistance from the MoF.

It is all about community engagement. If Fisheries Officers do not engage, they cannot engage others. If there is continual contact by Fisheries Officers engaging with the community, the management of their SMA will improve.

“Management will be improved by the continual contact of Fisheries Officers engaging with community. The more you engage with the people, the better they will manage their fisheries. It's all about community engagement. The backbone of this program is community engagement. If we don't engage, then there is nothing. We need to empower the community.

Dr Siola'a Malimali, Tonga MoF

”

Check out the presentation, SMA request presentation REV 1.pptx, available on the accompanying USB stick.

Drafting the CCMP

Based on all the results from the community workshops, draft the CCMP sections using the CCMP template (Table 1), in both English and Tongan versions.

In drawing the map of the SMA and FHR boundaries for the CCMP, ensure the following steps are taken:

- Use the Quantum Geographic Information System (QGIS), Google Earth or another mapping software to draw the map, using the GPS coordinates that were plotted with a GPS unit. If this is not possible, seek assistance from the Ministry of Lands, Surveys and Natural Resources.
- For consistency in drawing the boundary of SMAs and FHRs on maps, always use the same colour, e.g., the SMA boundary colour should always be yellow, while the FHR boundary colour should be red.

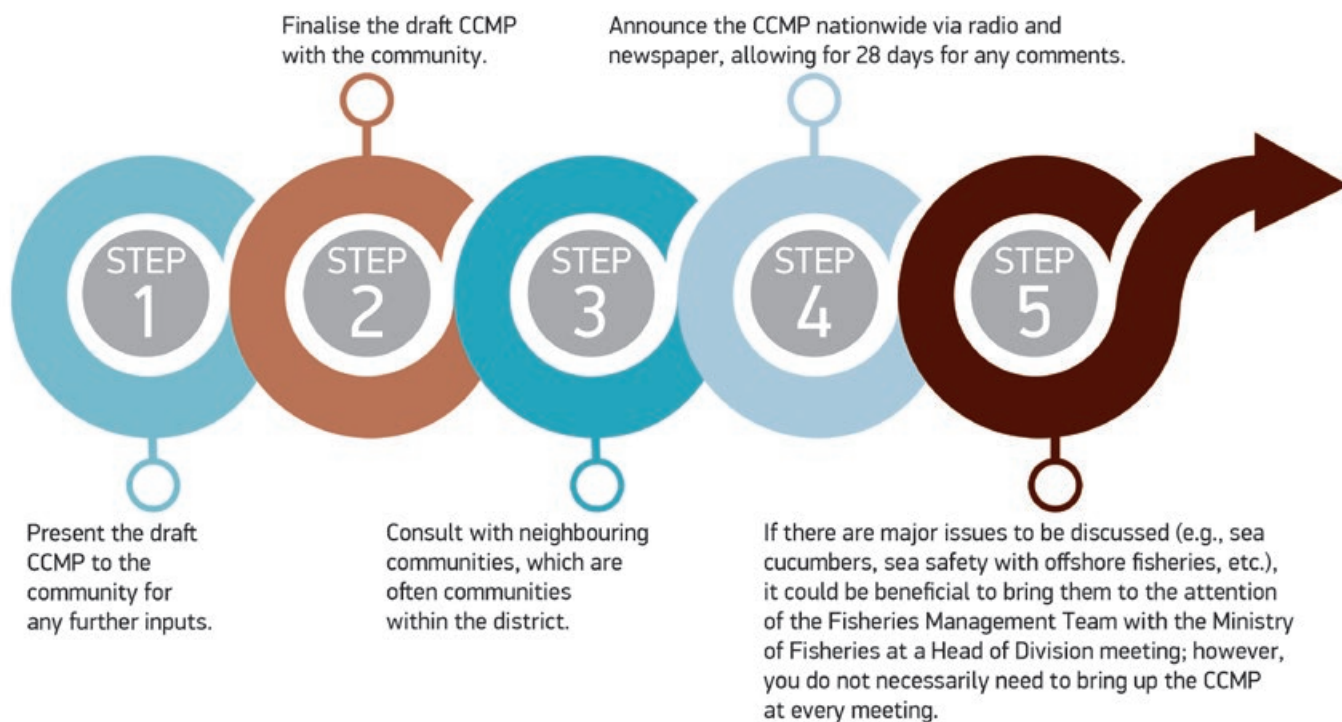




5 Consultation processes

Consultations are held on the draft management plan, which includes presenting it to the proposed SMA community as well as to neighbouring communities and announcing it publicly to invite and address any comments or concerns on the proposed SMA.

Once a draft CCMP has been completed, work with the CCMC to complete the following steps:



See an example of an SMA Public Announcement extracted from a Kele'a Article (Tongan and English version) on the USB stick.



6 Submission of plan for approval

The Coastal Community Management Plan is finalised and submitted for approval by the Fisheries Management Advisory Committee, then the Minister for Fisheries, and the Cabinet.

Once the consultation has finished and the community has an agreed-upon CCMP conduct the following next steps:

1. Submit the final CCMP to the FMAC.
2. Submit to the Minister for approval.
3. Submit to the Cabinet for approval.



7 Gazette and regulation of plan

The CCMP is translated into regulations or an Order for the SMA to be gazetted and legally enforced.

Based on the approved CCMP, regulations are prepared by Crown Law, in collaboration with the MoF, for publication in the gazette.

Once Crown Law approves and publishes the regulations in the gazette, the MoF and the community can make the public announcement about the new SMA.



8 Announcement and implementation

The SMA is announced publicly and implemented.

The new SMA is announced nationwide through media.

1. Prepare a media announcement.



See an example of an SMA Media Announcement on Radio in the USB drive.

2. Produce a signboard that announces the SMA to the community and those who visit so that they know where the SMA is and what the fishing rules are. The signboard is created from the management plan, on which the community gave input.

The implementation and monitoring of the SMA is explained in more detail in the next chapters.



Chapter 3

Implementing and Monitoring a Special Management Area

In the previous chapter, we ended with gazetting the new SMA, then onto public announcements and the installation of a new signboard to clearly show where is the SMA and what are the fishing rules.

This chapter provides suggestions on how the MoF and a new SMA community can collaborate to implement and monitor the SMA to ensure that SMA objectives and goals are met, in accordance with the CCMP. During the development of the CCMP, sometimes it is not yet specified who will be implementing certain activities or when these activities will take place. Therefore, this plan will provide guidance to the MoF and community on how to plan, in more detail, the implementation of various activities in the CCMP.

The MoF can start developing an implementation plan for the SMA, based on what the CCMP says needs to be done, as well as listing other complementary activities that will help promote smooth implementation and overall monitoring of the SMA.



1 Developing an implementation plan

An implementation plan is important to support the community to implement the actions and activities described in the CCMP. During this process, key things to consider when developing an implementation plan include:

- What are the priority activities and sub-activities listed in the CCMP for implementation.
- Who is responsible for implementing each activity or sub-activity (if not already identified in the CCMP).
- When to implement each activity or sub-activity.

Table 2 provides an example of an implementation plan. Once an implementation plan is prepared, it is important to discuss this plan with the community so that they fully understand it and can provide feedback and agreement. The plan should also be reviewed on an annual basis.



- In identifying implementation activities from the CCMP, these activities are derived from prioritized actions to resolve problems the community identified during the development of the CCMP (Appendix 3 – the one linked to Chapter 2)
- Be mindful as you develop an implementation plan, as there are certain activities that will be implemented on an ongoing basis for monitoring purposes. These activities can be further discussed when developing monitoring activities for the SMA (next section).

Table 2: Example of an implementation plan for an SMA CCMP. Examples of initial activities are highlighted in brown.

Activity in CCMP	Sub-activity in CCMP (inc. complementary activities)	Who	Target date or when (e.g., date or month, year)	Manual section /sub-section
Demarcation of and maintaining boundary markers	Identify and purchase materials	MoF		Chapter 3, Section 3, Sub-sections 1 & 2
	Construct and deploy markers with the community	MoF with community		Chapter 3, Section 3, Sub-sections 3 & 4
	Regular monitoring and maintenance of markers	CCMC/community members	Discuss with the community when developing the monitoring strategy	Chapter 3, Section 3, Sub-section 5
Holding regular CCMC meetings	Training on how to hold CCMC meetings (introduce the agenda, register forms, etc.)	MoF with CCMC		Chapter 3, Section 3
	Regular CCMC meetings to monitor SMA progress	CCMC with MoF	Discuss with the community when developing the monitoring strategy	
Maintaining fisher and fishing vessel registers	Training on how to complete fisher and fishing vessel register forms	MoF with CCMC		Chapter 3, Section 5
	Complete and submit registers to MoF	CCMC		
	Regular submission of any changes to registers to MoF	CCMC	Discuss with the community when developing the monitoring strategy	
SMA monitoring (overall)	Develop a monitoring strategy* (include all monitoring aspects of an SMA)			Chapter 3, Section 2
SMA monitoring (fish catch monitoring)	Training on the fish catch monitoring form	MoF		
	Regular collection of catch data	CCMC/community members	Discuss with the community when developing the monitoring strategy	
	Regular submission of completed forms to MoF	CCMC	Discuss with the community when developing the monitoring strategy	
SMA monitoring (compliance and enforcement)	Develop the Community Compliance Strategy (CCS)	MoF with CCMC		Compliance Chapter 4
	Training on SMA compliance and enforcement	MoF with CCMC		
	Regular surveillance and enforcement	CCMC	In accordance with the CCS	
	Regular reporting of incidents to MoF and police	CCMC	In accordance with the CCS	
SMA monitoring (biological surveys)	Baseline survey	MoF/others		Chapter 3, Section 2
	Follow-up survey	MoF/others		
Trainings on livelihood activities	List trainings requested in the CCMP and confirm prioritization	To be identified based on the livelihood identified		Based on Activities 8 and 10 in Chapter 2.
Add on other activities in the CCMP, as needed				

2 Developing a monitoring strategy

Monitoring is the systematic process of collecting and analysing data throughout the life of an activity to provide a measure of progress against stated goals or objectives. Ongoing monitoring is an important part of a CCMP as it can provide information on the status of the SMA and enable changes to SMA actions over time to ensure the SMA is continually progressing towards its intended goal. Monitoring is a joint responsibility between the MoF, CCMC and community as a whole.

For an individual CCMP, it is helpful to develop an overarching strategy for monitoring, which provides an overview of what information will be collected, who will collect it, when it will be collected, how it will be collected, and how it will be analysed and reported. A common error in monitoring is that often people concentrate on what and how data is collected, with a limited focus on how the information collected will be analysed and used for management purposes. In this section, a step-by-step process is identified to enable an SMA monitoring strategy to be developed.

Two main monitoring areas are considered as part of the SMA program:

- 1 Management effectiveness monitoring, and
- 2 Management outcome monitoring.

SMA monitoring areas

Management effectiveness monitoring is undertaken to track how the SMA is being managed by ensuring the necessary systems and processes are taking place. Monitoring management effectiveness includes ensuring that the CCMC is functioning effectively and the broader community members are abiding by, or complying with, the rules outlined in the SMA CCMP.

Management outcome monitoring refers to tracking the changes in biological and socio-economic aspects as a result of the SMA. Biological aspects refer to marine resources (including animals and/or habitats). Socio-economic aspects refer to people's livelihoods, food security, income, cultural values, roles and practices.

As part of the development of the CCMP (Chapter 2), the community were introduced to the concept of monitoring. Given the complexity of monitoring individual SMAs under the SMA program, the MoF is best placed to identify relevant monitoring on behalf of the community, prior to providing a suggested monitoring approach to the community. The following steps provided the basis for the MoF to develop a monitoring strategy, which can then be presented to the CCMC for endorsement and implementation. An example monitoring strategy for both management effectiveness and management outcome monitoring is provided in section 3.2.2.

1 Steps to develop a monitoring strategy

1. MONITORING PURPOSE	<ul style="list-style-type: none">• Define the reasons for monitoring – What do you want to achieve?• Questions can be derived from activities undertaken in the development of the CCMP.
2. DEFINE INDICATORS	<ul style="list-style-type: none">• What data or information is collected to answer the monitoring questions?
3. DATA COLLECTION	<ul style="list-style-type: none">• How can this data be collected? What sampling methods are required to collect information on the indicators? When does the data need to be collected and by whom?
4. DATA ANALYSIS	<ul style="list-style-type: none">• How will the data be stored and analysed? By whom?
5. REPORTING	<ul style="list-style-type: none">• How will the data be reported? To whom?

STEP 1 - Monitoring purpose

Defining the purpose or reasons for monitoring is the first step in the development of a monitoring strategy. Establishing the purpose will determine the approach and type of monitoring activities to be undertaken. It will also help identify other practical and logistical matters, including who needs to be involved, how, when and how often monitoring will be undertaken.

The purpose for monitoring is linked to the overarching SMA management objectives (see box below), as well as the specific goals and objectives the community established during the development of the CCMP (Chapter 2, Step 4). Given the complexity of SMAs, there will usually be multiple monitoring purposes.

How to define the monitoring purpose:

1. SMA monitoring questions should be developed based on the information gathered as part of the broader CCMP development process. In particular, the following information (obtained from earlier workshop activities) should be reviewed to help inform the monitoring purpose:
 - What is the community's goal for the SMA and the specific objectives the community is trying to achieve through the CCMP? (Appendix 3, Activity 5)
 - What are the status and trend for resources? Are there specific marine resources or habitats the SMA is targeting for management? (Appendix 3, Activity 3)
 - What changes does the community want to see to achieve the SMA's goals and objectives? (Appendix 3, Activity 4)
 - The CCS. (Chapter 4)

SMA Program Management Objectives:

- To enhance coastal fisheries management in Tonga,
- To improve the livelihood of coastal communities (financially and for food security),
- To improve the health of coastal marine habitats,
- To increase fish abundance,
- To improve fisheries compliance,
- To build a more resilient coastal community, and
- To improve community-based governance.

2. Using the information above, develop two to three targeted monitoring questions for each of the SMA monitoring areas (management effectiveness and management outcomes).

Example monitoring questions relating to management effectiveness include:

- Are SMA assets (SMA boundary markers and SMA signage) in place and maintained?
- Is the SMA reducing the number of fishers from outside the community?
- Is the community abiding by the SMA rules?

Example monitoring questions relating to management outcomes include:

- Has there been an increase in the abundance of Anadara shells because of the SMA?
- Has there been an increase in the abundance of reef fish in the SMA?
- Has coral reef health improved?

STEP 2 - Defining indicators and performance measures

An indicator is a measurable variable that shows or illustrates the status or condition of something within a specific area of interest. When collected repetitively over time, it gives information on the changing condition or status. As such, we use indicators for monitoring purposes to collect information on the changes that are happening.

For example, if one of our monitoring questions (Step 1 – Monitoring purpose) is, “Has there been an increase in the abundance of reef fish in the SMA?” The number of fish in the FHR could be used as an indicator. When measured repetitively over time, the indicator will provide information on whether there is a change in fish abundance in the FHR.

Selecting appropriate indicators

Indicators are related to the monitoring purpose, and as such, the SMA objectives as defined by the community. It can be difficult to select appropriate indicators; however, they can be identified through an iterative process:

- 1 Consider the monitoring questions developed in Step 1.
- 2 Identify candidate indicators for each monitoring domain and the specific attributes that relate to the question.

Refine indicators based on Specific, Measurable, Achievable, Relevant and Timely (SMART) criteria (see box).

SMART CRITERIA

When selecting indicators, it is important to ensure SMART indicators are chosen. Use the SMART questions below to determine whether the suggested indicators are appropriate.

S pecific:	Is it clear what will be measured? Is it likely to change the SMA actions/rules?
M easurable:	Can it be quantified or counted? Would different people be able to measure it and come up with the same answer?
A chieveable:	Is it realistic to measure? Will the results be realistic?
R elevant:	Can this information be collected (within reasonable cost/skill sets)? Is it related to the SMA objectives?
T imely:	Will it provide information within an appropriate time frame?

Table 3: Examples of indicators that could be used for management effectiveness and outcome monitoring.

Monitoring area	SMA goal	Monitoring question	Example indicators
Management Effectiveness	SMA is managed and maintained by the community	Are SMA assets in place and maintained?	SMA boundary markers and signboards are present and in sound condition
		Is the SMA reducing the number of 'outside' fishers?	Number of unauthorised fishing events in SMA in [set timeframe]
		Is the community aware of SMA rules	Percentage of 'compliant' inspections in SMA
			Percentage of the community who knows the SMA rules
Management outcomes	Biological	Increase in the abundance and size of [..target marine resource] in the SMA	Has there been an increase in the size of [..target marine resource] in the SMA?
		Has there been an increase in the abundance of [..target marine resource] in the SMA?	Size of [..target marine resource] caught in the SMA
	Socio-economic	Improved marine habitat health	Catch rates of [..target marine resource] caught in the SMA or abundance of [..target marine resource] in the SMA
		Has marine habitat health improved?	Status of marine habitat (seagrass, coral reefs, mangroves) in the SMA (and/or FHR)
	Socio-economic	Improved livelihoods as a result of the SMA	Have livelihoods improved since the SMA started?
		Have fisheries' livelihoods improved?	Number of new community non-fisheries related livelihood activities
		Community satisfaction with the SMA	Household income from fisheries
		Is the community satisfied with the SMA?	Proportion of community satisfied with the SMA

STEP 3 – Data sources, methods and data collection plan

Data collection is a critical step in the monitoring process as the quality and appropriateness of the data will influence the ability to make accurate conclusions. Data can be sourced from both primary and secondary data sources, and the CCMC, MoF or other partner organisations may collect data, depending on the method used. Primary data is information that has been collected first-hand through surveys or observation, while secondary data is information that has been collected by someone else, e.g., census surveys (number of households in a village). There are five main data sources under the SMA program: 1) CCMC meeting minutes and records, 2) focus group discussions, 3) household surveys, 4) fish catch surveys, and 5) underwater visual census (UVC) surveys. The methods used to collect data are dependent on the indicators identified in Step 2, and several methods may be required to collect all the data for the indicators identified. Furthermore, the data on one indicator could be collected using several different methods – the choice of method used is dependent on a number of factors, including the human and financial resources available and the level of quality in the data required. This section provides an overview of the common data sources and collection methods that are promoted and practiced in SMA communities.

CCMC meeting minutes and records

Under Fisheries (Coastal Communities) Regulation, 2009, the CCMC is required to regularly meet to discuss progress and SMA implementation activities. As part of this process, the CCMC maintains a record of discussions through meeting minutes. The committee maintains additional records, including fisher and

vessel registration, asset maintenance, incident, and compliance activity reports. All of these records are a valuable source of data for monitoring purposes. A clear mechanism for retaining, analysing and reporting the required information to track changes in the indicators identified is required to enable ongoing data analysis and reporting (see Steps 4 and 5 in this section).

