

Name .....

Date ..... Place.....



This Toolkit is divided into two distinct sections:



The People Toolkit includes a selection of tools that are useful throughout the EAFM process. EAFM requires a high level of stakeholder participation and involvement, from the planning, through implementation, to monitoring and evaluation. Appropriate use of these tools will ensure enhanced consultation and involvement of all parties in the EAFM process.



The Technical Toolkit includes a selection of techniques, tools and resources that are useful throughout the EAFM process.

### Contents – People Toolkit:

1. Effective facilitation
2. Active listening
3. Running participatory workshops
4. Meetings
5. Focus group discussions (FGDs)
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7. Negotiating
8. Conflict management issues and tips

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### Toolkit references

#### Essential EAFM Tools from FAO-net/FAO Toolbox

- SWOT
- Examples of operational objectives (adapted)
- Visioning

#### Essential EAFM Toolkits that overlap with FAO EAF-net/FAO Toolbox

- Facilitation/workshops
- Negotiation
- Conflict management
- Component tree
- Legal and institutional assessment
- Socio-economic assessment
- Participatory M&E
- Qualitative risk analysis.

 **What is it?**

Facilitation is necessary for all stages of the EAFM process and with all types of stakeholders. The EAFM team needs to have facilitation skills and an awareness of how to do facilitation, even if an external facilitator is often brought into the EAFM process.

The main characteristic of an effective facilitator is that he or she is **content neutral**. Content neutrality means not taking a position on the issues being discussed and not having a position or stake in the outcome. If you get asked for advice as a facilitator, you could use one of the following responses:

- What are the options or alternatives you can think of?
- What do you think the advantages or disadvantages of these options are?
- Would you like the group to generate some suggestions?
- Are you asking for my opinion?

The main role of an effective facilitator is in **guiding the EAFM process**. He or she should try to ensure a fair, inclusive and open process that would balance the participation of everybody and establish a safe space in which all stakeholders can fully participate.

It is important to guide the process because most groups are very content, output or task orientated, as that is why they came together in the first place. However, if the task is not routine business, it is often not enough to focus on the content alone. Most groups are not aware of the importance of the process, they don't know how to guide the process or they are not in a position to do so.

Facilitators, because they are content neutral, are in a position to guide the process. Facilitation is about movement, moving a group towards a common destination. Most of the groups you work with will know you in a different role and therefore it is important, when asked to facilitate, that you clarify with the group their expectations of you, what facilitation is, and what your role as a facilitator will be.

The effectiveness of a facilitator also depends on their **attitude**. Everybody has attitudes. They are a combination of values, beliefs and opinions. Often we discuss attitudes of others but hate to think about our own. This is partly because attitude is difficult to measure and more often than not more visible to others than it is to ourselves. Attitude is expressed in different ways:

- Through words and opinions
- Through tone of voice
- Through body language
- Through behaviour in a group
- Through facial expression

 **How to facilitate effectively**

To be an effective facilitator you need the following skills and attitudes:

**Skills:**

- Listening
- Questioning
- Probing
- Paraphrasing
- Reframing and inclusive solutions
- Dialogue
- Tracking and finding common ground



## Tool 1. Effective facilitation

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### Key attitudes:

- **Interest** in peoples' situations. People will feel more confident sharing their thoughts with you if they feel you are genuinely interested in them.
- **Empathy** is being able to put yourself in someone else's situation in order to understand their perspective on an issue. Empathy is essential to understand peoples' diversity of conditions, situations and interests. It is difficult because we have to break free of our own assumptions and perceptions of people and perhaps work with many different perceptions at the same time. However, if you can develop this attitude, you will find that people will trust you much more and will therefore be more responsive. The challenge is to empathize but stay neutral at the same time.
- **Unconditional positive regard** means that no matter what a person's views, opinions, behaviour, gender or class, etc. you must always value the humanity and uniqueness of an individual and respect their potential. You need to be able to accept people the way they are if you are going to work with them as their facilitator. This does not mean you need to like them or agree with them.
- **Unconditional trust in a group's potential** to find a workable solution or decision for their own problems. This means that no matter what the group's composition is, you believe that the answers lie within the group and that your role as facilitator is to help bring these answers out.

### Supporting the EAFM group process

Careful questioning can enable us to support the group process by helping the group to reflect on their ways of working e.g. by asking them:

- What happened? Who did what?
- How were roles and responsibilities divided?
- Did any types of behaviour dominate the task, the group or yourself, or were they balanced? Did this change over time?

You can also help to support the group by observing carefully what is happening in the group process and helping the group reflect on it and how best to improve.