Refer to Section 3.4 of this chapter for details on how to run CCMC meetings.

Fish catch monitoring (fisheries landing surveys)

Fish catch monitoring (fisheries landing surveys) is a quantitative data collection method that provides information about what fishers catch when they return from fishing. They are usually collected at a 'landing' location where the fisher is interviewed, and their catch is measured to record information about the 'catch' as well as where and how long the fisher was fishing as 'effort.' Trained personnel (often community members or fisheries) conduct these surveys.

This information is used to calculate a standardised measure of catch per unit effort (CPUE) or fish catch rates (for either the entire catch or targeted species), which is an indirect measure of abundance. Fish landing surveys can also include information on the fishing costs involved (fuel, fishing gear, etc.) and the end use of the fish (i.e., whether it is sold or consumed) to enable an assessment of fishing economics and any changes in fishing economics as a result of the SMA. The SMA program has developed a fish catch monitoring form, which can be used in its current form or modified, as appropriate, depending on the monitoring objectives (Step 1).

Prior to the implementation of fish landing surveys, it is important to:

- 1** Review the fish catch data collection form to ensure the information collected will enable the monitoring question to be answered (without creating an onerous task for community members to collect the required data).
- 2** Ensure a robust data collection strategy (number of days per week data is collected and the number of fishers anticipated for each day) to ensure the number of records will be sufficient for data analysis.
- 3** Undertake comprehensive training for community members to ensure quality data is collected.
- 4** Establish a clear mechanism for data submission (from CCMC to MoF), data entry and, most importantly, reporting back to the community.

Underwater visual census survey

UVC surveys are a globally recognised quantitative method to monitor the status and condition of shallow marine resources. UVC surveys usually involve transect-based surveys of marine resource habitats (coral reefs and seagrass), invertebrates and/or fish. The MoF or another trained personnel should conduct UVC surveys and follow standardised UVC methods, based on the monitoring questions.

Data that is usually collected in a fish catch monitoring form includes the following:

- Date of fishing trip;
- Name of boat or boat owner;
- Status of the sea (1 – calm; 5 – very rough);
- Fishing inside the SMA? (Y/N);
- Fishing area (refer to grid reference, if available);
- Type of fishing habitat, e.g., reef drop-off, lagoon or open ocean;
- Depth of fishing area (m);
- Fishing method or gear used, e.g., trolling, spearfishing or net;
- Number of fishers;
- Time spent fishing (estimated number of hours);
- Name of fish caught (list species);
- Weight of fish caught (per species);
- Number of fish caught (per species); and
- Average length of fish caught (per species).

 Refer to the copy of the fish catch monitoring form in the USB manual stick.

When designing UVC surveys (identifying the type and location of sites), it is important to consider whether control sites are used for comparison (e.g., comparing an SMA and FHR) or whether monitoring changes against a baseline (i.e., UVC survey conducted when SMA is established and then repeated at set monitoring timeframes).

UVC surveys are time and resource intensive (for data collection and analysis); however, UVCs can provide an important quantitative method to track changes in marine resource status and condition over time (about every five years). While it is not recommended for community and CCMC members to be tasked with UVC monitoring, it should be noted that regularly swimming within an SMA and observing marine resources can provide community members with anecdotal information about changes over time as a result of their management activities.

Focus group discussions

Qualitative information on changes to the status and condition of biological, social or economic changes can be gained through focus group discussions. Focus group discussions are a good way to get people in the community to talk about their knowledge, experiences or perceptions about a specific 'topic' (related to the indicator/s being examined). A skilled facilitator is required to guide participant discussions through a series of predetermined questions or activities to identify differences of opinion and explore the factors that may be influencing these opinions. Focus group discussions require information from different 'groups' of people (e.g., men, women, elders, youth and leaders) to maintain quality and ensure non-biased information is collected. Focus group discussions are a good way to generally understand what changes are happening, but these discussions are limited by the individuals contributing to the discussion and the capability of the facilitator.

Household surveys

As with focus group discussions, household surveys are a data collection method that can provide information on changes to the status and condition of biological, social or economic indicators. However, in contrast to focus group discussions, household surveys can provide detailed quantitative and qualitative information on a broad array of indicators. Household surveys need to be developed by someone with expertise in the indicators of interest and be conducted with a certain number of households to ensure the results are statistically robust. Household surveys can produce a rich data set for an SMA program, but they require a significant investment in human and financial resources, both to implement the survey and analyse the data. Generally, the MoF will conduct household surveys and typically incorporate multiple SMAs to understand the impact of SMAs in a broader context.

Quantitative and qualitative data

- *Quantitative* data refers to data that relates to numbers, i.e., it is measurable and countable. This type of data is often easier to collect and analyse using statistical analysis and is typically more 'factual' and fixed. For example, the number of fish counted on a set transect length is quantitative data.
- *Qualitative* data is descriptive data that is expressed in terms of language rather than numbers. Qualitative data often provides the answer to 'why' or 'how' questions, and as such, it can be more subjective. For example, a household survey asking about the level of satisfaction with the SMAs (ranked on a scale from 1 (not satisfied) to 5 (very satisfied) is qualitative data.

Baseline data

Baseline data is the starting point from which you will monitor any changes and trends over time. Usually, baseline data will be collected when an SMA is first established. It is important that the method used to collect baseline data is consistently used for ongoing monitoring activities to ensure the changes detected are a result of management actions, rather than changes in data collection methods!

STEP 4 – Data storage and analysis

As previously defined, monitoring is the systematic process of collecting and analysing data throughout the life of an activity to provide a measure of progress against stated goals or objectives. Typically, in the development of a monitoring strategy, a significant amount of time is invested in identifying indicators and collecting data, with limited investment in thinking about how the data and information are going to be stored and analysed. This is particularly important for SMA monitoring where different parties (CCMC, MoF and partner organisations) are involved in different aspects of the monitoring process, and especially when data is collected using paper forms as such forms are notorious for being lost. Data collected as part of the SMA is primarily collected to enable an evaluation of the outcomes and progress of the SMA. This provides important information for both the CCMP and communities to be able to track the progress of their SMA as well as for the MoF to track the overarching progress of the SMA program. In most situations, the MoF will be responsible for ongoing data storage and analysis.

Key questions to consider when it comes to data storage and analysis:

- Who is responsible for retaining the original data?
- How will the data be stored (electronically) to enable ongoing interpretation and analysis throughout the life of the SMA?
- Is there a mechanism in place to ensure data collected by an enumerator is entered into a centralised database?
- Who is responsible for maintaining a database of the information collected?
- Where is the database housed and who has access to the data?
- When will the data be analysed to track short-, medium- and longer-term trends?

Aspects to consider when analysing and presenting data for a report are provided in [Appendix 4](#).

STEP 5 – Reporting and communication

When collecting data with communities, it is important to establish a process for reporting the data and information back to the communities. It is useful to think about the best time to report back, linking reporting to awareness activities, or a CCMC meeting can be an effective mechanism for improving reach and reducing costs. Some key elements to consider when reporting information back to the community include:

- Ensure information and data are fed back to the community in a timely manner.
- Identify the appropriate audience for communicating the specific results, e.g., the CCMC, the community more broadly, or the community and surrounding communities.
- To attract the broader community, use videos to attract people, ensure the meeting time is appropriate, and/or utilise existing community group meeting times.
- Bring multiple villages together to one place (if relevant).
- Translate/use the local language.
- Use simple, effective messages.
- Where possible, use audio visual materials, such as the following:
 - PowerPoint presentations,
 - posters (using mostly pictures, not words), and
 - radio or social media.
- When presenting results in a graphical format, think about how the graphs are presented (for example, stacked graphs are difficult to interpret), ensure colours are appropriate for the setting, and ensure the fonts used and font sizes are readable from a distance.
- Technical or summary reports are also important, particularly for the CCMC to provide a reference for the committee's ongoing perusal.

② Example SMA monitoring strategy

An example monitoring strategy is provided in [Table 4](#) (management effectiveness monitoring) and [Table 5](#) (management outcome monitoring). Together, these provide the overarching SMA monitoring approach, combining [Steps 1 to 5](#) to develop a monitoring strategy.

The example provided in [Table 5](#) identifies two different data sources and data collection methods for the biological indicator of abundance of a target marine resource in the SMA (i.e., UVC surveys and SMA landing surveys). It should be noted that while UVC surveys provide a more accurate measure of marine resource abundance, UVC surveys are also more costly and time consuming as well as likely to be conducted less frequently. Fish abundance can also be inferred through fish catch surveys conducted by trained CCMC members. While fish catch rates provide less accurate data on fish abundance, the landing surveys (if done well and with sufficient frequency) have the potential to provide timely data to support SMA management decisions.

Table 4. Example monitoring strategy relating to the effective management of an SMA.

SMA goal	SMA is managed and maintained by the community			
Step 1: Monitoring question	Are SMA assets in place and maintained?	Is the SMA reducing the number of 'outside' fishers?	Is the community aware of SMA rules?	
Step 2: Define indicators	All boundary markers and signboards present and in sound condition.	Number of unauthorised fishing events in the SMA during a month	Percent of compliant inspections	Proportion of community who knows SMA rules
Step 3: Data source	Asset maintenance record	SMA Incident Form	SMA Compliance Activity Form	Household survey
Step 4: Who/when to collect	Collected monthly? By [...community member]	Collected every [...as per CCS] by CCMC members.	Collected every [...as per CCS] by CCMC members.	Baseline survey and biennially (every two years) by MoF
Step 5: How data is stored and analysed	Boundary marker and signboard status reported in CCMC meeting minutes (agenda item X).	Incident forms are stored by both CCMC and MoF, with compliance and data reviewed at the monthly CCMC meeting.	Compliance forms are stored by CCMC and reviewed at the CCMC meeting.	Baseline survey stored by MoF and analysed as part of the broader SMA household survey.
Step 6: Reporting	Asset update provided by CCMC to MoF at quarterly meetings. Immediate reporting to MoF of any significant issues/loss with assets.	Quarterly reporting of unauthorised fishing by CCMC to MoF and broader community.	Quarterly reporting of compliance by CCMC to MoF and broader community.	Biennial report to SMA communities

Table 5. Example monitoring strategy relating to the outcome monitoring of an SMA.

SMA goal	Biological Outcomes			Socio-economic Outcomes		
	Has there been an increase in the size of rabbit fish in the SMA?	Has there been an increase in the abundance of rabbit fish in the SMA?	Has there been an increase in the size and abundance of rabbit fish in the SMA?	Has coral reef health improved?	Have livelihoods improved since the SMA started?	Is the community satisfied with the SMA?
Step 1: Monitoring question	Has there been an increase in the size of rabbit fish in the SMA?	Has there been an increase in the abundance of rabbit fish in the SMA?	Has there been an increase in the size and abundance of rabbit fish in the SMA?	Has coral reef health improved?	Have livelihoods improved since the SMA started?	Is the community satisfied with the SMA?
Step 2: Define indicators	Size of rabbit fish collected in the SMA	Catch rate of rabbit fish in the SMA	Size and abundance of rabbit fish in the SMA	Live coral cover	Number of new community non-fisheries-related livelihood activities	Proportion of community satisfied with the SMA
Step 3: How, by whom and when is data being collected?	How: Fish catch survey By whom: CCMC fish catch monitor When: two days/week	How: Fish catch survey By whom: CCMC fish catch monitor When: two days/week	How: UVC survey By whom: MoF When: Baseline, plus every five years	How: UVC survey By whom: MoF When: Baseline, plus every five years	How: Household survey By whom: MoF When: Baseline, plus every five years	How: Focus group discussion By whom: CCMC When: Quarterly
Step 4: How data is stored and analysed	Fish catch monitoring form submitted to MoF to be stored in database. MoF to analyse data on a quarterly basis.*	Fish catch monitoring form submitted to MoF and stored in SMA database.* MoF to analyse data on a quarterly basis.	Data stored in the MoF SMA database and analysed by MoF, post-data collection.	Data stored in the MoF SMA database and analysed by MoF.	Data stored in the MoF SMA database and analysed by MoF.	Data stored in CCMC quarterly meeting minutes and analysed by CCMC.
Step 5: Reporting	MoF present results to CCMC on a quarterly basis.		Results report to community through a presentation (when report available)	Results report to community through a presentation (when report available)	Results report to community through a presentation (when report available)	Results reported to broader community on a quarterly basis.

3 How to construct and deploy the boundary markers

The boundaries of the SMA and FHR areas need to be clearly marked. This activity is often carried out as a training by the MoF with both CCMC and community members.

1 Confirm number of markers for the SMA and FHR boundaries

The first step in marking the boundaries of the SMA and FHR is to confirm or identify the estimated number of markers required. This will help determine the quantity of materials needed.

If you are not familiar with the site, it also helps to look at a map of the SMA and FHR areas and their boundaries to count both the corners and number of shallow and deep sites for the markers (see maps developed as part of the CCMP development – [Appendix 3, Activity 6](#)). A bathymetrical map is most useful here to map the shallow and deep SMA and FHR boundaries.

The usual practice is to mark the corners of the boundary or whenever a boundary deviates from a straight line. Figure 1 depicts a map of the Atata SMA that is marked with eight buoys. The Atata FHR shown in the blue hatched area is marked with an additional three buoys. Note that a new buoy is required whenever the boundary changes from a straight line. However, the boundary of the FHR area follows the curve of the shoreline of Atata Island between markers 10 and 11.

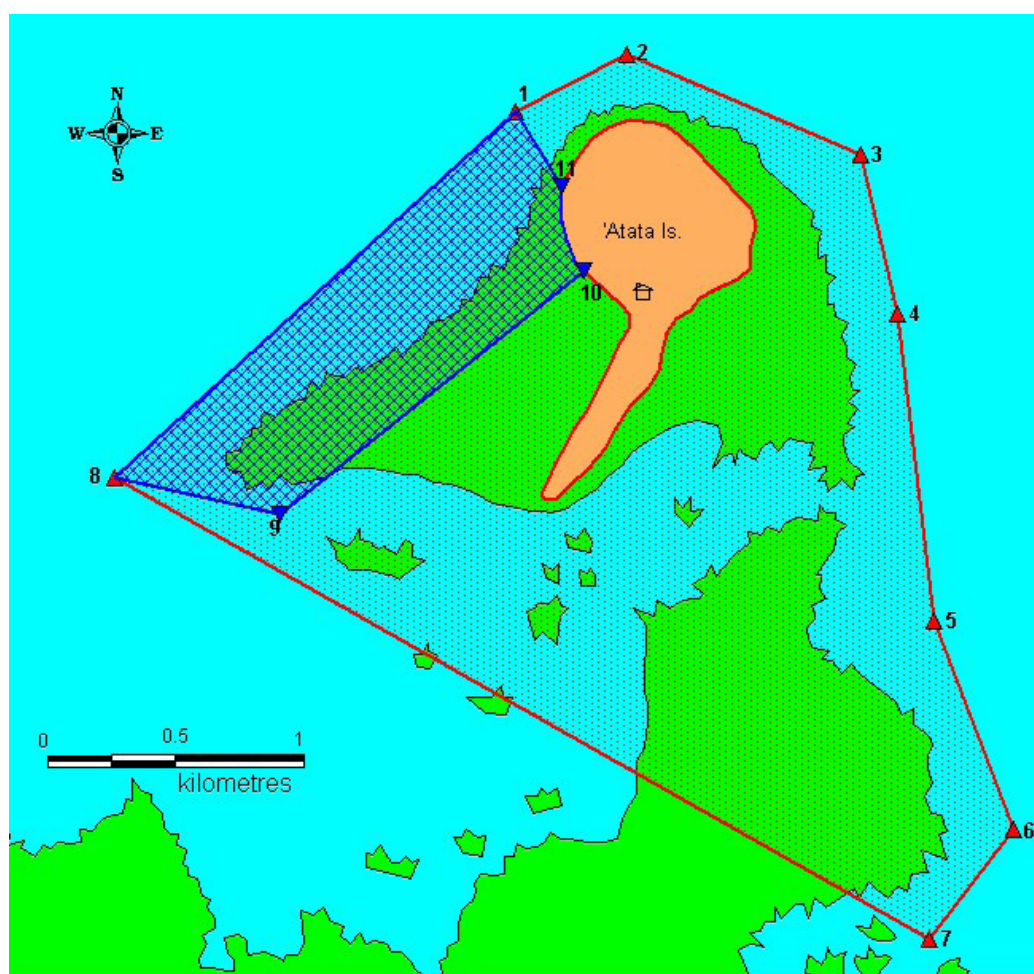


Figure 1. Atata SMA and FHR boundaries surrounding Atata Island

For any shallow sites (<2m deep), which can be common for some parts FHR of boundaries, you can use iron or wooden posts with flags (Figure 2).



Figure 2. Steel construction rods with marker flags are driven into the reef to mark a shallow (<2m deep) FHR boundary.

- For deeper sites (>2m deep), which is common to SMA boundaries, you can use anchored buoys or floats with flags (Figure 3). According to the regulations, the maximum depth of an SMA is 50m.
- This type of flag marker consists of a polyvinyl chloride (PVC) or fiberglass mast mounted to a polystyrene or hard plastic float and marker flag that is moored to the bottom.
- The mooring system consists of chain, rope, connecting shackles, and line thimbles and an anchor.
- Inexpensive but efficient anchors can be made from concrete with a steel rebar attachment eye or attachment point.



Figure 3. An example flag buoy marking a deeper (>2m) SMA boundary.

During this exercise, you can use the table below to help record this information:

Name of SMA

SMA boundary: number of corners – deep site (>2m deep – up to 50m)

SMA boundary: number of corners – shallow site (<2m deep)

FHR boundary: number of corners – deep site (>2m deep – up to 50m)

FHR boundary: number of corners – shallow site (<2m deep)

② Identify materials needed

Once you have a better idea of the number and type of markers needed, start preparing the list of materials needed to construct the markers. Materials and equipment are often stored at fisheries offices; otherwise, they can be purchased from local suppliers or hardware stores.

Floats

Flag markers will require a durable, ultraviolet-resistant polystyrene float (Figure 4). These floats are manufactured for the fishing industry and come in a wide variety of sizes. It is critical that the hole's diameter be correctly sized to allow the flagpole or mast to fit snugly inside the hole.

Hard plastic floats can also be used. Floats that are made with a hole to fasten a plastic pipe are best as they will be able to mount a PVC mast for a flag marker (Figure 5).

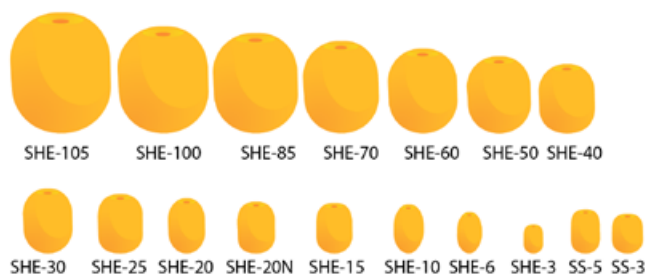


Figure 4. Polystyrene floats with a hole running through the middle for the marker pole.