Observing is the ability to:

- See what is happening without judging it
- Interpret the non-verbal cues of both individuals and the group objectively

This is important because often people express one message verbally and something different non verbally. This happens because people are better at controlling what they say than how they behave. Non-verbal messages can convey strong messages.

### **TIPS when observing:**

- Never assume that your interpretation of body language is right – check with the group (member) directly or indirectly
- Cross check the messages that people express verbally with their non-verbal behaviour
- Respond to low energy levels when you see the energy of the group drop – e.g. have a brief adjournment, or use a brief exercise to get energy levels back up
- Find ways to help the group verbalize how they are feeling, if you observe that the process in the group is not running smoothly

<b>Characteristics you might observe:</b> On an individual level:	<b>Characteristics you might observe:</b> On a group level:
<ul style="list-style-type: none"> <li><input type="checkbox"/> Use of the voice – whispering or shouting</li> <li><input type="checkbox"/> Style of communications – statements, questions</li> <li><input type="checkbox"/> Facial expressions – yawning, smiling</li> <li><input type="checkbox"/> Eye contact – searching or avoiding</li> <li><input type="checkbox"/> Gestures – types of movements with arms or legs</li> <li><input type="checkbox"/> Posture – how people sit or stand</li> </ul>	<ul style="list-style-type: none"> <li>• Who says what</li> <li><input type="checkbox"/> Who does what</li> <li><input type="checkbox"/> Who looks at whom when talking</li> <li><input type="checkbox"/> Who avoids eye contact with whom</li> <li><input type="checkbox"/> Who sits beside whom</li> <li><input type="checkbox"/> Is it always like this</li> <li><input type="checkbox"/> Who avoids whom</li> <li><input type="checkbox"/> What is the general level of energy</li> <li><input type="checkbox"/> What is the overall level of interest</li> </ul>

### TIPS for a self-aware facilitator:

- Do not judge
- Try hard not to project your own perceptions onto others
- Do not assume that people need your help
- Be genuinely friendly
- Show respect and honour the people you work with
- Accept that people have their own values, behaviours and worldviews
- Show interest in all aspects of peoples' lives
- Step back and listen
- Behave in the same way you would expect others to behave towards you
- Don't think you know better
- Don't give advice
- Anything else you'd like to add?

### When to use?

Effective facilitation is required throughout the EAFM process.



## Tool 2. Active listening

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### What is it?

Listening is a crucial element in building rapport and in effective communication - both of which are essential for facilitating a successful EAFM process. You will create an unfavorable impression if stakeholders feel that you are not listening to them.

Listening is more than the words. You can listen at different levels. The more you listen, the greater your chances of building good rapport. Level 1 listening is listening, but with your point of view, constantly relating what you're hearing to your experiences and values. Level 2 listening is hearing what's being said with the receiver's point of view and experiences in mind. This is very difficult as it entails relating everything that is being said to them and their situation, constantly bringing it back to their world and their agenda. Level 3 listening is the most difficult. Few people can do this. This is listening as though the information flowing to you is like a radio wave, coming from all directions. You need to "listen" for smells, instincts, opinions, body language, a subtle grin, a tonality, a closing of their eyes when they talk about their needs and expectations.

An effective facilitator notices all aspects of communication and is aware of voice tone, facial expression, repetitive movements and muscle tension. Watch for inconsistencies between your stakeholder's spoken word and their non-verbal communication. Occasionally repeat verbatim what your stakeholder says, especially their key words or phrases. Paraphrasing in your own words serves to clarify communication, but you deepen rapport when you use their words.

A common mistake made when listening to others is that we assume we know what the other person has said. Active listening is a technique used to counteract such assumptions and to ensure that our subjectivity and pre-conceptions do not cloud our understanding of what the other person says.

### How to listen actively

When conversing with a stakeholder (e.g. an interview respondent), listen to what they have to say, and then *using your own words* repeat back to the stakeholder only what you have understood them to say or mean. Invite them to confirm or correct your understanding. It is important to use your own words to say what you have understood: this helps you clarify the original meaning, and also in your own rephrasing, any misunderstandings are likely to become apparent and can be countered by the speaker. If you actively listen, stakeholders with whom you converse are more likely to feel "heard" by you, and consequently will more likely be interested in what you yourself have to say and will more readily disclose information about themselves and their situation.

#### **Characteristics of active listening:**

- React to what people say by nodding, smiling, or using other actions (cues and prompts) that show you are listening
- Take time to listen and be patient
- Do not interrupt
- Use good eye contact
- Use positive body language
- Paraphrase what the speaker said to check that you understand
- Ask for clarification when you are not completely clear about the meaning of something said
- Do not jump to conclusions before the speaker is finished
- Paraphrase questions in a way that the other person can respond to in a manner of his/her choosing
- Do not appear to judge

### Barriers to good listening:

- Overly formal surroundings – making the other person feel insignificant
- Talking too much – no space for others to engage
- Scoring points – relating everything to your own (“better”) experience
- Mind reading – predicting what the speaker really means
- Rehearsing – practising your response/next question in your head
- “Cherry picking” – listening for key information and then switching off
- Day dreaming – you can think four to six times faster than people can speak
- Labelling – categorizing the speaker before hearing all the evidence
- Counselling – being unable to stop interrupting and giving advice
- Duelling – countering the speaker’s comments with taunts

### When to use?

You want to be listening effectively to your stakeholders throughout the EAFM process.



### What are they?

Participatory workshops are a form of group activity where EAFM stakeholders come together in smaller or larger groups with a shared common purpose (e.g. to find out more about the EAFM process; to learn about fisheries related activities; to define FMU issues; to decide on management actions, etc.). They are a **KEY** method for the EAFM planning and implementation process.

### How to plan and run a participatory workshop

#### **Steps for running participatory workshops:**

1. Determine who should attend the workshop.
2. Ensure a suitable date is set.
3. Send out an agenda, topic or background material early enough for comments and for participants to have read the material.
4. Use a suitable venue that has all the equipment needed and that is close to where participants are staying.
5. At the opening of the workshop, explain the background and context for the workshop, and the intended outcomes.
6. Get participants to introduce themselves and, if appropriate, conduct some sort of ice-breaker that establishes rapport between participants and generates a few laughs.
7. Explain the agenda and process of the workshop and the role of the facilitator.
8. Invite participants or representatives to make a statement about what they would like to see achieved from the workshop.
9. Run the series of activities that will enable the objectives of the workshop to be achieved (there are many specific EAFM based consultation tools to assist with this – see EAFnet).
10. Clarify the outcomes from the workshop and agree upon future actions.
11. Ask participants to provide an evaluation of the workshop (optional).
12. Close the workshop by inviting participants to say what the workshop has meant for them.
13. Write up the workshop and provide a report to participants as soon as possible.

### When to use?

Participatory workshops are to be used throughout the EAFM process and are especially essential in the planning stages.

#### **TIPS for success:**

- If possible, involve the participants in planning the workshop to make sure it really focuses on their needs
- Make sure that you allow plenty of time for the activities, particularly group work.
- If possible choose a location where the participants will not get interrupted by other work
- Try to create a relaxed, open atmosphere which encourages people to share their ideas and skills

### 21 questions when preparing for participatory workshops and learning

<b>1. Why?</b>	What is the purpose? Who determines it? What experience, sharing, analysis, learning or other end is sought?
<b>2. How does it fit?</b>	How does the workshop fit into longer term processes of learning and change? If there are no such long-term processes, should you undertake it at all? Or should you negotiate with the sponsors for commitment to make it fit?
<b>3. Who and how many?</b>	Who will the participants be? How should they be selected, and against which criteria? How many should there or will there be?
<b>4. What expectations?</b>	What will they expect? How can you find out?
<b>5. How participatory?</b>	What sort of process? How participatory can and should it be? How much can participants do themselves?
<b>6. What is your part?</b>	What is your role and contribution? Trainer, facilitator, co-learner....
<b>7. Who else?</b>	Who else could, should or will help, take part or co-facilitate?
<b>8. Where?</b>	What venue should be sought, against what criteria?
<b>9. When?</b>	When should it be? How long should it take? What should the timetable be for preparations?
<b>10. Finance</b>	What will it cost and how will it be paid for? What allowances, if any, will participants expect and receive, and who will pay for these?
<b>11. Program</b>	With whom, where, when and how should the program be planned? Who should be consulted?
<b>12. Languages</b>	What languages will be used? Who will be marginalized by language? What can be done about it? Are interpreters needed?
<b>13. Logistics</b>	Who - not a facilitator and not a participant – will handle travel and logistics? Are extra support staff needed?
<b>14. Materials and equipment</b>	What will be needed – materials, equipment, transport?
<b>15. Participants' preparation</b>	What should be sent to participants in advance? What should they do in advance?
<b>16. Local liaison</b>	Do arrangements need to be made with local administration, local communities or other organizations? Who should make these?
<b>17. Outputs</b>	What outputs will there be? A written record? A report? A video? Notes? If so, who will be responsible and what will be the later value, circulation and use of the output(s)?
<b>18. Follow-up</b>	What follow-up can and should there be? With participants? With their organizations? Locally, with administration, communities and organizations?
<b>19. Your preparation</b>	What do you need to do to prepare? When and how can you do this? What help do you need?
<b>20. Flexibility</b>	What is best left unplanned?
<b>21. What is missing from this list?</b>	What else should you be thinking about and preparing for?