Figure 5. Hard plastic float suitable for a marker buoy.

Flagpole or mast

A rigid, sturdy flagpole or mast that will pass snugly through the float (as noted above) is required. A section of thick wall PVC pipe, or a fiberglass pole, makes a sturdy and inexpensive mast. Figure 6 shows a number of boundary markers constructed from polystyrene floats and fiberglass or plastic poles.



Figure 6. SMA boundary markers constructed from polystyrene fishing floats and fiberglass poles with red plastic flags.

Chain and connecting hardware

The mooring system could use a section of chain below the float to provide counterweight for the float and at the anchor to protect the mooring system from sharp coral or rock abrasion.

The system should have a swivel to prevent twisting and tangling of the mooring line that will need shackles to connect to the chain. The mooring line should be protected from wear by splicing it around a metal rope thimble (Figure 7). All metal hardware and chain should be made of a common alloy to prevent electrolytic corrosion. Galvanized steel would be a good choice. Stainless steel would be ideal, but it may be expensive. Never mix the two types of steel.

Rope

The majority of the mooring system will be made of rope. Three-strand rope is easily spliced and handled and less expensive, compared to braided lines. Nylon line will last the longest, but it sinks so may require additional floatation, and it is relatively expensive. Three-strand polypropylene line floats and should be adequate if a good-quality rope is sourced. Rope sizes of 12 to 14 mm in diameter should be adequate.

Steel rebar

Shallow SMA or FHR boundaries (<2 m) can be marked with steel rebar sections that are driven into the substrate-like fence posts. A red flag should be attached to the top. A fence post driver will be needed to drive the steel rebar posts into the reef substrate. Steel rebar is also used in the construction of concrete anchors.

Anchor materials

Anchors can be constructed from construction concrete with a section of steel rebar bent into an eye or loop cast inside the concrete. Scrap steel can also be used, but a chain will have to be used to fasten around the steel.

Tools required for marker fabrication

- A variety of simple hand tools will be required for buoy construction. These tools include pliers, knives for rope rigging, galvanized wire to secure shackle pins, spare twine, and tape for splicing. A splicing fid and longline shears will be very useful and make the job shorter (Figure 8).

Specialized equipment for locating the boundary locations

The buoys and rebar posts will need to be positioned at the exact location that defines the SMA boundary. To do this, the vessel will need a GPS chartplotter on the vessel for boundary locations that are deep enough to float the vessel. Otherwise, a hand-held GPS unit should be used to locate boundaries at low tide or in very shallow water (Figure 9). The vessel deploying SMA buoys should also be equipped with a depth sounder to fabricate mooring systems with the correct amount of chain and line for any given depth encountered. A measured length of line with a weight on one end can also be used to determine depth.



Figure 7. A galvanized swivel, shackle and rope thimble useful for the mooring system



Figure 8. Longline style cutting shears and a splicing fid will be very useful when rigging the mooring lines.



Figure 9. GPS chartplotter and GPS hand-held unit

Table 6 provides an example of materials used to construct boundary markers for a theoretical SMA, which has six SMA boundary points and six FHR boundary points.

Table 6. Example of materials needed for the deployment of boundary markers at a theoretical SMA (6 SMA boundary points; 6 FHR boundary points)

Item	Size/Gauge	Length	Quantity
Float for marker	360mm		8 floats
Flagpole/mast	100cm		8 flagpoles/masts
Flag material	120mm L/100mm W		12 flag materials
Cable tie for the flag	8inch/200mm – 10inch/250mm		24 cable ties
Iron rebar for anchor eye	12mm	1m	8m
Cement bags	15kg		3 cement bags
Shackles	8mm		16 shackles
	10mm		8 shackles
	16mm		8 shackles
Swivel	10mm		24 swivels
Chain	8mm – 10mm	7m	56m
Iron rebar for shallow stakes	16mm	5m	20m
Rope*	14 mm – 16mm	440m	2 coils
Rope thimbles*	14mm – 16mm		16 rope thimbles
Vehicle tyres	R15 – R16		8 tyres

*Note: Length of rope will depend on the depth of the boundary points.

The community may be able to construct anchors and supply floats as well as pay some of the costs. This can be negotiated between the CCMC and fisheries office staff. Fisheries office staff can then draw up a budget.

The explanations below refer to constructing and deploying markers (anchored buoys).

3 Constructing the anchors and buoys

Flag buoys

Flag buoys can be constructed from polystyrene fishing floats or hard plastic buoys (Figure 10). Both must have a plastic or fiberglass mast mounted to the float to serve as a visual mast to which a red flag marker is attached to help make the boundary easily visible by any boat.

Steps to construct flag buoys:

- 1** Cut the chains for the anchors (2m for 10mm chain) and for the floats (5m for 8mm chain). Note: The same lengths of the chains apply for all boundary markers, while the depths may be different across the boundary points.
- 2** Calculate the total length of the rope with ensuring the total length of the chains for each boundary point is also considered before cutting the ropes. Note: Tides during the sites survey (depth sounding) were also noted.
- 3** Splice both ends of the ropes together with rope thimbles and swivels.
- 4** Label all the fully prepared ropes with the names of each boundary point and depths to avoid mistakes during deployment.
- 5** Connect the flag poles/masts to the floats and attach flags onto all of the flag poles.
- 6** Connect the shackles (16mm) to the floats.
- 7** Connect the shackles (8mm or 10mm) to the shackles connected to the floats.
- 8** Connect one end of the 5m chains (8mm) to the shackles connected to the floats with the other end of the 5m chains connected with shackles to the swivel connected to the ropes.
- 9** Connect the swivels connected to the other end of the rope to one end of the 2m chains with shackles.
- 10** Connect the other end of the 2m chain to the anchor with shackles.

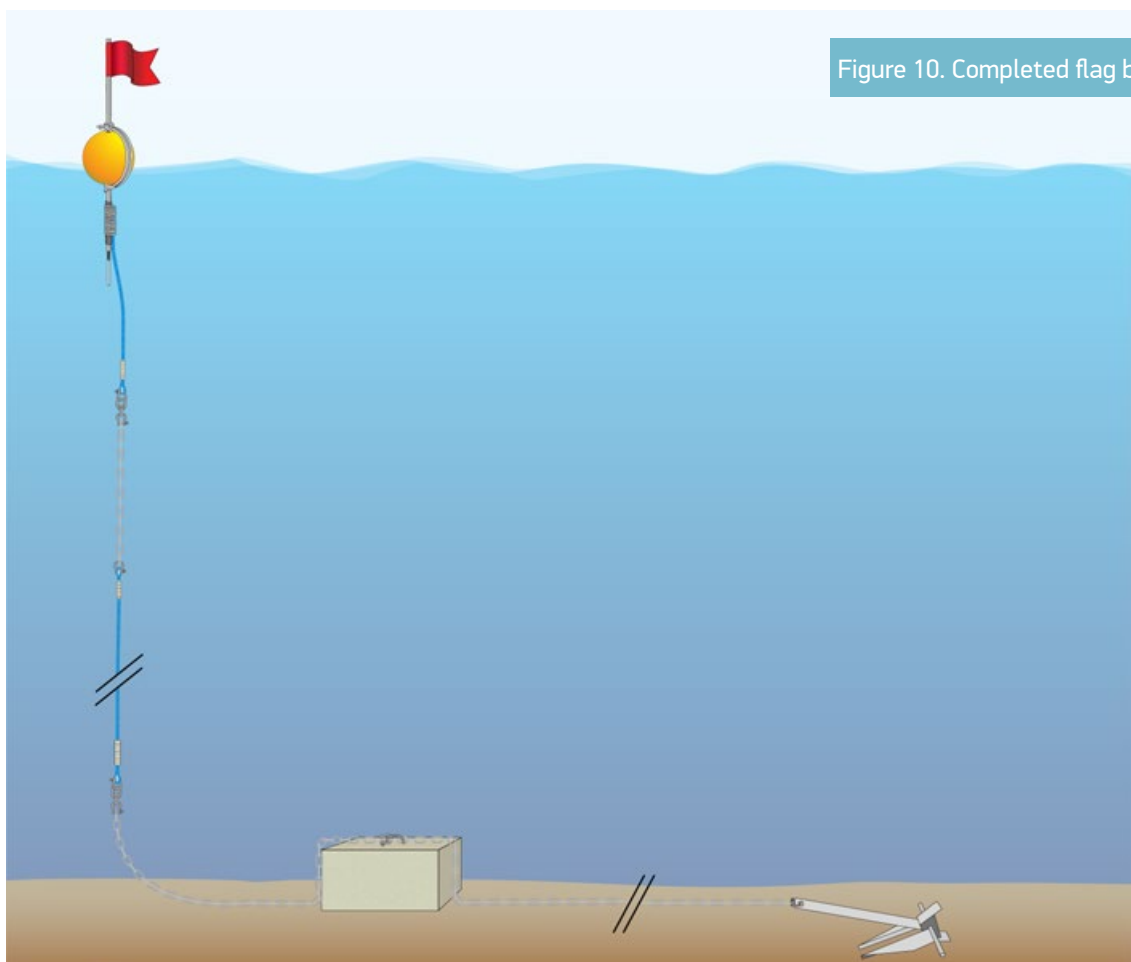


Figure 10. Completed flag buoy

Anchors

To construct anchors for the buoys, anchors can be constructed with the community or at fisheries offices, allowing for adequate time for the cement to set prior to deployment. Inexpensive anchors can be constructed from steel fuel drums or automobile tyres weighted with cement (Figure 11).

Deployment depths will not be great (<50m), so oil drums can be cut down to 1/8 to 1/4 volume and filled with cement. A sturdy attachment loop can be cast in the cement that can be bent from construction rebar. A steel shackle connects the rebar eye to a short section of chain.

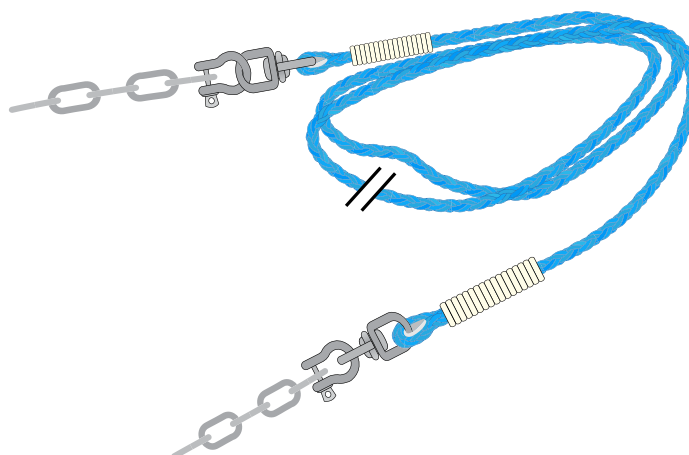


Figure 11. Detail of a cement-filled tyre anchor with steel rebar cast into the cement that is shackled to a section of chain. The final connection between the float and upper swivel is also being secured with a shackle.

Mooring system

Connect the anchor chain to a swivel and rope thimble and ensure it is spliced to a rope connecting the upper linkage, which consists of another rope thimble, swivel and short chain section that is connected securely to the bottom of the marker float (see figure 12).

Figure 12. Mooring system



Also see the fisheries video featuring fisheries making and deploying markers in the manual USB stick.

Mooring system record keeping

The fisheries office should maintain a detailed record that describes each buoy or marker as it is deployed. This information can be kept on a spreadsheet and stored at the fisheries office. The spreadsheet should contain information on the position and depth of the site, deployment date, buoy size, mast material and size, chain size and length, rope length, etc. If a buoy is lost, this database will make replacing the unit much more efficient.

4 Deploying the markers



A GPS chartplotter or hand-held unit and depth sounder are essential when it comes to marking the boundaries of the SMA and FHR. The GPS will identify the exact location to place a marker, while the depth sounder will advise on the total length of the mooring system. If a depth sounder cannot be used, depths can be measured using a weighted rope.

Deploying marker flags

Prior to setting the flag markers, conduct a pre-deployment GPS and depth survey at the designated GPS latitude and longitude position. Care should be taken to be sure that all position coordinates are given in the same units. For example, position can be expressed in degrees, minutes and seconds (DMS: 12° 40' 30''); degrees, decimal minutes (DDM: 12° 40.500'); or decimal degrees (DD: 12.675°). It is critical that GPS units be set to the same format in which instructions for deployment locations are given or that correct conversions are made. Standardizing using a DDM format to the nearest 0.000 minute is recommended (DD MM.000'). Set this position as a named waypoint in your GPS unit.

Placing buoys in position usually requires up to four staff members in the boat: one to control the boat; one to operate the GPS and depth sounder; and two additional crewmen to make sure the buoy is securely fastened to the anchor, the float and line are deployed properly, and the anchor is deployed safely and at the correct position.

It is important to use the depth sounder to survey the deployment site in all directions to avoid holes or steep drop-offs and determine if it is a reasonable area in which to set the anchor. When deploying the flag buoy, it is best to travel along the deployment depth contour before setting the anchor, which increases the chance the anchor will settle in the correct depth.

Step-by-step deployment reminders!

- 1 If the positions of the SMA and FHR boundary markers have been provided, enter them into your GPS unit and save them as named waypoints.
- 2 Survey these sites and make sure they are not located on the edge of steep drop-offs or at holes in the reef.
- 3 Determine the depth of each site, noting the stage of the tide when depth measurements were taken.
- 4 Construct the mooring system for each boundary marker and label the markers.
- 5 Choose a calm, clear day with low wind when deploying your buoys.
- 6 Move to the boundary site and confirm the depth is correct.
- 7 Deploy the float, upper chain and mooring line. This can be done in a spiral around the target site or along the depth contour of the same depth as your deployment position.
- 8 When you are on station and all lines are clear, put the engine in neutral, wait for the boat and lines to stop dragging, and push the anchor off the vessel. One safe way to do this is to load the anchor on a plywood sheet and tip it over to shift the anchor off the boat.
- 9 Wait for the system to settle. Confirm that the float and flag marker are riding upright.
- 10 Record the final position of the marker buoy.



Deploying an anchor with all the chain, mooring line and float still onboard the vessel (anchor-first deployment) can be very dangerous, so it is not recommended. The rope and chain can easily become tangled or snag equipment or personnel that can be carried overboard. Anchor-last deployment is recommended for safety reasons, but the anchor can be dragged off-station if the mooring system is long or currents are strong during deployment. The following is a suggested protocol for deploying flag buoys.

Shallow (<2m depth) sites

For shallow sites, you can instead use strong sticks supported by anchored cement bases or long steel rebar sections driven into the substrate with a fence post driver (Figure 13). Remember to also tie a red flag to the top of the stick to make it easier to find.

⑤ Maintaining the markers

It is the community's responsibility to maintain the markers. They need to clean them regularly (e.g., monthly) to clear them of algal growth and check that the swivels are clear to spin freely. Regular monitoring can detect simple issues of wear, twisting or fouling that can be corrected on site and prevent buoy loss.

If a marker is missing, the CCMC needs to replace it. The CCMC should also report this to fisheries staff at one of the regular meetings or by phone to seek possible assistance for replacing the missing marker. The replacement of a marker buoy will be much faster and easier if a deployment database has been maintained, as described in Mooring system record keeping. Note: It may be possible to locate the old marker anchor and shackle a new mooring system and float to it using scuba gear.



Figure 13. Driving a marker with a fence post driver to mark a shallow water boundary position.

4 Conducting a CCMC meeting

For the first CCMC meeting since the SMA has been gazetted, it is helpful to provide guidance to CCMC members on how they can conduct their regular CCMC meetings. This training on CCMC meetings will help members become fully aware and confident with their respective roles and functions, including how to run regular CCMC meetings by following the agenda as well as how to record and report from those meetings.

Here are some important things you will need to print and take with you:

- Copies of the CCMC agenda,
- Copies of the final CCMP,
- Copies of the Fishers Register form and Fishing Vessels Register form,
- Copies of the fish catch monitoring sheet,
- Copies of the CCS template, and
- A copy of the implementation and monitoring plan developed for that SMA.

At this first meeting, introduce and follow the proposed CCMC agenda so that members can familiarize themselves with it. Allow some flexibility if the community wishes to revise the agenda; however, a point to remember is that the agenda includes key items to help the community monitor or remain informed on all matters related to the SMA and discuss solutions to any issues they come across.

A CCMC agenda usually follows:

- 1 Opening prayer
- 2 Welcome remarks
- 3 Note of who is present and absent (apologies)
- 4 Clearing of the last meeting's minutes
- 5 Status of SMA and CCMP activities
 - 5.1 Boundary markers
 - 5.2 Illegal fishing activities
 - 5.3 Enforcement and surveillance progress
 - 5.4 Register of fishers and fishing vessels
 - 5.5 SMA signboard
 - 5.6 SMA assets (e.g., enforcement materials)
 - 5.7 Fish catch monitoring data
 - 5.8 Giant clams and any farmed species in FHR
- 6 Update from women representative
- 7 Update from youth representative
- 8 Update from Treasurer
- 9 Update from District Officer
- 10 Update from Fisheries Officer
- 11 Other matters
- 12 Closing remarks by Chair
- 13 Set date and time for the next meeting
- 14 Closing prayer



A copy of the CCMC agenda is also provided in the manual USB stick.

Other important matters to address during this meeting include the following:

- Share CCMC roles and functions, including Regulation 12 of the Fisheries (Coastal Communities) Regulations 2009;
- Share the Fishers Register and Fishing Vessels Register (next section);
- Introduce the fish catch monitoring sheet;
- Develop the CCS; and
- Share and endorse the implementation and monitoring plan (this chapter).

5 Fishers Register and Fishing Vessels Register

In referring to the registers, explain to CCMC members how to complete the forms, as well as the importance of reporting any changes or updates to the MoF. Examples of both registers can be found in [Tables 7 and 8](#) below. It is helpful for the CCMC to designate one member to carry out this role. It can be the Secretary of the CCMC, who can keep and maintain the original copies of the registers at all times as well as provide updates during regular CCMC meetings.

 Refer to the Fishers Register and Fishing Vessels Register (forms) in the manual USB stick.

Table 7. Example of Fishers Register

No. (#)	Name	Male/Female	Listed on the Town Register? (Y/N)	Year of birth	Comments	Signed and dated by CCMC Chair

Table 8. Example of Fishing Vessels Register

Vessel ID	Vessel length (m)	Vessel description	Engine horsepower (HP)	Fishing gear used	Name of boat owner	Signature of boat owner	Phone number of boat owner	Signed and dated by CCMC Chair



- Refer to the CCMP for details on how the community agreed to determine which fishers and fishing vessels would be eligible to be included in the registers.
- In maintaining copies, the CCMC can hold the original hard copy, while the MoF can keep photocopies or copies can be entered into a database, if it is available.

Chapter 4

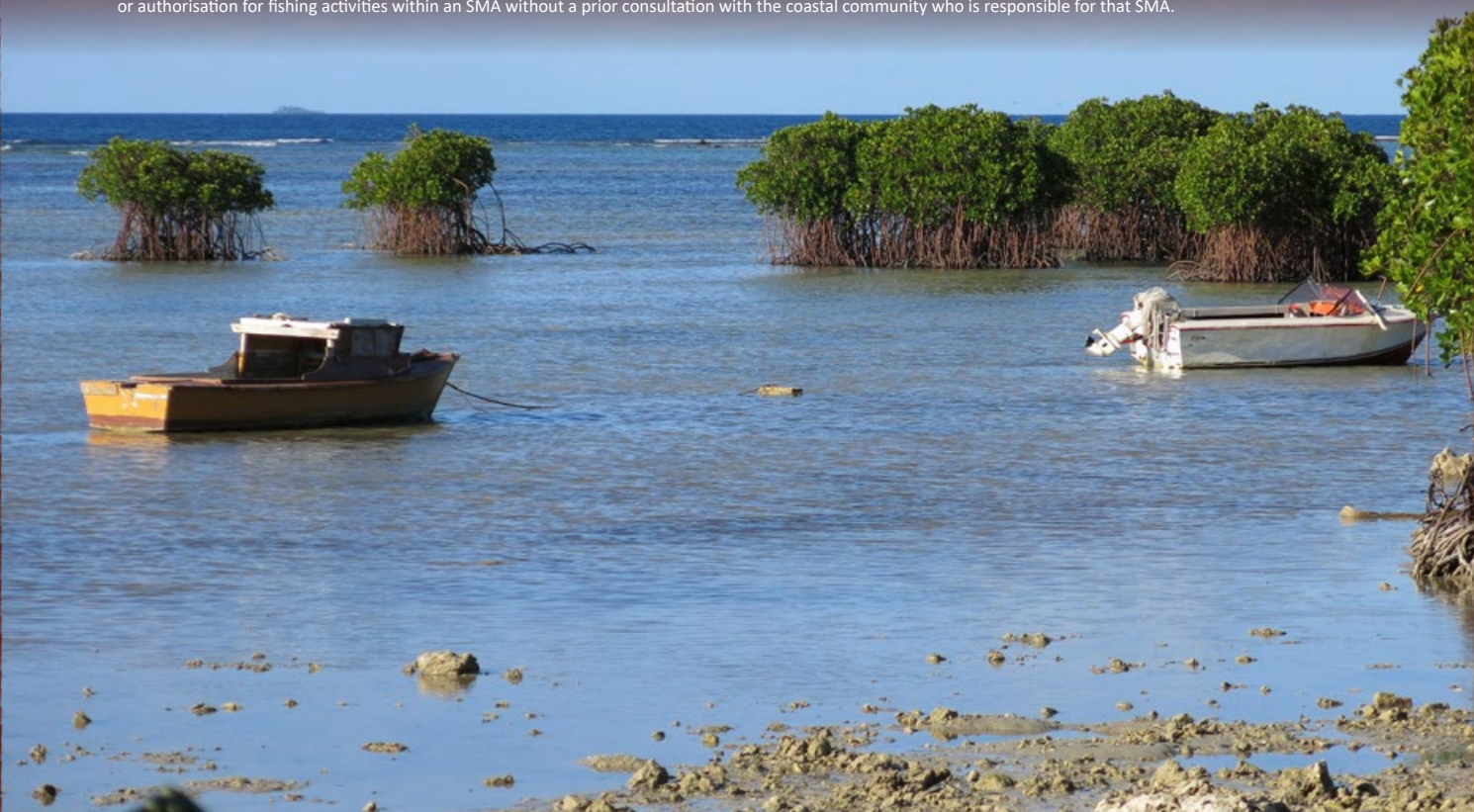
Ensuring Compliance in the Special Management Area

As noted in Chapter 1, the SMA program allows communities to control fishing activities within their designated coastal areas.¹ These controls are implemented by establishing rules about who can fish in the SMA, how they can fish and what they can take. Where these controls are established and implemented, it is important that fishers comply with the rules to allow for a greater chance for the SMA's community objectives to be achieved. The rules the community established for the SMA are in addition to the national fisheries rules that apply across all of Tonga's fisheries waters. Compliance activities refer to any actions that encourage and ensure that people follow the rules that are in place within the SMA at that time.

When establishing an SMA, it is important to consider how we will ensure that people comply with the rules that are being established, how we will monitor the activities occurring in the SMA and what challenges we may face. In addition, it is important that we consider how effective we are in getting people to comply with fisheries rules at all stages of SMA development, from setting up the SMA during implementation as well as monitoring and reviewing the SMA and controls in place.

Compliance activities should always be designed and conducted with the SMA vision and objectives in mind, along with considering what we want the SMA to achieve and what compliance approaches can best help us achieve it. Whenever we create new rules or controls for the SMA, our compliance activities need to focus initially on ensuring that people are aware of and understand the rules and controls in place. We want to give people the opportunity to comply with rules willingly, and people cannot comply with rules if they do not know what the rules are or what they must do to comply.

¹ In recognition of coastal communities' role in controlling their coastal waters, Section 16(2) of the Fisheries Management Act 2002 prevents the Minister from issuing a permit or authorisation for fishing activities within an SMA without a prior consultation with the coastal community who is responsible for that SMA.



1 What is compliance and why is it important?

Compliance refers to people's intent and actions to follow and obey the rules that have been established. Where rules are established to manage fisheries resources, fishing activity needs to be monitored and rules enforced for these rules to be effective in achieving their goal. Compliance activities are any activities that support respecting and monitoring rules to ensure the rules are followed.

Within SMAs, compliance activities are any activities that the CCMC undertakes, or are in support of the CCMC, to encourage and ensure that the rules that apply within the SMA are being respected.

Fisheries rules generally regulate a particular activity, species and/or fishing area and can be rules that communities or the Government have established. There are existing fisheries rules that apply to all of Tonga's fisheries waters, including SMA areas. Within an SMA, the community can develop additional fisheries rules with the Government's support through the MoF. These rules, developed by the community in a management plan, apply only within the SMA and must

not contradict the national fisheries rules that are found in laws and regulations.

Effective and targeted compliance activities are a vital part of managing fisheries within the SMA. If people do not obey the rules that have been established, then the community management measures will not be effectively implemented and the SMA's vision and objectives will not be achieved.

Compliance activities are often primarily associated with enforcing the rules and applying penalties. Enforcement is an important part of compliance activities, but people cannot comply with rules that they do not know exist or they do not understand. Thus, as well as enforcing rules, we want to educate and encourage fishers and other SMA users to ensure that they have the best chance to comply with the rules that have been established.

Effective compliance requires a number of different approaches and activities that support people to comply with rules and also enforce these rules when people decide not to comply.

Our compliance activities can be varied and diverse, including any compliance monitoring activities, such as the inspections of vessels and fishers; educational activities, such as informing fishers or community members about rules; and enforcement activities, such as working with MoF and the police to penalise or prosecute offenders.



2 How do we ensure compliance?

Through our compliance activities, we seek to maximise SMA users' level of compliance or ensure that as many people as possible obey the rules that have been set and apply within the SMA. Through this approach, we can best ensure that the community goals and objectives, which are established in the SMA, are achieved. We will use three key approaches when undertaking the SMA's compliance activities. These approaches are outlined and described in [Table 9](#).

Table 9. Compliance approaches

Approach	Description	How we achieve this
Maximising voluntary compliance	Most people will decide to obey the rules if they know about the rules and the reason why they are important. We want to ensure that we maximise this voluntary compliance and get as many people as possible to respect the rules.	<p>Ensuring that the rules are clear, people understand them and the reason the community has the rules.</p> <p>Related activities can include the following:</p> <ul style="list-style-type: none"> Developing and maintaining signage for the SMA; Educating fishers on fisheries rules, including SMA rules; Completing the Compliance Activity Form, see standard operating procedures (SOPs), to record broad details about the activities conducted to inform and educate fishers and on arising issues; and Informing and involving the wider community in the SMA's management activities.
Deterring SMA offences	Some fishers may only comply when there is a deterrence to the offence. To follow this deterrence, we ensure that the fishers know the activities in the SMA are being monitored and there is a very good chance the activities will be seen and checked.	<p>Ensuring that community monitoring of the SMA is recognised and visible, when appropriate, to deter offending.</p> <p>Related activities can include the following:</p> <ul style="list-style-type: none"> Publicising the community compliance monitoring of activities within the SMA, Visibly patrolling the SMA area, Completing the Compliance Activity Form to record general details about patrols and inspections so the CCMC can monitor these compliance activities and the level of compliance as well as manage identified issues that arise, and Effectively inspecting fishers within the SMA.
Enforcing offences detected	The enforcement response should be informed by the seriousness of the offence and other relevant information, such as any history of non-compliance. It is important to make sure that, where appropriate, an ensuring action is taken against people who are found to be offending in the SMA.	<p>Ensuring that good notes are taken whenever offences are detected and evidence of the offence is identified and secured.</p> <p>Related activities can include the following:</p> <ul style="list-style-type: none"> Completing the SMA Incident Form (see SOPs) for identified offences, Taking photographs of the alleged offender and offences, and Working with the MoF and police to take any appropriate action.

Community members should approach all compliance activities as an opportunity to maximise compliance. We want fishers to support managing the SMA and the benefits for all that can be obtained through effective and sustainable management of fisheries resources.

3 The different roles in supporting effective compliance within SMAs

The intent behind establishing SMAs and designating coastal communities, as outlined in Section 14 of the Fisheries Management Act 2002, is to support CBFM. CBFM is centred around supporting and promoting communities to play a leading role in managing their coastal areas and the fisheries resources within those areas. Therefore, communities also play a leading role in monitoring activities within the SMA and ensuring compliance with the established rules. This action includes defining the compliance approach (through the compliance strategy) and planning and undertaking compliance activities.

However, it is vital that the community be supported to monitor and ensure compliance within their SMA. Therefore, effective SMA compliance requires cooperation. The roles of the community and different national agencies supporting SMA compliance are outlined in the following sections.

1 The community's role in ensuring compliance

The community, through the CCMC, controls access to fish within the SMA. The CCMC maintains both a Fishers Register and Fishing Vessels Register that contain the names and details of the persons and vessels authorised by the CCMC to fish in their SMA. It is important that only authorised fishers and vessels are allowed to fish within the SMA area and that they obey the rules that have been established for the SMA. To support this action, effective monitoring of all activities occurring within the SMA is essential.

The CCMC members are the first to respond to compliance issues that are identified in the SMA. However, this response should only be conducted when the safety of the CCMC member and anyone assisting them can be assured. Where any safety concerns arise, the CCMC member and anyone assisting them should withdraw, contact the police and MoF, and continue to observe and gather evidence from a position where their safety can be maintained.

All community members are encouraged to support compliance monitoring activities occurring within their SMA and to note and report any issues of concern to the CCMC. However, only CCMC members can use the powers available within the Fisheries (Coastal Communities) Regulations 2009 (as amended in 2016) to support interventions and take effective compliance action. Other community members can support CCMC members in assuming their duties under the request or direction of CCMC members, but they will not have the same powers as the CCMC members when doing so.

In managing their SMA, it is vital that communities use the information gathered during the compliance monitoring of the SMA², along with other information obtained through monitoring activities, to support and inform the development and adaption of their community management approaches.

The SMA community should seek to collaborate with neighbouring communities and national agencies. Information should be shared proactively across these networks to ensure that proactive actions and informed responses can be planned for alleged and emerging non-compliance.

² Information, such as offences being committed, the level of understanding of the rules and implementation issues with the rules.

② The Ministry of Fisheries' role in ensuring compliance

Regulation 17 of the Fisheries (Coastal Communities) Regulations 2009 outlines the MoF's responsibilities. Broadly, MoF's role is to provide "timely technical advice, assistance and support to the Committee" in the preparation and implementation of the CCMP. Following this compliance, this approach means providing advice and support for the development of effective compliance processes and systems (as reflected in the CCS), planning and undertaking compliance monitoring activities, and responding to compliance issues within the SMA. This approach includes developing SOPs to inform the processes for responding to alleged offences within the SMA when the offence is serious or when the community requires assistance.

Within the MoF, compliance officers within the Enforcement Team, which is part of the Compliance Division, are the specialist compliance capability that will support SMA communities to respond to compliance issues. These officers also will support the development and training of coastal community compliance capability. Members of the Enforcement Team are based in each of the main island groups (Ha'apai and Vava'u) and in the main fisheries office in Nuku'alofa. Compliance officers located within each island group have a core role to support coastal communities within that group to respond to compliance issues within the SMA and develop their compliance understanding and capability. These compliance officers work closely together and, along with the SMA Team within the MoF, ensure that SMA communities are best supported in the development and implementation of their compliance processes and monitoring activities.

The powers available to CCMC members are largely limited to offences occurring under the Fisheries (Coastal Communities) Regulations 2009.

The MoF will provide training to CCMC members on compliance processes and key compliance skills and tools. The MoF will also coordinate, advise and support communities to manage any emerging compliance issues that are reported. The MoF will partner with the community, Tonga Police and the AGO to ensure the effective enforcement of SMA rules, where enforcement action is appropriate. The MoF will liaise with the Tonga Police to support timely responses to all reports issued on non-compliance within SMAs.

The powers available to CCMC members are largely limited to offences occurring under the Fisheries (Coastal Communities) Regulations 2009.³ The MoF Enforcement Team has the broader power and authority to enforce any fisheries offences, regardless of the type of offence committed or under what regulations the offence is included. Therefore, the MoF will support coastal communities to ensure that there is effective enforcement of all fisheries rules within the SMA.

³ As an example, a CCMC member can only "seize anything which he has reasonable grounds to believe might be used as an exhibit in any proceedings" under the Fisheries (Coastal Communities) Regulations 2009



③ The role of other Government Departments in ensuring compliance within the SMA

The MoF works closely with other Government Departments to ensure that effective support is provided to coastal communities to establish and implement their SMAs. Two Government Departments that are vital to effective SMA compliance are the Tonga Police and the AGO. Their roles are discussed in the following sections.

Tonga Police

The Tonga Police is the lead law enforcement agency and responsible for maintaining law and order in Tonga. The Tonga Police has a broad mandate⁴, which includes the following aspects:

- To maintain law and order,
- To preserve the peace,
- To protect life and property,
- To prevent and detect crime,
- To provide community support and reassurance,
- To uphold the laws of Tonga,
- To undertake the service and execution of court processes,
- To carry out land and marine search and rescue operations, and
- Any other function conferred by the Police Act or another enactment.

⁴ As defined in Section 8 of the Police Act.



The MoF works closely with Tonga Police when responding to fisheries compliance issues, and all members of the police force are designated as authorised officers to enforce fisheries legislation. Tonga Police also supports the MoF in prosecuting fisheries offences. The Tonga Police has a larger presence across Tonga than the MoF, particularly in some of the more remote areas, so it may be able to respond to urgent issues more quickly. However, the Tonga Police's priority is the threat to human life and safety, thus the agency may not always be in a position to respond immediately to fisheries issues where a threat to human life and safety does not exist.

The Tonga Police should be the first point of contact for all issues where there is a threat to human life and safety. All other communications should go through the SMA compliance officers within the MoF, who will liaise with the MoF Compliance Team and Tonga Police to coordinate the response.

Attorney General's Office

The AGO, through the Crown Law Officers, provides legal services to His Majesty's Government and the people of the Kingdom in accordance with the Constitution of Tonga and the Laws of the Kingdom. As the agency responsible for drafting legislation, the AGO will support and advise the MoF in developing and publishing the order in the gazette. This measure is Step 7 in the eight steps required to establish an SMA that were described in Chapter 2 of this manual. This is a very important step because this is how the SMA and rules that need to be followed within the SMA are legally established.

The AGO is also responsible for undertaking criminal prosecutions in Tonga. Within the AGO, there are Crown Prosecutors who are responsible for representing the Kingdom and community in any prosecution proceedings and also assist the court as a representative of the community. Therefore, Crown Prosecutors from the AGO will lead and direct the MoF in prosecuting offences that occur within SMA areas.

Crown Prosecutors will provide guidance and advice to investigators throughout the investigative and prosecuting process and are responsible for deciding whether a person should be charged with a criminal offence, and if so, what that offence should be under the current legislation. The decision on whether or not to prosecute is based on a consideration of the following factors:⁵

1. Consideration of the evidence, including the following:
 - a. Whether the evidence can be used and is reliable.
 - b. Whether there is a realistic prospect of conviction.
2. If a case passes the consideration of evidence stage, the Crown Prosecutor must then consider if the prosecution is in the public interest.

In general, a prosecution will usually take place, unless there are public interest factors that outweigh the prosecution.

④ Other relevant local partners' role

The Ministry can also connect with local stakeholders or partners, including civil society organisations, for SMA awareness and outreach programs, as well as partners that link to compliance activities, where applicable. For example, these stakeholders may be able to greatly assist in reporting illegal fishing activities in the SMA to the Ministry or SMA community.

⁵ Taken from the Director of Public Prosecution's General Instructions Number 1 of 2020, made at Nuku'alofa on 23rd March 2020.

4 The Community Compliance Strategy

During the establishment of the SMA, the community can adopt rules for the SMA. As mentioned earlier, these rules apply to the SMA in addition to the fisheries rules that the Government established that apply to all coastal fisheries in Tonga. The community is also required to develop a CCS as part of the CCMP, with the MoF's assistance. The CCS' core role is to identify key compliance risks and broadly describe how we will manage and/or address these risks.

The CCS outlines the community's approach to compliance activities. This approach should consider the resources available for undertaking compliance activities and the challenges that the community faces.

The CCS should be a brief document of no more than one A4 page in length.



Developing the CCS



Who? **Everyone (one group), one lead facilitator, note takers**

(Note: Fisheries staff should include SMA staff and Compliance staff)



Materials? **Regulations, CCS strategy template** (could be on a PowerPoint slide, chart/butcher paper or whiteboard, depending on what is available)



Time? **Approximately 45 minutes**

Note: This activity is best led as a single-group discussion.



Introducing this activity

Explain to the community:

- What compliance is and why it is important,
- How we ensure compliance, and
- The different roles in SMA compliance.

This action will ensure that the community has the context and understanding to support CCS development.

The CCS should be developed based on the information gathered as part of the broader CCMP development process. In particular, the CCS should use the information obtained from earlier workshops, including the following:

■ **The CCMC community members:**

- What skills do they have to support compliance activities?
- What resources are available, both on shore and on the water (within the SMA), to support community compliance monitoring of the SMA?