Chambers, R. 2002. '21 Questions' taken from Participatory Workshops – a sourcebook of 21 sets of ideas & activities, Earthscan UK.

### What are they?

Meetings are another key EAFM activity, bringing together stakeholders to reflect on and discuss common topics. However, to make the most of a meeting it needs to be well planned with a clear objective and scheduled around people's availability. Meetings do not need to be long; sometimes scheduling fifteen minutes with the right people together can be much more effective than making phone calls, holding a series of individual meetings or sending emails which people may not read.

### How to plan and run an effective meeting

The key to organizing a successful meeting lies in careful planning and preparation. First, you need to decide if a meeting is necessary. It if meets the two criteria below then it is probably worth having a meeting.

- Do you have a clear objective for the meeting? All meetings need clear objectives to ensure that people are focused on the issue and the desired outcomes.
- Will the appropriate people be available? If people are not willing or able to come to meetings that you are holding, meetings are not the right medium to communicate your EAFM plans!

Once you decide to run a meeting this checklist can help you ensure that you have prepared well.

#### **Before the meeting**

1. Prepare an agenda and send it out to the group with plenty of advance notice. The agenda sets out what issues will be discussed, at what time and who will be responsible for presenting the issue; you can note down whether the item is for discussion or decision. If you put the names of the people responsible for reporting on the issue this will encourage them to prepare before the meeting.
2. Let the group know when and where the meeting will take place and ask them to let you know if they are unable to attend. If they cannot attend and are due to give a report, ask them to provide you with information so you can update the group for them.
3. Arrive early, check the meeting room is set up and have any handouts organized.

At the beginning of a meeting	<ol style="list-style-type: none"> <li>1. Start on time!</li> <li>2. Ask the participants to introduce themselves if they do not already know each other.</li> <li>3. Review the agenda and revise it if necessary.</li> <li>4. Set a time limit for the meeting to finish.</li> </ol>
During the meeting	<ol style="list-style-type: none"> <li>1. Record minutes or key notes and action points at the meeting (or ask one of the participants to do so).</li> <li>2. When agreeing actions at the meeting set specific dates and agree who is responsible for undertaking the tasks.</li> </ol>
After the meeting	<ol style="list-style-type: none"> <li>1. Send out the minutes or notes of the actions that have been agreed, making it clear who is responsible for each action and when it needs to be completed.</li> <li>2. Follow up on action points and start to plan the next meeting.</li> </ol>

### TIPS for success

- Set a goal for the meeting and be very clear about what needs to be decided
- Put decisions to the group – that way the participants will own the meeting and remain interested
- Prepare an agenda that structures the meeting clearly and allows the group to be aware who is responsible for what
- Keep to the times that you have scheduled
- Keep to issues that affect the whole group – details of particular actions which are the responsibility of only a few participants can be worked on outside the main meeting
- Have a good facilitator and make sure everyone has a chance to share their ideas. Being the facilitator does not always allow you to participate easily in the discussion, so you may want to ask someone else to facilitate the meeting

### When to use?

Meetings, like participatory workshops, will be used throughout the EAFM process with different categories of stakeholders.



## Tool 5. Focus group discussions (FGDs)

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### What is it?

A focus group consists of a small number of people with knowledge and interest in a particular topic. They need to be able to speak comfortably together and share common problems or purpose. Usually a facilitator helps to get the discussion started and then takes a back seat. The discussions explore a specific set of issues and tend to be fairly unstructured. Participants can make their own questions, frames and concepts and develop their own priorities. Focus groups encourage participants to talk to one another: asking questions, commenting and exchanging ideas. This group interaction is used to generate data and the interactions between participants are used as a source of data.

The findings from such group discussions can be fed back to the larger community, thus giving a “voice” to people in the community who are usually unable to speak in larger forums. Focus groups can be used for many EAFM purposes: to generate information during the EAFM process; to build consensus; to validate data gathered through other tools; to identify problems and solutions; for planning or reviewing.

### How to organize a discussion

#### **Before the discussion**

You need to involve community leaders and/or organizational managers in deciding the criteria to be used for group selection, and possibly in suggesting suitable people to be part of the focus group. Be aware of potential bias, and ensure you have representatives from disadvantaged sectors of the community. The composition of the group depends very much on the particular topic for discussion; however, you should ensure a cross section of social groups and seniority (bearing in mind the point above about people feeling comfortable enough to speak frankly with each other). You may need to carry out more than one focus group on the same topic.

Prepare for the meeting by agreeing a time, date and venue (be aware of when different group members are busy). Prepare general guiding questions that will help to steer discussions. You could assign a group member to record agreed action points. You could also visit the group members beforehand and explain the purpose and aims of the discussion.

#### **Who and how many participants?**

Market research literature suggests 10 to 12 maximum; sociologists suggest five to six at the most. You could have smaller groups for sensitive topics, when people are likely to have more to say and when more in-depth accounts are required. Larger groups could be used when involvement in a topic is likely to be low, or when numerous, brief suggestions are required.

Who actually participates in a focus group discussion depends on the topic and type of information required. A focus group may require only a certain type of people, for example, people within a certain age range. To ensure that all voices are heard, it is good practice to hold multiple focus groups, each with different categories of resource user groups or stakeholders.

#### **During the discussion**

At the beginning of the focus group, it is good practice for the facilitator to thank people for coming, introduce him/herself, outline the goals of the overall study, give the reasons for recording the session, and explain the format of the session. It is also important to present some of the conventions of focus groups; for example, only one person should speak at a time; all data will be kept confidential and anonymous; the session is open and everyone’s views are important; and agree the time that the focus group will take. Often during the introduction, participants might give basic demographic information, e.g. background, area of interest, occupation, place of residence. It’s good if participants introduce themselves so everyone’s names are known.



## Tool 5. Focus group discussions (FGDs)

Use a guide question to start the discussion and make sure all group members participate. Only impose your own structure when the discussion becomes no longer relevant. Remember that what may seem irrelevant in your perception may be of critical relevance/importance to the group members. When a consensus is reached, or alternatively, when an issue cannot be resolved, casually introduce a new guide question. Take note of key opinions, consensus and agreed actions. Elicit agreements on dates and actions so as to move forward. Summarize what has been agreed at the end of the discussion. Thank the group and explain what will happen with the data. Ensure the outputs of the discussion are circulated throughout the community/organization.

Focus group interviews will work best if they are recorded and transcribed, because it is difficult to write down everything that is said, and by whom. Bear in mind though there might be some missing information as people may talk over each other and there may be a lack of audibility.

The facilitator must be aware of possible sensitive/controversial issues, for example: gender, politics; access to resources based on social caste/ethnic groupings. Equally, the facilitator needs to be aware how these sensitive/controversial issues could affect him/her (i.e. how the facilitator is *perceived/accepted/listened to*....).

### When to use?

Focus groups are a key technique to be used throughout the EAFM process – at the analysis, planning, implementation and review phases. Regular discussions throughout the EAFM lifetime can be a key way of ensuring participation and collaboration, monitoring progress and of picking up problems, and potential conflict, before they get out of hand.

### Resources needed:

It may be useful to have food available. You will need paper, pens, tape, chalk board/flipchart, chalk/pens for group members to use if they choose. Other means of recording the discussion (such as dictaphone, video, tape recorder) may be used depending on the situation – use discretion.

#### Advantages

- ☺ Helps researchers work out why people feel the way they do
- ☺ Participants raise issues and concerns they feel are important in relation to a certain topic
- ☺ Brings to light points of challenge and contention
- ☺ Shows how individuals collectively make sense of a situation and construct meaning around it
- ☺ Groups generate more information and participation than interviews
- ☺ Cost effective, easy and direct way of gathering/sharing information
- ☺ Generates good quality data when used in combination with other data-gathering tools

#### Disadvantages

- ☹ Facilitator has less control over proceedings than with individual interviews
- ☹ The data are difficult to analyze (a lot of data are produced very quickly)
- ☹ Focus groups can be difficult to describe and very time-consuming
- ☹ They can be difficult to organize
- ☹ Groups might influence speakers
- ☹ Focus groups might not be appropriate for discussing more sensitive issues
- ☹ Dominant members monopolize or hijack the discussion for their own purposes
- ☹ Bad facilitation can stifle the discussion



## Tool 5. Focus group discussions (FGDs)

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### **TIPS for success:**

- Ensure all group members are clear about the purpose of the discussion
- Build a rapport with the group members
- Facilitator lets the discussion flow but intervenes to refocus the discussion, or bring out salient issues

### What are they?

Here are different types of questioning techniques that facilitators can use to improve listening and understanding.