■ **The SWOT Analysis:**

- What are the strengths and weaknesses that relate to the compliance monitoring a fishing activity within the SMA?
- What solutions and actions did the community identify?
- How does this influence how we may monitor the compliance of activities occurring within the SMA?

■ **The specific SMA area:**

- What are the challenges in monitoring compliance activities within the SMA?
- Are there isolated areas, and if so, how will we monitor these areas?

Building on the information obtained in earlier workshops to develop the CCMP (Chapter 2), the CCS should be developed in consideration of the four questions listed in [Table 10](#).

Table 10. CCS format

Section (MoF facilitators will ask these questions)	Considerations (MoF facilitators will prompt responses, as required, using the bullet points below)
Who will oversee compliance activities?	<ul style="list-style-type: none"> ● Will it be shared across all of the CCMC, or will CCMC member(s) lead compliance? ● What are their responsibilities? ● How will the community support CCMC members? ● What training or support do they require?
What will the CCMC and MoF do to let people know about the SMA and SMA rules?	<ul style="list-style-type: none"> ● Think of both community members and people outside of the community.
What are the key compliance challenges within the SMA?	<ul style="list-style-type: none"> ● Think about what may be causing these challenges. ● What impact does this finding have on our ability to ensure compliance in the SMA? ● What are the most serious challenges?
How will compliance challenges be addressed?	<ul style="list-style-type: none"> ● Think broadly about the compliance approaches described earlier. <ul style="list-style-type: none"> • How can we maximise voluntary compliance? • How can we deter offenders? • What are the rules we want to strongly enforce? ● Consider proactive actions, such as notifying and liaising with neighbouring villages, educating fishers, educating the community and patrols (how and when), observing, and inspecting (who and when). ● What are the community requirements from other agencies? ● What are the key times for compliance monitoring activities? <ul style="list-style-type: none"> • How often should they occur? • What are the compliance activities?

Taken together, the discussion under each of the four bullet points included in [Table 10](#) constitutes the CCS. The discussion should be kept brief and focus on these key elements.

5 Implementing compliance monitoring in the SMA



You can refer to this section when you prepare and deliver compliance and enforcement training and/or awareness activities with the community.

Once the CCS is developed and the SMA has been established, the SMA rules and CCS can be implemented. The community should develop a compliance roster, based on the CCS, that establishes how and when compliance monitoring will be undertaken. There is no required format for the plan or roster, and it will vary according to the community, the resources available to the CCMC and the risks that the community identifies.

Once the roster is developed, the CCMC members can begin the planned compliance monitoring. When undertaking compliance monitoring, it is important that the CCMC members understand, at least broadly, the rules that apply within their SMA, the available powers they have to support their activities, and what evidence or information they should collect related to any alleged offending. The

following sections provide the key information on rules, powers and evidence collection. The MoF also developed an SOP to inform the processes for responding to an alleged offence within the SMA, where it is serious or the community requires assistance.

1 What fishing rules apply within the SMA?

Each coastal community has the ability to define the rules that apply to fishing and other activities occurring within their SMA. Section 15(1) of the Fisheries Management Act 2002 states that:

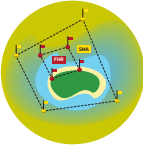





“The Minister may, in consultation with the Fisheries Management Advisory Committee and the coastal community responsible for a Special Management Area, make regulations in respect of that Special Management Area, relating to or for the implementation of a fishery plan for the conservation, management, sustainable utilization and development of fisheries resources in such Special Management Area.”

The rules that the coastal community develops need to be included in the CCMP and must not contradict other national fisheries rules. The MoF will support the community to ensure that the rules they develop do not conflict with other existing fisheries rules that support effective conservation and management of fisheries resources. After the rules are defined in the CCMP, the rules then need to be published in regulation (published in the gazette). Once the rules have been published in regulation, these rules can be implemented and are enforceable.

In addition to the rules that the community establishes, there are some general offences that are included in the Fisheries (Coastal Communities) Regulations 2009 that apply to all SMAs. These provisions mainly aim to support committee members in performing their duties on behalf of the community, define procedures for the authorisation of fishers to fish in the SMA and impose restrictions on destructive fishing methods.

A description of the general offences included in the Fisheries (Coastal Communities) Regulations 2009 is included in [Table 11](#). This description does not include specific rules that the CCMC may develop and apply to individual SMAs.

Table 11. General offences contained within the Fisheries (Coastal Communities) Regulations 2009

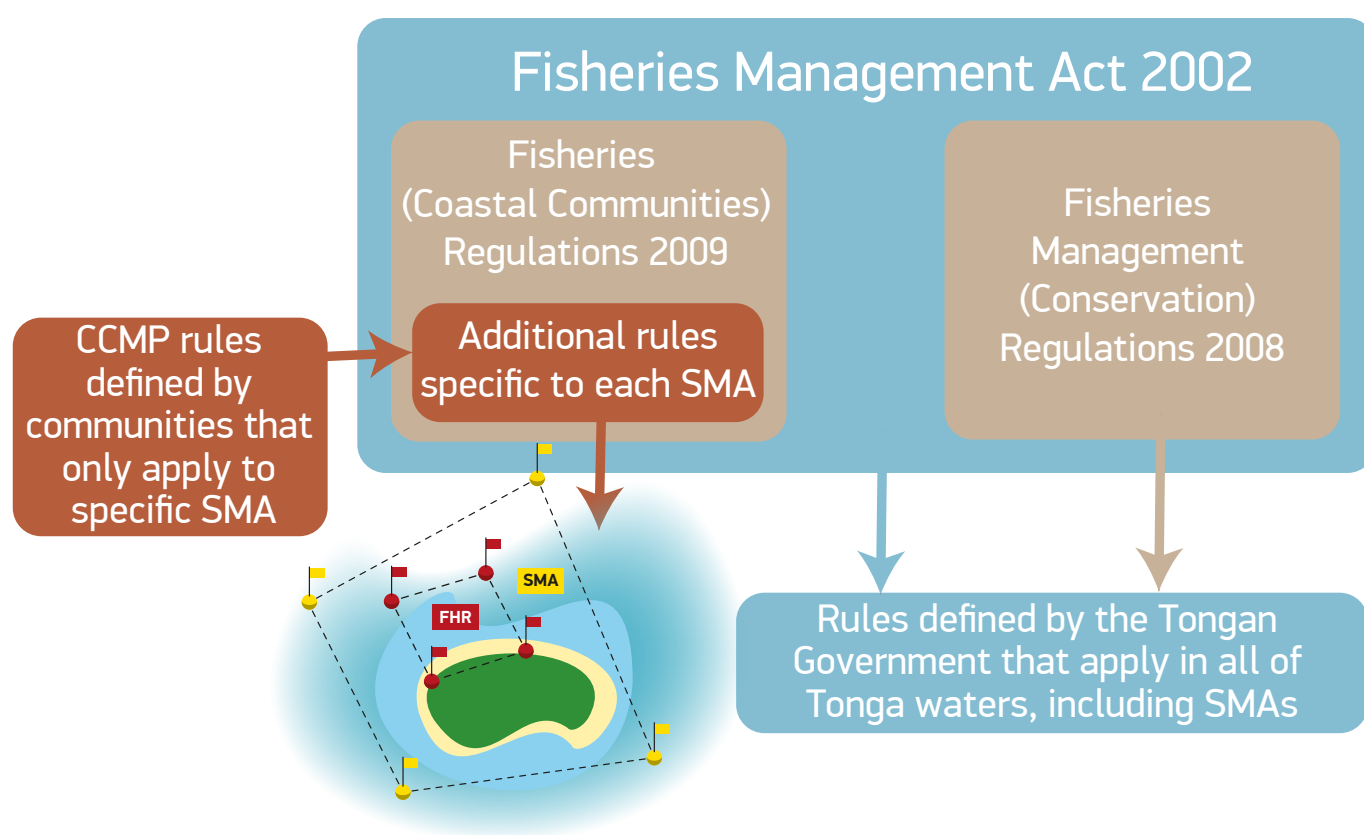
Offence		Explanation	Section
Obstructing a committee member while performing their duties	→	While a committee member is performing their duties, a person cannot assault, obstruct, resist, delay, refuse boarding or entry, intimidate or fail to take all reasonable measures to ensure the safety of or otherwise interfere with them.	Regulation 14(1)(a)
Failure to comply with a committee member's requirements	→	A person must obey any lawful order, requirement or request from a committee member.	Regulation 14(1)(b)
Threatening a committee member	→	While a committee member is performing their duties, a person must not use threatening language or behave in a threatening manner or use abusive language towards the committee member.	Regulation 14(1)(c)
Inciting someone to obstruct a committee member while performing their duties	→	While a committee member is performing their duties, a person cannot incite or encourage another person to assault, obstruct, resist, delay, refuse boarding or entry, intimidate or fail to take all reasonable measures to ensure the safety of or otherwise interfere with them.	Regulation 14(1)(d)
Fishing in an SMA without authorisation		No person shall fish within an SMA area, unless they are listed on the Fishers Register and use vessels listed on the Fishing Vessels Register for that SMA, or unless they hold a permit, issued by the committee, that allows for the fishing activity to be carried out.	Regulation 16(2)(3) 18(2)(3) 19, 20 21 22
Fishing in an FHR		No person is allowed to fish in the FHR. The only exceptions to this rule are as follows: <ul style="list-style-type: none"> • Observation, monitoring and restocking activities that the committee approved. • Other activities endorsed by the committee and authorised in writing by the Secretary (Chief Executive Officer for Fisheries). 	Regulation 23
Operating a vessel in an FHR without authorisation		No person shall operate a vessel in a FHR, except for the following: <ul style="list-style-type: none"> • They are undertaking tourist activities that are not fishing and the committee has authorised. • It is an emergency. 	Regulation 23
Fishing for giant clam or lobster in a Giant Clam and Lobster Protective Zone		No person shall fish for giant clam or lobster in a Giant Clam and Lobster Protective Zone, unless they are authorised by the Secretary (Chief Executive Officer for Fisheries) and committee.	Regulation 24
Using destructive fishing methods within an SMA		No person, while fishing within an SMA, shall use destructive fishing methods, such as using metal bars or iron rods for fishing.	Regulation 25 (a)
Harvesting aquarium fish within an SMA		No person shall harvest marine aquarium fish within an SMA.	Regulation 25 (b)

Unless otherwise stated, fisheries rules that are implemented through national legislation apply to all fisheries waters, including SMAs. This means that it is not just the rules established through the Fisheries (Coastal Communities) Regulations 2009 that can be applied to SMAs. The two main pieces of legislation, outside of the Fisheries (Coastal Communities) Regulations 2009, that apply additional controls within and outside of SMAs are the Fisheries Management Act 2002 and the Fisheries Management (Conservation) Regulations 2008 (also see [Chapter 1](#)):

■ **The Fisheries Management Act 2002** prohibits the use, the intent to use, or the attempted use of poison and explosives for fishing. The act also makes it an offence to land, possess or trade in fish taken in this way.

■ **The Fisheries Management (Conservation) Regulations 2008** include most of the national restrictions on fishing gear and methods, including controls on the use of diving equipment for fishing, requirements for fishing with nets and prohibitions on destructive harvesting techniques. The regulations also contain species-specific controls, such as size limits for lobster, triton shell, giant clam, trochus, green snail and oysters as well as prohibitions on harming marine mammals and turtles. The Fisheries Management (Conservation) Regulations 2008 establish licensing and other requirements for fishing with nets, taking marine aquarium fish, using FADs and erecting fish fences.

Figure 14. Illustration of the fisheries legislation impacting SMAs



Who can enforce the rules?

CCMC members are authorised to enforce the rules within their SMA on behalf of the coastal community. The MoF Compliance Team and members of the Tonga Police are also authorised officers for enforcing all fisheries laws in Tonga. CCMC members have defined functions within the Fisheries (Coastal Communities) Regulations 2009, which include assisting authorised officers in the implementation and enforcement of the CCMP.⁶ Therefore, the MoF will work proactively with communities and the Tonga Police to enforce the SMA rules.

The powers available to CCMC members are largely limited to offences occurring under the Fisheries (Coastal Communities) Regulations 2009. MoF Compliance Officers and Tonga Police Officers have broader power and authority to enforce any fisheries offences, regardless of the type of offence committed or under what regulations the offence is included.

CCMC members and authorised officers have the option to use certain powers to assist them in administering and enforcing the rules. These powers are explained in the following section. CCMC member's powers are mainly restricted to the SMA they represent, while authorised officers from the MoF and Tonga Police may use their powers in all Tongan waters. When any authorised person is enforcing a rule or using any power, they should always ensure that they are acting in good faith. This action means that they should be acting honestly, without any personal bias and with a sincere intention to deal fairly with others.

Powers

The Fisheries (Coastal Communities) Regulations 2009 give CCMC members certain powers that they can use to assist themselves in effectively monitoring and ensuring compliance with activities occurring within their SMA. The 'powers' refer to the things that CCMC members can do, or can require someone else to do, while the CCMC member is undertaking compliance activities to ensure the effective conservation and management of fisheries resources in the SMA.

CCMC members' powers under the Fisheries (Coastal Communities) Regulations 2009 are included and explained on the following pages.

The MoF Compliance Team and members of the Tonga Police have additional powers that are defined in the Fisheries Management Act 2002. These powers can be used to support compliance activities in SMAs. These authorised officers can enforce other offences that are not contained within the CCMP or Fisheries (Coastal Communities) Regulations 2009. Therefore, CCMC members will need to seek immediate support from the MoF for any offences they discover within the SMA that are not contained within the CCMP or Fisheries (Coastal Communities) Regulations 2009.

⁶ Regulation 12(2)(h)

② CMC members' powers within their SMA

Power to stop and search vessels in the SMA



A CCMC member can stop, board and search any vessel within their SMA. This power is limited to vessels operating within the SMA only, so it does not apply to vessels outside of the SMA, regardless of whether they are believed to have fished within the SMA previously.

**Regulation
12(2)(i)**

Example: A CCMC member notices a vessel present within the SMA. Regardless of whether the CCMC member believes the vessel has fished, or will fish, they are able to require the vessel to stop, board it and search the vessel to ensure that it has complied with the rules that apply within the SMA. If the vessel leaves the SMA, then the CCMC member no longer has the power to board and search the vessel, so the member should document as many details as the member can while on the vessel, including people aboard and details of any directive they gave for the vessel to stop. The CCMC member should then liaise with the MoF and Tonga Police to follow up on the issue.

Power to require the details of all persons aboard the vessel in the SMA

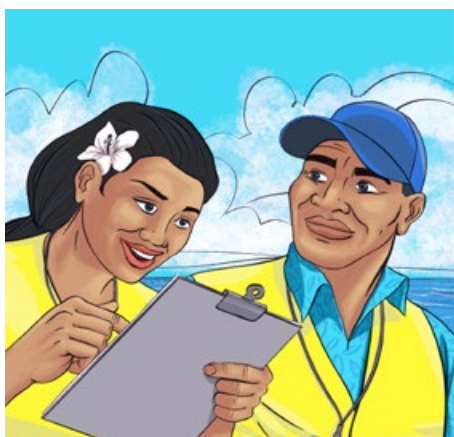


A CCMC member may require the master, or any person aboard, to provide information regarding the call sign and country of registration of the vessel and the names of all persons aboard..

**Regulation
12(2)(j)**

Example: A CCMC member who stops and boards a vessel within the SMA can require the master or each person aboard the vessel to give the details of the vessel and their name(s). Any person who refuses to give the vessel details or their name(s) may be committing the offence of failing to comply with a lawful requirement of the committee member.

Power to question persons aboard the vessel in the SMA



A CCMC member may question the master or any person aboard about the cargo, contents of holds and storage spaces, voyage, and activities of the vessel.

**Regulation
12(2)(k)**

Example: A CCMC member that stops and boards a vessel found within the SMA can ask questions of any person onboard a vessel related to anything found onboard the vessel or what the vessel has been doing. The people onboard the vessel are not required to answer the questions. All of the questions and responses should be recorded, even if the people refuse to answer the questions.

Powers of search



Where a CCMC member has reasonable grounds to believe that an offence has been committed under the Fisheries (Coastal Communities) Regulations 2009, they may, with a warrant, enter and search any vessel or premises in which they believe the offence has been committed

Example: The Constitution of Tonga contains a protection from unlawful searches and premises, and vessels not in the SMA should only be searched under the supervision and direction of the Tonga Police and MoF. If the vessel or people reasonably believed to have offended within the SMA leave the SMA area, the CCMC member should gather as many details as possible about the vessel and people involved and the offence they are believed to have committed. The Tonga Police can use this information to obtain a warrant to search a premise or vessel. The CCMC member and MoF officers can accompany the Tonga Police when they execute the warrant.

Power to seize evidence



The CCMC member may seize anything that they have reasonable grounds to believe might be used as an exhibit in any proceedings under the Fisheries (Coastal Communities) Regulations 2009. If any item is seized, the CCMC member who seized the item must issue a written receipt for the item seized, which includes the grounds for seizure.

**Regulation
12(2)(m)**

Example: When the CCMC is inspecting a vessel, if they think there is any evidence that is onboard that vessel of an offence listed in Table 11 in the previous section, or any rules developed by the CCMC for the SMA and published in regulation, then they may confiscate that item. These items can include fishing gear, fish or other marine species, and records or other items onboard the vessel. Any seized item should be retained securely in the possession of the CCMC member until such time as it can be transferred to the possession of the Tonga Police or MoF. The Tonga Police or MoF should be contacted right away to collect and safely store the seized item(s). Alternatively, a CCMC member should transport the seized item(s) as soon as possible to the nearest police station or MoF office for safe storage.

It is important to note that the powers to stop, question and require details from all people onboard vessels found within the SMA are general powers, and these powers can be used regardless of whether any offences are thought to have been committed. However, the powers of search and seizure are specific to the CCMC having reasonable grounds to believe that an offence has been committed. In addition, these powers can only be used for offences that are defined under the Fisheries (Coastal Communities) Regulations 2009 and not in any other fisheries legislation.

What evidence do we need to collect to support prosecuting offenders?

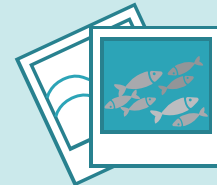
The primary purpose of the powers bestowed on CCMC members is to allow them to gather evidence of any offences that have been committed against the Fisheries (Coastal Communities) Regulations 2009 that occur within the SMA. This evidence can then be used to support any prosecution action that may, as appropriate, be undertaken. Therefore, it is important that CCMC members gather as much evidence as possible of any offences that they identify as occurring within the SMA. This evidence can take many forms, with the main types of evidence of fisheries offences as follows:



Physical evidence,
such as fish and/or
fishing gear;



Testimonial evidence, such as
a witness (e.g., notes and
statements of what a CCMC
member saw and did); and



Demonstrative evidence,
such as photographs.

CCMC members should not worry about the type of evidence that they are gathering at the time they identify the offence, and the members should only concern themselves with legally and safely gathering as much evidence as possible. The MoF and Tonga Police will support the CCMC member in assembling the evidence gathered and in gathering any further evidence, if it is required. It is the Crown Prosecutor's job to assess the evidence and advise on any further evidential requirements.

If the CCMC member completes the SMA Incident Form with as much detail as possible, this action will go a long way towards gathering and documenting the evidence required to prove the offence. Even if the CCMC member does not have a copy of the incident form on them at the time of the alleged offence, the member can still begin gathering evidence of the alleged offence through making observations and noting them down. These observations can count as important evidence.

When conducting compliance activities, the CCMC member should focus their activities on securing evidence of the following:

- Who is committing the offence?
 - No prosecution action can be undertaken if we do not know who has committed the offence.
 - Where a clear identity cannot be obtained, any identifying feature of the person, vessel or vehicle can be used for follow-up enquiries to be conducted.
- Where are they committing the offence?
 - If the offence is included in the CCMP and/or the Fisheries (Coastal Communities) Regulations 2009, then we need to prove that this offence occurred within the SMA.
- When did they commit the offence?
 - The time and date that the incident or offence was committed is recorded as accurately as possible.
- What offence did they commit?
 - This point focusses on evidence collection to prove the specific offence. This action may be related to the species caught (such as size limits), the method used (such as destructive fishing methods) or simply that fishing occurred (if we believe that they fished in an FHR).

Example of what evidence may be required to prove an offence

Under the Fisheries (Coastal Communities) Regulations 2009, Regulation 25 notes some conditions of fishing in the SMA and states that:

No person shall:

(a) use destructive methods of fishing, such as using metal bars or iron rods for fishing.

We need to gather evidence on the following aspects:



WHO?

to prove who the person or persons involved were.



WHAT?

to prove what destructive fishing methods were used.



WHERE?

to prove that the destructive fishing methods were used within an SMA.



WHEN?

to establish the time that this offence occurred. This time can be approximate or within a time range.

CCMC members are only expected to understand the offences that apply to their SMA and are not expected to become experts in evidence. The MoF, Tonga Police and AGO will provide specialist advice and support in this area. If the CCMC member can complete the SMA Incident Form with as much detail as possible, this action will provide the basis for the MoF and/or Tonga Police to undertake further enquiries. The MoF and Tonga Police can make enquiries after the fact, if they see that there are reasonable grounds to suspect an offence has occurred and have information that may help them identify who was involved. For situations where the CCMC member does not have an incident form with them, if they can gather evidence on who, what, where and when, then they will be able to gather most of the evidence required to allow the MoF and Tonga Police to respond and follow up.



For more details on the SMA Incident Form, please refer to the next section.

③ Responding to and reporting compliance issues within the SMA

As previously mentioned, to support communities to manage compliance issues within their SMAs and ensure there is a clear process for managing and reporting compliance issues occurring within the SMA, the MoF developed SOPs that outline key compliance processes. These SOPs outline guidance for CCMCs and processes to support the MoF and partner agencies to respond effectively to compliance issues occurring within the SMA.

As part of these SOPs, two standard forms have been developed to assist with the consistent collection of information during compliance activities. These two forms, the SMA Incident Form and SMA Compliance Activity Form, have different purposes. The forms are described in [Table 12](#). The MoF will support CCMC members to understand how the forms should be used and to complete the documentation when the forms are required to be used.

Table 12. SMA compliance forms



SMA Incident Form

To capture consistent details of compliance issues identified in the SMA, including through inspections, to support enforcement action by the MoF and/or police.

This form is only completed when the CCMC member encounters or becomes aware of an issue that will require additional support from the MoF or Tonga Police, especially where prosecution action may be necessary.

This form is intended to support the following:

- Proactive notification to the MoF of emerging compliance issues within the SMA (such as alleged illegal fishing) to allow the MoF to plan and coordinate appropriate support.
- Capture details of an offence when it is identified through inspections and requires further action (not required where warnings are issued by a CCMC member and confiscations do not occur).
- Record the details of any confiscated catch or fishing gear and provide a receipt for the confiscation.

When it is required, the CCMC member should complete this form with as much information as possible. This information will be the basis of the file that the MoF and Tonga Police will develop if prosecution proceeds.



SMA Compliance Activity Form

To capture summary details of compliance activities that the CCMC member conducted, including education and all compliance monitoring activities (such as inspections). This form also records any results or comments related to the compliance activity.

CCMC members complete and maintain this form. It is used to keep a record of compliance activities undertaken within the SMA, both proactive and reactive, and as a result of the activity. This form can capture issues that the CCMC member identifies through their compliance activities, such as user comments about rules or other controls or SMA implementation. The CCMC member can use this information to assist and inform SMA management decisions during CCMP reviews.

Appendices

Appendix 1: Sample story used on Tonga Government website

‘O’ua community takes the lead in protecting its fish and marine resources

The small, volcanic island of ‘O’ua in the Ha’apai Group will go down in history for having the very first community-based SMA in Tonga.

The SMA will mean the community can protect its fish resources and coral reef habitats for future generations.

“Our reefs have been intensively fished by our community, those from neighbouring islands and small commercial vessels,” said the ‘O’ua Acting Town Officer, [insert name].

“The SMA means we can now protect those reefs and increase the stocks of fish that are there. This is good news for our village and also for our children.”

‘O’ua is the first village to commit to an SMA. This historical event was marked by the Minister for Agriculture and Food, Forests and Fisheries, Hon. Sione Peauafi Haukinima on 1 November 2006.

Under the Fisheries Management Act 2002, the Minister may designate any local community in Tonga to be a coastal community for the purposes of community-based management.

The Minister may then allocate an SMA to the community: ‘for the purposes of coastal community management, application of certain conservation and management measures, subsistence fishing operations or other specified purpose’.

The ‘O’ua community approached the Ministry of Fisheries after noting the damage to their coral reefs and other habitats, and the reduction of fish available to the community.

Working with Fisheries Officers and others, the ‘O’ua community developed a Coastal Community Management Plan.

The Plan describes the past and current status of the resources and habitat of the area and the management measures the community intends to take to ensure the sustainable use of the area.

The ‘O’ua Community SMA covers a total area of 4,880 hectares, with 250 hectares allocated as Fish Habitat Reserve where no fishing or access is permitted. Other initiatives included the ban of destructive fishing practices and re-stocking of the Fish Habitat Reserve with locally threatened giant clam species.

The Hon. Minister urged the ‘O’ua community to make their SMA successful, as a benefit for themselves and to set a good example to the rest of the communities in Tonga who may wish to follow ‘O’ua’s footsteps.

For more information, photos and a map of the SMA, contact: [insert name of contact person]

Appendix 2: Frequently asked questions during the community confirmation meeting

① How long will it take to set up our SMA?

Answer: There is no fixed timeline; however, it can take up to four months or longer. It very much depends on the commitment of the community.

② What if one of our neighbouring communities does not agree to our new SMA?

Answer: Consultation will continue with that community to address their issue, and the decision-makers will be advised accordingly for decision-making.

③ What happens if someone breaks the SMA rules? What should we do?

Answer: Breaking the SMA rules is illegal. The committee will deal with the case and make a decision.

④ What happens if someone is anchoring in the FHR during the time of an emergency?

Answer: It is fine and not an illegal action.

⑤ What happens to our SMA rules after disasters (e.g., cyclone)? Can some of these rules be lifted to support us in post-disaster recovery?

Answer: The rules must be taken back to the community to revise the plan and regulation.

Tips during the Q&A session

- It is important when providing feedback to any community to ensure that accurate and consistent information is provided. Remember that what you say to one community must be the same with other communities, and remember that you are representing the Ministry of Fisheries; therefore, the communities will rely on you to provide a reliable response. Different staff are likely to go out to different communities to run these meetings, so it is important that the same information is well understood by all staff and then passed on to the communities.
- If you are unsure on how to respond to a given question, you do not need to reply instantly. Seek advice from other colleagues who are with you in case they might know. If others in your team do not know, do not respond with an assumption as you may end up providing false information. Simply reply by acknowledging the question and advise that you will follow up on this issue when you return back to the office, then report back to the community with a response in due time. (Do follow up on this when you get back to the office!)
- Do not make fake promises to the community or raise false expectations.

Appendix 3: Community workshops to facilitate and gather information for the draft CCMP

Preparing for the community workshops

Fisheries Officers will hold a series of activities with the community to facilitate the development of the draft CCMP. This series may involve evening workshops, or it may happen over the course of three to five days. The following activities are suggested as they will provide the relevant information required for the CCMP:

Activity	Reason for activity and relevance to CCMP
Activity 1 Community mapping	Creates a map of the land and sea area to bring community members together to think about their area and resources before they set out the management plan.
Activity 2 Fishing methods, fishing habitats/areas and target species	Enables community members to identify fishing activities practiced within their coastal fishing areas (in relation to the map they created in Activity 1), including what types of fishing habitats/areas and what types of target species (including other species) that each specific fishing activity/method is targeting.
Activity 3 Fisheries situation and trend analysis	Enables community members to reflect on their fisheries situation and how it has changed to enable the community to begin to identify fisheries-related problems and issues.
Activity 4 Problem-solution analysis	Identifies the root cause of fisheries-related problems to enable the community to identify management actions and interventions for the CCMP.
Activity 5 SMA goal/vision setting	Enables the community to establish the goal or vision for the SMA.
Activity 6 Boundaries (SMA, FHR)	Enables the community to identify the boundaries of the SMA and FHA areas to be gazetted and enforced under the law.
Activity 7 SMA fishing rules	Enables the community to conduct the following: <ul style="list-style-type: none"> ● Discuss and agree on which fishers and vessels will be eligible to be included in the Fishers Register and Fishing Vessels Register authorised to fish in the SMA. ● Discuss and identify any new fishing rules they wish to apply in the SMA (in addition to existing national fisheries legislation). ● Discuss and confirm details on the application of fishing permits (as required under the regulations).
Activity 8 Identify livelihood opportunities	To enable the community to consider what other livelihood opportunities could be explored for the community while coastal fisheries are recovering.
Activity 9 Monitoring	To introduce the concept of monitoring to community members to consider what information needs to be collected overtime to see if the SMA is operating as intended and track whether actions are helping reach the desired goal of the SMA.
Activity 10 Training needs	To identify any training and capacity development required for the CCMC and community members to effectively implement the CCMP.
Activity 11 Wrap-up	To ensure the community understands the process they have undertaken in drafting the CCMP and that they understand the next steps to be taken.
<i>SWOT analysis (optional activity if required and time permits – can follow Activities 3 and 4)</i>	<i>An analysis of the community's SWOT to build awareness of who is best tasked for undertaking certain actions.</i>

What to take with you:

- Stationary (butcher paper, charts, cardboard paper in different colours, markers in different colours, Cello tape, scissors and notebooks pens)
- Workshop agendas
- Attendance forms
- Copies of the Fishers Register and Fishing Vessels Register
- Copies of relevant fisheries laws and regulations, including the Fisheries Management Act 2002 as well as Fisheries (Coastal Communities) Regulations 2009 and relevant amendments
- SMA awareness materials (brochures, posters, etc.)
- Laptop and presentations to be used in a community to develop the CCMP
- Camera
- Projector and generator for electricity in the outer islands (optional items)

Tips on how to be a good note taker

- Write phrases and not full sentences using your own words.
- Organise notes by activity, with headings and subheadings and dot points.
- Be familiar with activities and prepare tables ahead of time.
- Take 'good' photos of completed workshop activities (e.g., map) – ensure they have a label when taking the photo.
- Record all information that will be needed to develop the management plan.

Suggested number of staff (minimum):

- One team leader plus three to four staff members (at least one staff member should be responsible as a note taker)

How to be a good facilitator:

- Be flexible.
- Be prepared by knowing the activities and have the equipment required ready.
- Listen more than talk.
- Keep the group focused on the task at hand and on time.
- Encourage everyone to participate, while adapting to different learning and participation styles.
- Be sensitive to individuals' needs and cultural norms.
- Be sensitive to gender:
 - Ensure gender equality and that representatives from all genders are given a chance to share their thoughts.
 - Do not address gender norms in a manner that conflicts with culture and tradition, but complements what is practiced locally.
- Keep group members from attacking others or their opinions.
- Recap and summarise information and help group members make connections between sessions.
- Move the group interaction process along.
- If presenting new information, help the group experience and learn it together.
- Make the session fun!

Introduce workshop activities:

- Ensure you are familiar with the culturally appropriate protocol for who should open the workshop and how it should be opened. As appropriate, ask a village leader or others to welcome participants and open the workshop.
- Welcome participants and provide some brief context about what the workshop is about and why people have been invited to create a shared understanding of what will be achieved.
- Introduce all team members and provide a quick overview of their roles in the workshop; if appropriate, discuss taking photographs.
- Explain the work in the agenda. Clarify the timeframe involved in developing the draft plan.
- Remind participants of the importance of attending meetings and being on time.
- Remind participants that the role of Fisheries Officers is only to be meeting facilitators (the CCMP belongs to the community and therefore must reflect the needs and reality of the community).

Mapping the community



Who? Everyone (one group), one lead facilitator, note takers



Materials? Butcher chart or white board and markers



Time? Approximately 20 minutes

Work with the community to conduct spatial mapping of the village or community land and sea area. You can do this by asking for volunteers to come up one at a time to the chart or board to label the following locations:

- Land boundary of the SMA community
- Church
- Wharf
- Main habitat areas (seagrass, mangroves, reef)
- Main fishing areas where men, women and youth go fishing
- Any neighbouring villages
- Any other important land or sea marks
- Any traditional or cultural fishing areas

Community mapping exercise in 'Atata



Tip Having a base map outline as a starting point will reduce the time required for this activity. This map can be sketched onto the butcher chart or whiteboard prior to starting the activity.

Introducing this activity:

- Explain the purpose of this exercise: It provides an opportunity for community members (men, women and youth) to identify the different fishing activities currently occurring within their fishing areas, including key species targeted and fishing methods used. This provides a shared knowledge and understanding of fishing amongst the broader community (fishers and non-fishers).
- Introduce the fishing activity tables and provide an example of filling them out.

Matrix mapping of fishing information (Fishing methods and target species)



Who? Everyone (one group), one lead facilitator, note takers



Materials? Maps of land and sea area developed in Activity 1, butcher paper with pre-drawn fishing information matrix (one table for each main habitat/fishing area)



Time? Approximately 20 minutes

Introducing this activity:

- Explain the purpose of this exercise: It provides an opportunity for community members (men, women and youth) to identify the different fishing activities currently occurring within their fishing areas, including key species targeted and fishing methods used. This provides a shared knowledge and understanding of fishing amongst the broader community (fishers and non-fishers).
- Introduce the fishing activity tables and provide an example of filling them out.



Refer to the main fishing habitats/areas identified on the map in Activity 1.

Initially focusing on one of the fishing habitats/areas, ask participants to complete the following steps:

1. Identify the main marine resources (fish, invertebrates, marine plants) collected from this habitat (list these in column 1 of the matrix).
2. For each of these resources, ask participants what methods/gear types are used to collect these resources.
3. Ask participants who is involved in the collection (men, women, boys, girls) as well as whether the resource is collected for selling, for consumption or both.
4. After the matrix is completed, check if anything is wrong or missing and continue to the next habitat.



Develop a fishing information table for each of the main fishing areas/habitats mentioned. Fill in the fishing information matrix as participants provide the information (one for each of the main fishing areas/habitats mentioned in the first activity). See the table below for an example matrix.

Fishing information matrix

Resources collected from [insert name of habitat or fishing area]

RESOURCES COLLECTED	FISHING METHODS	WHO COLLECTS (men, women, boys, girls)	USE (Cash/Food/Both)

Fisheries situation and trend analysis



Who? Divide participants into two groups (male and female groups), facilitators, note takers. It is best to have a separate person as the note taker. However, further dividing into adults and youth can be done, as appropriate, or if you have a lot of people attending. Six to eight people in a group is ideal.



Materials? Butcher chart with table template for the Trend Analysis Table



Time? Approximately 45 minutes for the group work, plus 10 minutes for reporting back

Introducing this activity – before you split into groups

- Explain the purpose of this exercise: It enables community members to reflect on their fisheries situation over the years up to the present. This produces anecdotal baseline information that is quick and useful for identifying what urgent actions need to be done to manage and protect their fisheries resources. This is important, particularly if the situation is not going well (e.g., over the years, less fish have been caught).
- Introduce the trend analysis table to provide an example of filling it out.

While in your groups, there are three main steps to take:

a Establish the “baseline” year and period to assess trends



Start by first asking participants how far back they can recall the status of their community and fishing activities. This is often targeted at older members of the group to confirm from which year they would like to start the baseline year. If they say that they can recall very well to the 1960s, then that will be your baseline year (1960).



Add in the baseline year and then every 10 years the rest of the columns until you reach the current year is the last column (see template example below). Leave the first column blank for later.

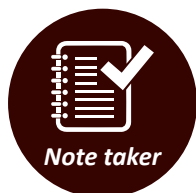
Trend Analysis Table

	1970 (baseline)	1980	1990	2000	2010	xxxx (current)

b Identify trends and analyse the fisheries situation



You can first ask questions related to the fishing household and fishing activities in the community to determine whether and how they have changed over the years. Doing one question at a time, first ask older members to recall the status during the baseline year, then work your way across the columns (years) to note any change over the years.



Fill in the table as the discussion progresses (see some examples below).

Trend Analysis Table (template showing initial entries on fishing situation)

Questions	1970 (baseline)	1980	1990	2000	2010	xxxx (current)
Number of active households	5	5	7	12	15	15
Number of active fishing households	3	3	5	8	10	10
Number and type of fishing vessels	2 canoes	2 canoes, 1 outboard	4 outboard	6 outboard	6 outboard	6 outboard
Type of fishing (refers to fishing methods identified in the previous activity) ¹	Gleaning, netting, spear-diving	Gleaning, netting, spear-diving, trolling	Same	Same	Same	Same



You can now ask questions to help rate their perceptions and knowledge on the status (health, abundance and size) of different groups of fisheries and marine resources available in the community's surrounding fishing area over the years, starting from the baseline year. Resources could be categorized into live coral cover, seagrass health, abundance of (specific or target species) reef fish, sizes of (specific or target species) reef fish, abundance of lobsters, lobster sizes, abundance of a certain species of interest to the community and so forth. Refer to specific or target species (fish, invertebrates, etc.) that the community identified in Activity 2.

For rating their status, there are various ways you may wish to do this. A couple of examples are provided below.

Scale for perceived trends (World Bank, 1999):

Scale	Perceived trend
1	Declining a lot
2	Declining a little
3	No change or stable
4	Improving a little
5	Improving a lot

Scale for perceived status of health:

Scale	Perceived status (health)
1	0-19%
2	20-39%
3	40-59%
4	60-79%
5	80-100%



Fill in the table as the discussion progresses (see some examples below).