### How to improve facilitation by using questioning techniques

Question type	Uses and examples
<b>Open</b>	<ul style="list-style-type: none"> <li>• Has many possible answers</li> <li>• Starts with who/what/when/where/why/which/how</li> <li>• Cannot be answered by yes/no</li> <li>• Shows you would like more information</li> <li>• Broadens the communication</li> </ul>
<b>Closed</b>	<ul style="list-style-type: none"> <li>• Can only have one answer</li> <li>• Leads to yes/no answers</li> <li>• Focuses answers, leads to specific feedback</li> </ul> <p>An example: "Will you be speaking to Abdul this week?"</p> <ul style="list-style-type: none"> <li>• "Have you started the new assignment yet?"</li> </ul>
<b>Probing</b>	<ul style="list-style-type: none"> <li>• Closed question seeking specific information</li> <li>• Implying that there is more to be said without actually asking</li> <li>• Communication channels are open rather than being directed to particular aspects</li> </ul> <p>An example: "You probably understand all this pretty well."</p> <ul style="list-style-type: none"> <li>• "I think he's a bit cautious about talking to me."</li> <li>• "That's often a problem, I hear."</li> </ul>
<b>'About' or request</b>	<ul style="list-style-type: none"> <li>• Open questions to find out more about a topic. Straightforwardly asking for more information on a particular issue, but in a wide-open way, which does not close off avenues to the other person</li> </ul> <p>An example: "Tell me more about that."</p> <ul style="list-style-type: none"> <li>• "How did people feel about that?"</li> </ul>
<b>Reflective</b>	<ul style="list-style-type: none"> <li>• Questions that reflect back to the person what you think you heard. You reflect the emotion/attitude of the other person by "bouncing back" what they said, in the same words, or a paraphrase</li> </ul> <p>An example: They say: "Well, it's far too complex, it won't work."</p> <ul style="list-style-type: none"> <li>• You restate: "You feel we're likely to have problems?"</li> <li>• In this case the person is likely to expand on what their remark means, and what lies behind it</li> </ul>
<b>Framing</b>	<ul style="list-style-type: none"> <li>• Open questions that follow a specific theme about either outcomes, relevance or context</li> </ul>
<b>Silence</b>	<ul style="list-style-type: none"> <li>• Can be a useful technique to encourage disclosure</li> </ul>



### Unhelpful questioning techniques:

- Multiple: string of several questions together (confusing and leads to partial responses);
- Leading: indicates the desired response (unlikely to provide a high quality response);
- Hypothetical: ask for information in a hypothetical situation, (so does not reflect reality, but useful for testing creativity);
- Sensitive questions: ask for information which is probably not appropriate in that context (likely to make the person uncomfortable, angry etc.);
- Long questions: long explanation or introduction before the question is asked (as with multiple questions, likely to confuse person and lead to partial response).

### When to use?

Use these questioning techniques throughout the EAFM process during facilitation of meetings, workshops and focus group discussions, when you are trying to access more information and to really understand what stakeholders are saying. These questions are also helpful in conflict resolution.

### What is it?

Remember that knowledge, of stakeholder individuals and groups, is power when you are involved in negotiations at any level of the EAFM process.

Negotiation should be regarded as potentially beneficial for both parties. Naturally, the task of all negotiators should be to maximize their own side's benefits, but this can only be done if an agreement can ultimately be reached. Like selling, negotiation requires the goodwill of both sides. If one side makes unreasonable demands, the other does not have to accede. If necessary, the offended party can always choose to break off discussions altogether. Accordingly, if there is going to be a negotiation, both sides should be able to obtain some benefit. Neither side should have to end up fundamentally worse off than before they started, other than through their own misjudgment or incompetence.

Good negotiators:

- Can think quickly on their feet
- Can grasp new points quickly and respond to them appropriately
- Have a clear understanding of opposing group's viewpoint, attitudes and values
- Are single-minded and persistent
- Lack inhibition and can command attention

Intelligence, status in the community and a broad educational background are no guarantee of success. Indeed, because of the false sense of an apparent power-base that the possessor of any of these attributes might feel, they can actually be serious handicaps – particularly if they interfere with the motivation to negotiate seriously and skillfully.

### How to negotiate

#### *Introduction*

Negotiation is concerned with resolving conflict, usually by trading concessions. It should not be confused with selling. Make specific proposals, don't just complain: be constructive, not destructive. To take advantage of negotiating skills, inhibitions need to be overcome, confidence built and misconceptions removed. Negotiation does not always have to imply confrontation.

#### *Preparing for negotiations*

- Individuals are strongly influenced in their thinking by the effect which the outcomes will have on their current position. They may be protecting that position or trying to fulfil the expectations of their particular role. So differences in opinion may be strongly affected by the attitudes, status and position of individuals involved in the project.
- In general, the relationship between different stakeholders survives on the basis of mutual benefit, but conflicts of interest do arise on the basis of the attitudes of individuals.
- It is therefore essential to study carefully the attitudes and expectations of individual stakeholders and also the different types of group allegiances.

#### *Selecting teams for negotiations*

Suppose that you are to take part in a major negotiation involving several parties, and you have to choose your own negotiating team. The first question might be: how many people should the best-balanced team have? The easy answer is as many as you need in order to have a team qualified to cover all of the issues that are expected to be raised. However, in reality, there is another consideration which is equally important: how many people will the opposition field? Ideally, you should aim to have the same number on each side. If you field too many, you will swamp the other side. Too few, and you will be in danger of being swamped by them.

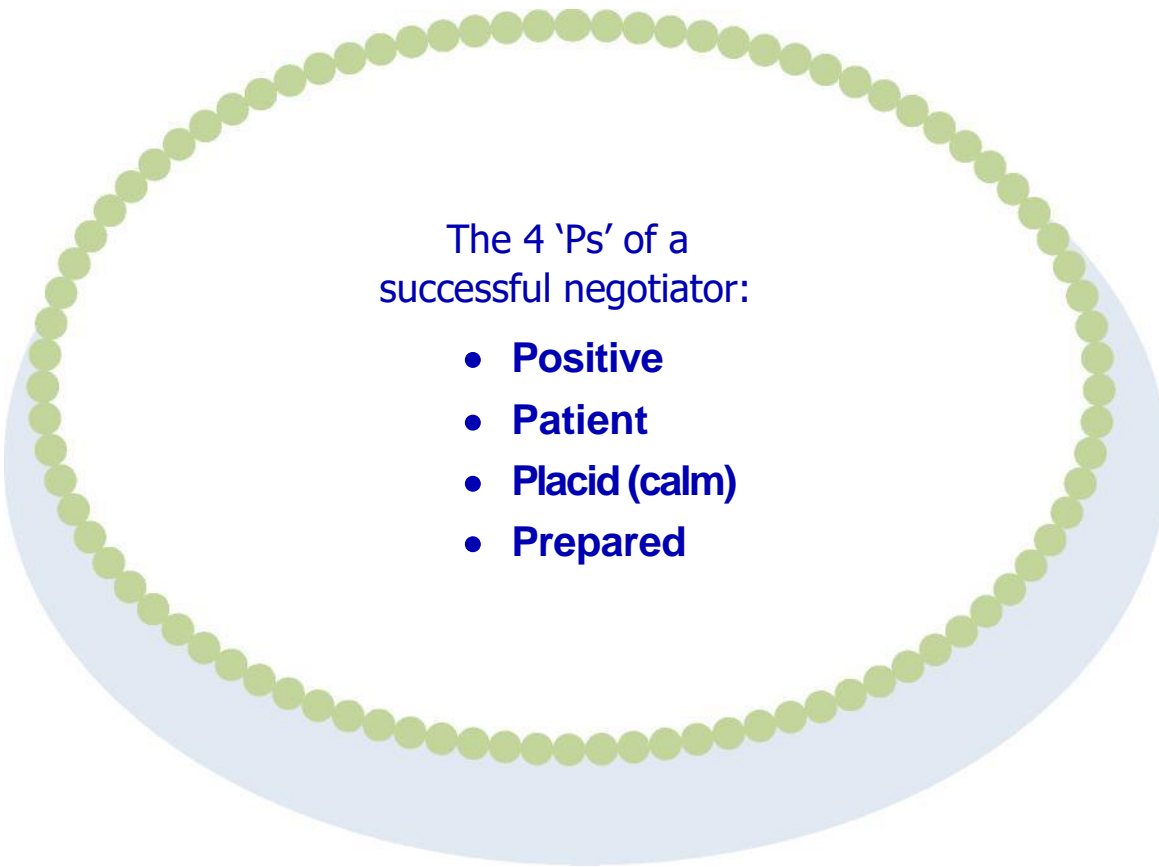
It can, on occasion, be very powerful to be a lone voice facing a large team. Clearly, one person can only have one conversation at a time. Being alone, you may therefore find it easier to control the agenda and, just as important, the pace and climate. In general, however, negotiating on your own against a larger number is not to be recommended. It places far too much reliance on the ability of one individual to handle all the tasks necessary.

Your team selection will need to be based on the following:

- Personal qualities and negotiating skills
- Function skills and specialist areas of knowledge
- Team-playing skills
- Specific negotiating roles

### When to use?

Negotiating skills are important during the potential conflicts between stakeholders that are likely to arise in the EAFM process, as well as when you are negotiating for support from donors or authorities.