¹ You can also refer to other simple questions that can assist in the trend analysis through community perception, which can be found at Watisoni et al 2018: "Temporal variation in catch composition, fishing gear and time spent fishing in an artisanal coral reef fishery..."

Trend Analysis table (template showing entries on the perception of coastal resources using the scale for perceived status of health)

Questions	1970 (baseline)	1980	1990	2000	2010	xxxx (current)
Number of active households	5	5	7	12	15	15
Number of active fishing households	3	3	5	8	10	10
Number and type of fishing vessels	2 canoes	2 canoes, 1 outboard	4 outboard	6 outboard	6 outboard	6 outboard
Type of fishing	Gleaning, netting, spear-diving	Gleaning, netting, spear-diving, trolling	Same	Same	Same	Same
Live coral cover and	5	5	4	4	4	4
Seagrass	5	5	5	5	3	3
Catches of <i>[insert name of key target species]</i> reef fish (quantity)	5	5	4	4	3	3
Size of <i>[insert name of species]</i> reef fish (average)	5	5	4	3	3	3
Catches of <i>[insert name of species]</i> reef fish (quantity)						
Size of <i>[insert name of species]</i> reef fish (average)						
Catches of <i>[insert name of species]</i> (quantity)						
Size of <i>[insert name of species]</i> (average)						
Etc.						

Once the activity is complete, ask the group to nominate someone to report back.

Groups report back and consolidate a community consensus.

Each group then reports back on their responses to everyone. Following this group report back, facilitate a discussion to combine a community consensus on trends to be reached. To help quickly combine results from all groups, the first group can report back, then ask remaining group(s) to report by just adding any new or different items or trends that the first group did not report on. Help draw upon any major trends or trends that may be unique or similar amongst groups. For example, adults and youth, or other groups, may have conflicting ideas about trends, but the facilitator's role is to get them to come to an agreement.

Women working in a group during an SMA consultation in Vava'u



Look out for potential interesting trends, such as the following:

- Has the number of fishers and fishing boats in the community increased dramatically over the years?
- Has the majority of fisheries resources declined over the years?
- Are there certain species that seem to be in more trouble than others? If so, in what way?

Depending on key trends and outcomes, this will lead in nicely to the next exercise to discuss key problems with their fisheries situation and how to address them (problem-solution analysis), which will be useful to identify appropriate management interventions for their CCMP.

Problem-solution analysis



Who? Participants will primarily be divided into two groups (male and female) with facilitators and note takers. However, other groups (divided by adults and youth) can be added, as appropriate.



Materials? Charts or cards labelled as “Problem” (palopalema), “Cause” (tupu’anga), “Effect” (ola pe uesia), “Solution” (solova’anga), “Action” (ngaue ke fai) and “Who” (ko hai tene fakahoko e ngaue)



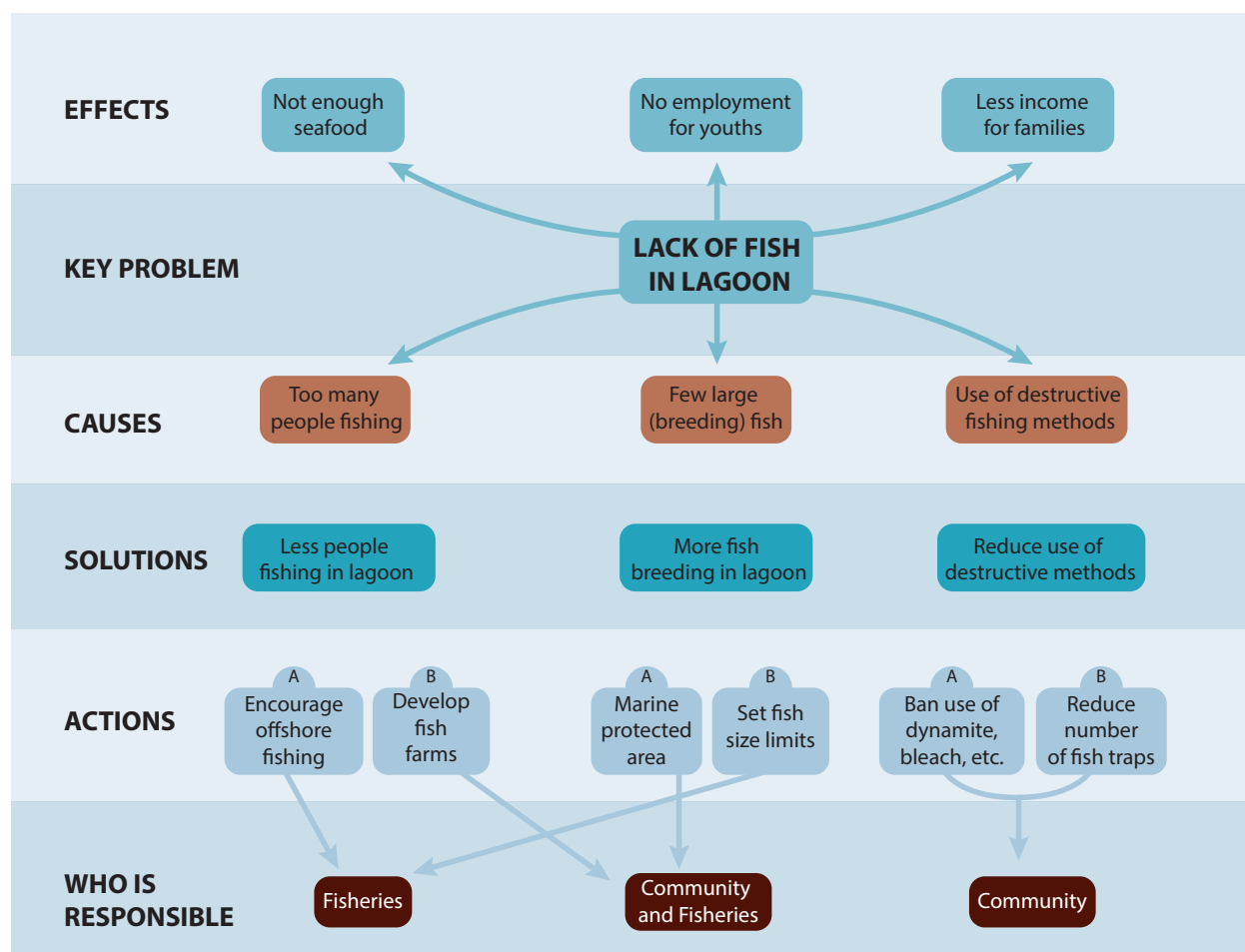
Time? Approximately 1 hour

Introducing this activity:

Once the fisheries status and trend analysis has been discussed, explain that each group will use a problem-solution tree approach to discuss the root cause of the problems to identify possible solutions and actions. This is important to ensure that key problems faced by the SMA community in relation to their coastal fishing area and fisheries livelihoods are appropriately addressed through actions in the CCMP.

This is not a simple process and requires practice, some experience, quick thinking and a clear understanding of what is needed. It is helpful to give facilitators as much guidance as possible. Being active in the community can also help improve their work.

You can also show the community the below example of a problem-solution tree.



Example of a problem-solution tree. Source: Samoa Fisheries.

While in your groups, there are six main steps to take:

a Determine the problem



Start by asking “*What are the problems with your marine environment?*” These problems will likely reflect the declines and issues previously mentioned during the trend analysis. The group will likely reply with many answers. Many of these answers are really the causes or the effects rather than the problem itself. Replies may include the following:

- Not enough seafood
- No employment for young people
- Lack of fish in the lagoon
- Too many people fishing
- Few large (breeding) fish
- Use of destructive fishing methods
- No income for families



Remember to also refer back to any problems already identified during the trend analysis exercise.



If using cards, record each problem mentioned on a new or different card.

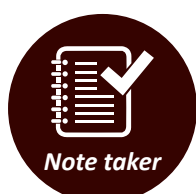
b Confirm the problem and determine the effects and causes of the problem



Work with your group to sort the answers into the right categories. This is done by asking the group members to consider if their answers were really a problem, or more a cause or effect of the problem. To get to the bottom of an issue, you can use the following questioning: But what is the cause of that? Normally, you will find there is one key problem, with other answers being effects or causes of that problem, as shown in the example below.

Discussing problems, causes and effects with the community

Problem	Effects	Causes
Lack of fish in the lagoon	<ul style="list-style-type: none"> • Not enough seafood • No employment for young people • Less income for families 	<ul style="list-style-type: none"> • Too many people fishing • Few large (breeding) fish • Use of destructive methods



If using cards, align effects and causes to each corresponding problem, or use the template above on a chart.

c Groups report back and consolidate a community consensus

Once all groups have completed their list of problems, effects and causes, ask each group to report back, then facilitate a discussion to consolidate group results to come up with a final or **agreed-upon list of problems, effects and causes**. In combining results from all groups, it is often easiest to look out for similar results from each group. Sometimes the problems each group identifies are the same, they are just worded differently. If there are any disagreements amongst groups on certain items discussed, clarify those issues before moving on.

d Identify solutions and actions to the causes of the problem

Returning back to your groups, refer to the final or agreed-upon list of problems, effects and causes from the previous exercise and go through each problem at the time to identify solutions and actions.

Facilitator: Ask the group: “How do you prevent the causes to the problems?” There will be mixed answers, some of which may not be solutions but actions to implement solutions to prevent the causes of the problem. Here is an example of the sort of answers you may get:



- More fish breeding in the lagoon
- Encourage offshore fishing
- Set fish limits
- Reduce the number of fish traps
- Less people fishing in the lagoon
- Reduce the use of destructive methods
- Develop fish farms
- Establish marine protected areas
- Ban the use of dynamite, bleach, etc.



- In some situations, a solution is the opposite of the cause of the problem.
- Actions should include action-words, such as develop fish farms or conduct a training on fisheries enforcement.

e Separate out solutions from actions



Ask the group to determine if the answers they provided in Step d are really solutions or actions, as shown below.

Solutions

Actions

Less people fishing in the lagoon	<ul style="list-style-type: none">• Encourage offshore fishing• Develop fish farms
More fish breeding in the lagoon	<ul style="list-style-type: none">• Establish marine protected areas• Set fish limits
Reduce the use of destructive methods	<ul style="list-style-type: none">• Ban the use of dynamite, bleach, etc.• Reduce the number of fish traps

f Agree on actions to achieve solutions



Once solutions are identified, ask each group what actions are likely to achieve those solutions. Most of these actions may have already been listed in Step d, but the group will also likely add additional actions. For example:

- Encourage offshore fishing
- Develop fish farms
- Establish marine protected areas
- Set fish limits
- Ban the use of dynamite, bleach, etc.
- Reduce the number of fish traps
- Establish village rules

g Groups report back and consolidate a community consensus

Once all groups have completed their lists of solutions and actions for each problem, ask each group to report back, then facilitate a discussion to consolidate group results to come up with a final or **agreed-upon list of solutions and actions**. In combining results from all groups, it is often easiest to look out for similar results from each group. Sometimes the problems each group identifies are the same, just worded differently. If there are any disagreements amongst groups on certain items discussed, clarify those issues before moving on.

As you go through the agreed-upon list of solutions and actions, ensure you ask the community which of these actions are most important to be implemented first, particularly if there is a long list of actions identified. **Prioritizing** actions could be grouped as short-, medium- and long-term priorities.

h Determine who is responsible for each action.



Who? Everyone (one group), one lead facilitator, note takers



Materials? Charts/results from the problem-solution exercise (and SWOT exercises if this was carried out too)



Time? Approximately 30 minutes

The last step is to determine who is most appropriate to carry out each action. Some actions can be carried out by the community and some by the MoF. There will be actions that require joint efforts by the community and fisheries.

The decisions on who shall be responsible to carry out a set of actions tie both the community and MoF into their respective obligations. These obligations are transformed into respective undertakings by the community and MoF, which form the most important component of the CCMP. An example is shown on the following page.

Actions	Who is responsible
1. Encourage offshore fishing	<p>MoF</p> <ul style="list-style-type: none"> ● Train village fishermen in fishing gear and methods ● Identify suitable kind of boats for village fishermen ● Provide information available on the boat purchase, loan scheme, etc. <p>Community</p> <ul style="list-style-type: none"> ● Identify good fishermen ● Provide initial deposits for cost of boats
2. Develop fish farms	<p>MoF</p> <ul style="list-style-type: none"> ● Provide technical advice <p>Community</p> <ul style="list-style-type: none"> ● Provide the site ● Provide labour ● Meet expenses
3. Establish marine protected areas	<p>Community</p> <ul style="list-style-type: none"> ● Provide the site ● Monitor unauthorised activities in the area <p>MoF</p> <ul style="list-style-type: none"> ● Conduct an assessment ● Provide technical advice
4. Set fish limits	<p>MoF</p> <ul style="list-style-type: none"> ● Provide appropriate size limits <p>Community</p> <ul style="list-style-type: none"> ● Set village rules and enforce them
5. Ban the use of dynamite, bleach, etc.	<p>Community</p> <ul style="list-style-type: none"> ● Set village rules and monitor and enforce them
6. Reduce the number of fish traps	<p>Community</p> <ul style="list-style-type: none"> ● Set rules and enforce them
7. Establish village rules	<p>Community</p> <ul style="list-style-type: none"> ● Monitor and enforce

Suggestions on how to deal with problems or actions identified that are not directly related to fisheries, e.g., environmental problems.

It is expected from these community discussions that non-fisheries-related problems or actions are brought up to help with SMA activities. For example, sand mining on the shore (problem), or requests for enhancing handicraft livelihood opportunities for women (action). These issues can be forwarded to relevant ministries, e.g., those for agriculture, tourism and environment. An additional issue is safety at sea, which communities often identify in the problem-solution analysis. This issue can affect both offshore fisheries and coastal fisheries alike. For facilitators, it is good to lead these discussions to identify who can best be contacted to help address the problem.

Establish a goal for the SMA



With these trends in mind, as well as problems identified, explain to the community that they are now tasked with determining the goal or vision for the SMA. Note: It is important that the community establish their goal on their own as this is central to ownership of the SMA.

It is important to keep the SMA vision simple and achievable for the community. It could also be more than one goal, depending on the community situation and what they decide.

The facilitator can provide guidance for the community to establish their goal. For example:

- What changes do you want to see happen as a result of the SMA?
- Imagine your fisheries resources in five to 10 years. What do you want to see?

Do not rush this process. Instead, give the community time on their own to discuss and decide their management goals. This can be a good 'last activity' for a day to give them further time to consider and discuss.

With the SMA goal established, the community may wish to determine a year in the future when they would like or expect to achieve the vision established. For example, it could be five or 10 years from the current year.

Community looking at a map of their coastal area using Google Earth





Activity 6

Determine and map the boundaries of the SMA and FHR



Who? Everyone (one group), one lead facilitator, note takers



Materials? Depending on what is available – laptop with Google Earth and projector, or navigation charts/map of the island area



Time? Approximately 45 minutes

Introducing this activity:

- Explain that this is one of the most important sections of their CCMP. They need to carefully decide as these boundaries will be presented to neighbouring communities and distributed nationwide for consultations and feedback. If there are no objections to the boundaries, the SMA and FHR areas will be gazetted and enforced under the law.
- Explain that fishing is permitted in the SMA boundary, and the community decides who can fish in this area. Under the Fisheries (Coastal Communities) Regulations 2009, only persons authorized and registered by the SMA community (through the CCMC) are permitted to fish in the SMA (also see section (g) below on the process).
- Explain that inside the SMA, an area where no fishing will be allowed (FHR) is also established. This is a no-fishing zone, which is an area to protect habitats and allow fish populations to breed and build up. Under the Fisheries (Coastal Communities) Regulations 2009, no person shall enter or fish inside the FHR, unless in special or unique circumstances.



If a laptop and projector are available, show an image or map of the local area using Google Earth maps, including both the land and water area immediately offshore.

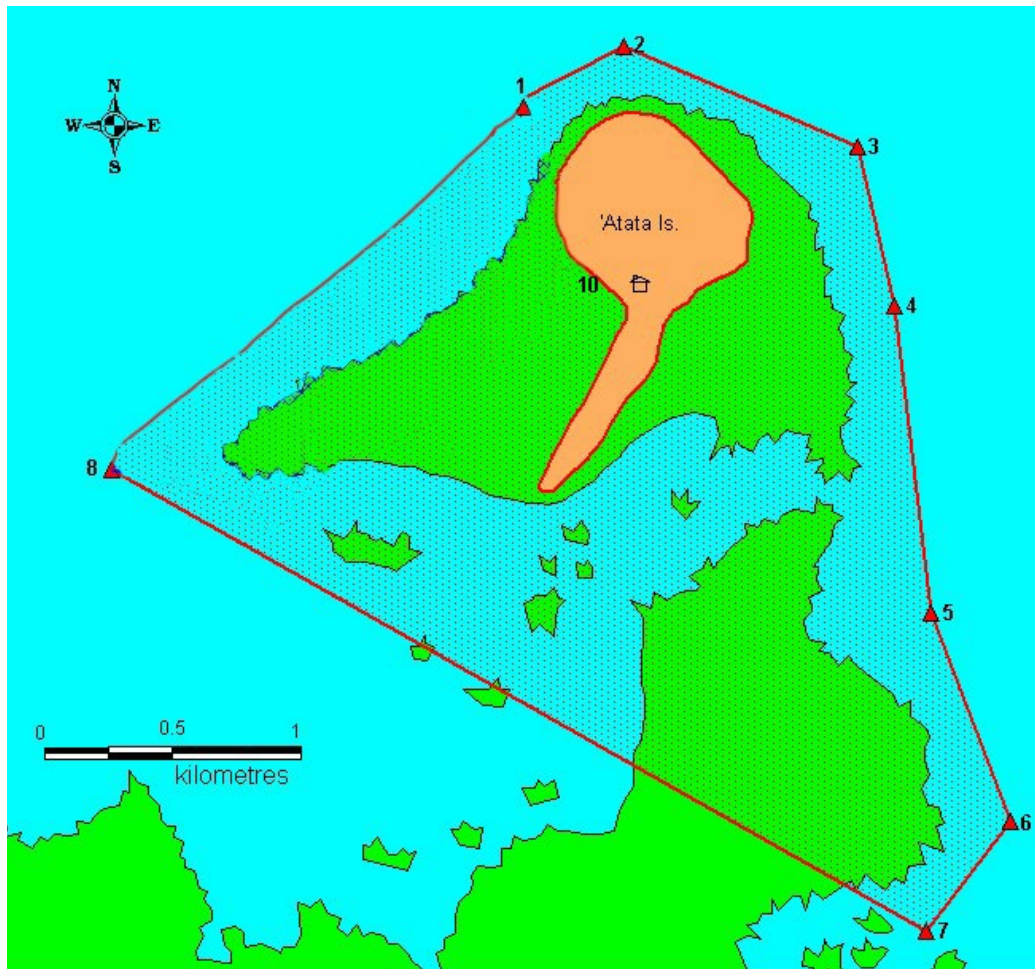
There are four main steps to determine the boundaries of the SMA and FHR:

a Map the land boundary of the SMA community.

If the SMA community is situated right next to another community or communities (e.g., not just one community on an island), the first step is for the SMA community to identify and confirm its land boundary and show this clearly on the map.

b Map the land boundary

The SMA boundary will extend out to sea from the land boundary of the SMA community. Explain to the community that according to the Fisheries (Coastal Communities) Regulations 2009, the SMA boundary can stretch out into the water for up to 2,500m from shore, or until the water depth reaches 50m. Show these options on the map so that the community can see and agree on the area. The community usually chooses the 2,500m option. The boundary may extend beyond 2,500m, but only if the community can justify a larger area in their plan (this should only be done “for the purposes of ensuring habitat, conservation, management, sustainable utilisation and development of fisheries resources”).



c Map out the no-fishing area (FHR)

Provide some ideas to help the community best chose this site, which should meet the following requirements:

- Be in an area with healthy sea grass or coral to provide a habitat for juvenile fish.
- Be at least 5% of the SMA area, and preferably 10%.
- Be where it can include shallow and deep areas to cover a range of habitats.
- Be an area that could be easily monitored and enforced from land (e.g., will they easily see if there is someone in the FHR?).

The community has good local knowledge on the best areas, and you can get advice from divers in the local community on where the FHR boundaries should be. Encourage communities to refer to landmarks or the local names of reefs (if known) to help in the discussions. Draw out the boundary on the map for the community to visualize what they have discussed and confirm the area.

d Confirm the GPS positions of the SMA and FHR boundaries

Once the boundaries of the SMA and FHR have been agreed upon by the community, arrange a team to go out and plot the actual GPS positions using a reliable GPS unit for each of the main corners of the boundaries. If this is not possible, use the QGIS software to retrieve GPS coordinates.

Later on in the process, after the boundaries of the SMA and FHR have been gazetted, the boundaries will have to be marked with marker buoys (explained in Chapter 3).

Agree on fishing rules in the SMA



Who? Everyone (one group), one lead facilitator, note takers



Materials? A few blank copies of the Fishers Register and Fishing Vessels Register to refer to and pass around to community participants



Time? Approximately 30 minutes

According to the Fisheries (Coastal Communities) Regulations 2009, the CCMC shall establish and maintain a Fishers Register and a Fishing Vessels Register. Only fishers and fishing vessels authorized by the CCMC to fish in the SMA will be included in these registers. Those who are not registered but wish to fish in the SMA should refer to the regulations and may apply for a fishing permit, perhaps for subsistence purposes.



- Discuss with the community to confirm the process for identifying persons who will be authorized to fish in the SMA (to be included in the Fishers Register).
- Discuss with the community to confirm the process for identifying fishing vessels that will be authorized to fish in the SMA (to be included in the Fishing Vessels Register).

These details should be included in the CCMP.



Refer to samples of the Fishers Register and Fishing Vessels Register forms on the USB.

- Discuss with the community any new, specific fishing rules they would like to enforce in their SMA (in addition to existing national legislations).
- Discuss with the community the application of fishing permits in the SMA.



- There is no fee for registration.
- Clarify who can fish in the SMA, e.g., no relatives from other villages? No neighbours? People currently living in your village? If so, be specific what this means, e.g., only people who are currently listed on the Government Town Register for the village? Only those who are currently living in Felemea for more than a year?



Any new fishing rule established in an SMA must not contradict national fisheries laws and regulations, but it can be more stringent. For example, a minimum size limit for species X is not to be smaller than its size limit in the national fisheries law, but it can be greater.

These new additional fishing rules in the SMA can only be enforced by law if they are gazetted.



Follow the requirements on fishing permits under the Fisheries (Coastal Communities) Regulations, which apply to any person not listed in the Fishers Register.

Identify livelihood opportunities

While coastal fisheries are recovering, it may be necessary for a community to look at livelihood options. Such considerations should emerge from the problem-solution tree discussions and could include enhancing existing livelihood opportunities or introducing new or alternative livelihood opportunities, such as the following:

- Alternative fisheries livelihoods, such as deploying FADs or setting up mini-longline fisheries.
- Enhancing non-fisheries alternative livelihood activities, such as pandanus weaving.

With the community, identify any existing or new livelihoods that they are interested in doing and why.



Their interests may be fisheries or non-fisheries related.

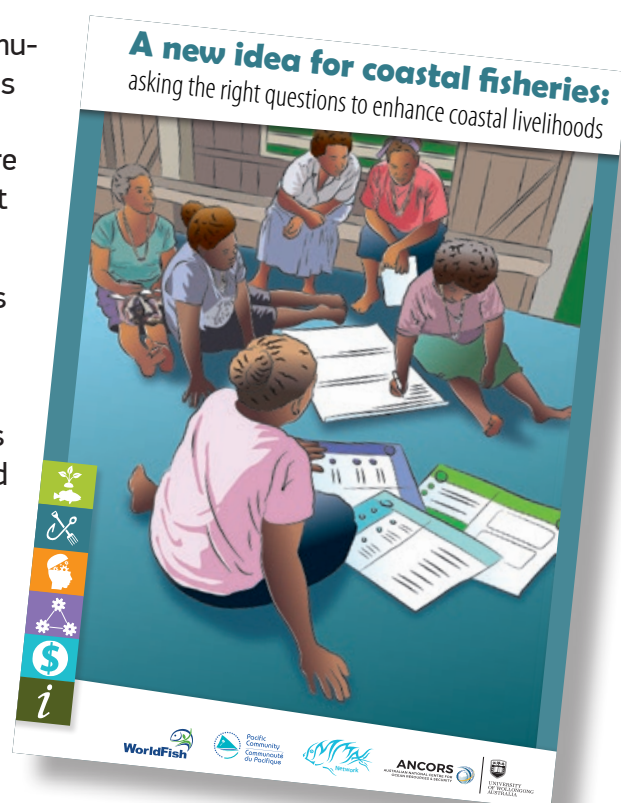
You can also refer to the SPC website² for a tool to help communities identify alternative livelihoods and help coastal fisheries enhance their coastal livelihoods. This tool can help you as a facilitator to ask the right questions to identify tools to ensure the program is sustainable once Government or donor support has ended.

Women in the community can take up other activities, such as pandanus weaving, when they are less involved in fishing.



Women doing pandanus weaving

Any agreed-upon actions for livelihood activities should be included in the CCMP, if possible. Often, NGOs can provide additional help with supporting a community to initiate and implement or support livelihood activities.



2 Govan H., Eriksson H., Batalofo M., Duarte A., Sukulu M., Lawless S., Tilley A. and van der Ploeg J. 2019. A new idea for coastal fisheries: asking the right questions to enhance coastal livelihoods. Noumea, New Caledonia. 23 pp. Available at: <https://coastfish.spc.int/en/component/content/article/44-handbooks-a-manuals/509-a-new-idea-for-coastal-fisheries>

Discussion on monitoring the SMA



Explain to the community that an important part of managing an SMA is to monitor its progress over time to be able to see if the SMA is operating as intended and track whether actions are having the desired result. Explain to participants that this is referred to as monitoring.

Introduce “what does it mean to ‘monitor’ your SMA” to the community. You can use these points to guide you:

- What is monitoring?
 - Monitoring simply means to **collect, analyse** and **use information** to track how an SMA is progressing towards reaching its intended goal.
 - It is not a one-off – it is an ongoing activity to provide information to make changes to your actions overtime to ensure you are continually progressing on your SMA goal.
- Who conducts monitoring?
 - It is all of our responsibility - the CCMC, the community as a whole and the MoF.

Chapter 3 contains more detailed information about developing and implementing a monitoring plan, which can be completed after the SMA is gazetted.

Explain that there are two main types of monitoring considered as part of the SMA program:

1. *Management effectiveness monitoring*: to keep track on how the SMA is being managed by ensuring the necessary systems and processes are taking place.
2. *Management outcome monitoring*: to keep track of changes in biological and socio-economic aspects as a result of the SMA. Biological aspects refer to marine resources (including animals and/or habitats). Socio-economic aspects refer to people’s livelihoods, food security, income, cultural values, roles and practices.



Monitoring can be perceived as something that is extremely complex. Remember, there will never be enough time, finances or capacity to monitor everything!



Discussion on any training needs



Ask the community about any specific training areas that they are interested in to help them effectively carry out their role in managing the SMA, as well as to help enhance the community's livelihood opportunities. Ensure that training opportunities that are inclusive of different gender groups in the community are discussed.

- List these training needs and confirm with the community which ones are of the utmost priority (e.g., take note of at least the top three to five training needs).
- Identify who is the target group for each training (e.g., women fishers) and who best to carry out these trainings (e.g., MoF to carry out training on fish net mending skills).

You can use the table below to guide and record these discussions.

Template for identifying the community's training needs

Name of training	Target group in the community	Who best to carry out the training

Workshop wrap-up



Ensure you collect all the charts and records of the workshops to take back with you to the office for drafting the CCMP. You can already start typing up the records on a laptop or computer if it is available during the trip to the community.

Before leaving the community, explain or discuss what the next steps will be, such as the following:

- Fisheries Workshop wrap-up.
- Clarify what would be an expected timeframe for the draft CCMP to be available and what comes next, e.g., hold consultations with neighbouring communities in the district and/or release a public announcement to seek any concerns from the general public about the new SMA.
- Don't forget to thank and acknowledge the community's hard work and time taken during the workshop.

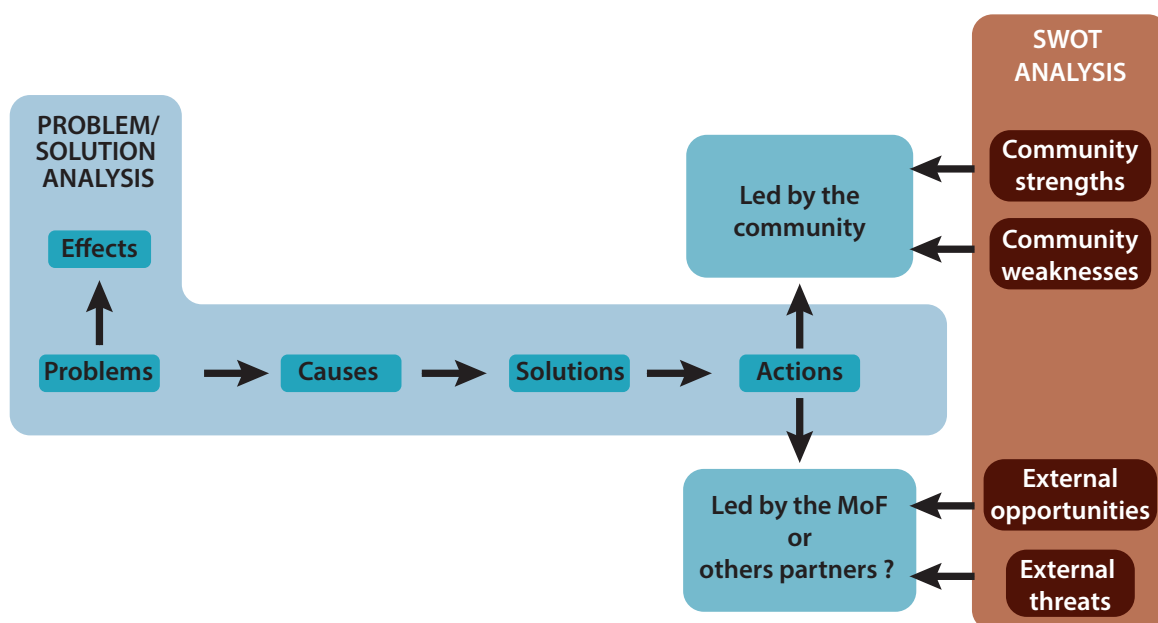


SWOT analysis (analysing community strengths and weaknesses)

To help identify who is best tasked to carry out each agreed-upon action (e.g., the community or community members, the MoF, other partners or stakeholders), a SWOT analysis can first be conducted. There are several ways you could conduct a SWOT analysis in the CCMP development process, depending on what sort of outcome you want from the exercise. In the case where a community is about to establish an SMA and develop a CCMP, a SWOT analysis will identify community strengths, weaknesses, opportunities and threats in having an SMA in place; therefore, building awareness in the community of internal and external environments, and in particular, expanding on the problem-solution exercise (Activity 4) to identify who will be responsible for each action.

	HELPFUL	HARMFUL
Internal	strengths	weaknesses
External	opportunities	threats

Using this approach, the SWOT analysis will help determine whether the community, as a whole or certain individuals, will be best tasked for a certain action, based on community strengths and weaknesses. Alternatively, it could be the MoF based on opportunities available to the community to help address the problem.



How the community SWOT analysis can support the problem-solution analysis to identify who will be responsible for implementing actions.

Because we often do not have much time with the community, a SWOT analysis can be an optional activity, depending on how much information you already have or know from workshops so far.



Who? One group (everyone), facilitator, note taker



Materials? Butcher charts with a table template for the SWOT (See below), markers



Time? Approximately 30 minutes



In leading the discussions, you can refer to some sample questions below as a guide.



You can use the template below on a chart to record discussions.

Introducing this activity:

Explain the purpose of this exercise: to help the community identify their strengths, weaknesses, opportunities and threats in having an SMA in place, which will be helpful when discussing how to deal with problems during the problem-solution analysis exercise later on.

Try not to mix up or confuse the following:

- Problems, weaknesses and threats
- Strengths, solutions and opportunities



Template for a SWOT analysis with sample questions and possible responses

	Sample questions	Possible responses
Strengths (internal)	What are some strengths in your community that will help you manage your SMA well? (e.g., skills and resources)	<ul style="list-style-type: none"> • There is a good number of people living on island to manage and enforce the SMA. • We work closely as a community. • We have assets (e.g., capital, such as boats and a surveillance house) that will help with enforcement. • We have members who are former police officers with skills who can assist in SMA compliance and enforcement activities.
Weaknesses (internal)	What are some weaknesses in your community that may be harmful to your SMA or SMA management?	<ul style="list-style-type: none"> • Fishers in your own community do not support the SMA or fish illegally in the SMA. • There are no or limited resources for enforcement. • There are no skills in fisheries management.
Opportunities (external)	What are any opportunities (external) that can help your community manage your SMA well?	<ul style="list-style-type: none"> • Trainings and support are available from the MoF.
Threats (external)	What are any threats (external) to your community when managing your SMA?	<ul style="list-style-type: none"> • Fishers from other communities do not support the SMA or fish illegally in the SMA. • There are unsustainable land-based activities or coastal development from neighbouring communities.

With your SWOT results ready, have them displayed for everyone to see, along with the final or **agreed-upon lists of problems, effects, causes, solutions and actions**, to facilitate a discussion to determine who will be responsible for each action.

Appendix 4: Considerations for analysing and presenting data

Data analysis is the process of inspecting, cleaning and investigating data with the goal of discovering useful information to inform SMA program and support management decisions. A number of programs are available for data analysis (Microsoft Excel, SAS, R software, etc.), with Excel being the simplest and most commonly available software. Regardless of the software used, there are several aspects to consider before you get to the step of investigating the data. These aspects include proper data entry and management, data verification, and data cleaning.

Data entry and management best practices

It is important that data is entered and stored appropriately to ensure that the data is organised and in a format to allow for analysis. It is good practice to think about how your data will be presented before you start data entry and analysis.

Organise data in a simple manner with unique records in rows, not columns.

Raw data should be entered in an organised way where each *variable* is saved in its own column and each *observation* is saved in its own row. The first 'header' row contains the title variables in the data set. Make sure you do not merge cells, as this makes analysis difficult.

Year	Village	Fishermen_n	Fisherwomen_n
2019	Village A	40	10
2019	Village B	30	1
2019	Village C	20	NA



Number of fishers	Year	Village A	Village B	Village C
Men	2019	40	31	20
Women	2019	10		



Use consistent formats for data values.

When entering data, **do not mix text and numeric responses** or include text and numbers in the same response. If data was not collected for some reason, or information was not available, use 'N/A' rather than leaving the cell blank. Use zero (0) only when the answer is zero (not a blank response).

For text values (e.g., village name, fish name, person's name, etc.), take care to ensure **consistent spelling and language use**, otherwise you will generate incorrect data during analysis.

Use set categories where relevant and possible.

Where relevant and possible, a set of categories should be used to collect and/or enter data collected. For example, categories are useful for fishing methods, vessel type, fish name (use regional standard name), etc. Categories can be useful to consolidate data and reduce duplication.

Use clear and concise names for the data file and variable names.

File names are the easiest way to explain the contents for the data file. Capturing the place, time and con-

tent in an abbreviated way can be extremely useful. For example, a file name of *sma[name]_2021_UVCdata.xls* would provide more information to later retrieve the data than using the name *UVC.xls*.

Similarly, the name of each column *variable* should be concise and descriptive. The name should neither be overly long nor use special characters (e.g., *@%@/). For example, use *village* for the column title for the name of the village, rather than *name of village* as the column label.

Describe data in a metadata file.

A metadata file is used to describes the basic information about the data. At a minimum, this file includes:

- File name and author,
- What data was collected,
- How and when the data was collected,
- Any comments about the data, and
- Where the data is stored.

The metadata file should also include a 'data dictionary' that describes each *variable* and associated unit in the data file. For example:

Column	Description	Unit
Village	Village name	Text
Fishermen_n	The total number of fishermen in the village	Text
Fisherwomen_n	The total number of fisherwomen in the village	Text
Catch_weight	The total weight of fish caught in kg	Kg

Always store a copy of the original data.

At least two copies of the original raw data should be stored in different locations (e.g., server, external hard drive, cloud or computer). A copy of the file should then be used for analysis to avoid making a mistake or error in the original file.

Data verification and cleaning

The screening and cleaning of collected data is an important step before conducting any analysis to identify and fix any potential errors (missing data, typos, errors, etc.). This section includes an overview of the steps that should be taken to properly screen your data. For a small dataset, this can easily be done in Microsoft Excel by sorting and filtering your data columns.

Be consistent and constantly check for errors during data entry.

Most data errors occur during data collection and data entry. When data is entered from paper to computer, ensure it is verified at least two times (once by the data entry person, then by someone else). Data entry errors are reduced when using electronic data collection.

Be aware of potential data errors.

Many errors can be fixed during data entry (paper to computer) if the data entry person is aware of potential problems. Common data collection/entry errors include adding an extra number or entering data in the incorrect place. During data entry, if any data is considered as possibly incorrect, follow up with the person who collected the information in the first place (the data enumerator).