The 4 'Ps' of a  
successful negotiator:

- **Positive**
- **Patient**
- **Placid (calm)**
- **Prepared**



## Tool 8. Conflict management issues and tips

Conflict management is explained in detail in Reality check I. The boxes below outline additional issues and tips a conflict facilitator needs to be aware of.

### Issues for Conflict Resolution Facilitators

#### **Ask yourself**

Be clear of your own role and stake; are you a stakeholder in the conflict?

#### **Are you a neutral facilitator?**

Identify stakeholders in the conflict situation.

#### **Who is being damaged by the conflict?**

Who is gaining from the conflict?

Identify power relationships.

Identify "neutral" parties who are mutually respected.

#### **Facilitate parties to define/describe the problem**

What is the situation? What are the symptoms of the conflict? What is happening? What are the consequences of those things?

Note that expressions of conflict are often far removed from the root causes and underlying needs. Allow the superficial to be described and expressed before going deeper.

#### **Acknowledge emotions**

Emotional reactions can hinder constructive communication and objectivity. It is important to allow stakeholders to express their emotions before moving onto problem solving. Allow "venting" of emotions but avoid fueling them. Emotions can actively block the process of finding solutions, but they can be dissipated through acknowledgement and safe expression.

#### **Identify/analyze** root problems and causes

Dig below the surface and question hidden assumptions.

These need to be externalized.

By asking "why" several times, you will get closer to the root causes of the problem.

#### **Facilitate parties to define their own needs.**

What are their most important needs?

Distinguish between needs and desires.

#### **Encourage one party to "step into the others' shoes"**

It is important to demystify misunderstandings and prejudices that complicate the underlying issues. Stakeholders should be willing to listen to others' needs.

#### **Secure commitment to finding a solution**

The aim is to find solutions that minimize damage and maximize benefits to any stakeholders.

Secure commitment to both objectives from individuals/groups.

#### **Identify a range of alternative solutions (actions) and analyze their likely impact (consequences) on both parties (us and them).**

Bring stakeholders together to reach an agreed and understood plan of immediate and future action. Define monitoring and follow up roles for the future.



### Tips for Conflict Resolution Facilitators

#### **Don't make false promises**

- These can add fuel to the conflict
- Be clear about your role and communicate that
- Provide forums in which the needs (of each party) can be verbalized safely

#### **Show that the conflict is noticed and that it is a cause for concern**

Examples:

- Request a verbal or written report
- Arrange a meeting with common interest groups
- One to one discussion
- Visit by "neutral" party

#### **Encourage parties to look objectively at their problem.**

#### **The problem and underlying issues need to be externalized.**

#### **One way is to produce a visual record**

Examples:

- Report
- Diagram or chart
- Video

Other forms of communication that may be effective if the material is not going to be reviewed more than once include:

- Role-play
- Presentation

Verbalization in words is also externalization, but it is useful if the words can be summarized and captured visually, because this makes it easier to go back to them calmly and objectively.

Subsequent actions may be required of the conflicting parties, and/or the facilitator and/or others. It may be that the issues lie within prevailing systems and structures rather than with the individuals. Sometimes the participatory process itself works through the conflict and it disappears, especially if it was based on a misunderstanding or lack of information in the first place.

### What is it?

Awareness raising is an ongoing process of building institutional knowledge, as new people come on board and others migrate, move away or are re-assigned to different posts. For EAFM to succeed, you will need to continually build awareness of EAFM-related issues at all levels.

### How to carry out an awareness raising campaign

#### 1. Analyze the local context and define the major coastal issues

- What is the scale and significance of the problems?
- Are there important social, economic or ecological dimensions to each of the problems?
- Have technical causes been identified?
- Have technical solutions been identified?

#### 2. Identify target audiences

- Who has a direct stake in co-management?
- Who will be directly affected by co-management?
- Who uses coastal resources?
- Who decides how coastal resources will be allocated?
- Do these audiences have special information needs?
- Do they have a unique perspective or knowledge of coastal issues?

#### 3. Identify the message and program content

- What is the educational program attempting to accomplish?
- Are the target audiences directly affected by resource deterioration? In what ways?
- What role will these audiences play in implementing possible solutions?
- What do people need to know or feel strongly about in order to act?

#### 4. Select and use techniques and media

- How do the various target audiences stay informed?
- How accessible are the target audiences? Are there convenient distribution networks?
- Is the educational message simple or complex?
- How much money is available? What are the local resources (both financial and human) that can be drawn upon?

#### 5. Evaluate the program

- Did the information reach the target audiences?
- Was the message accurately conveyed by mass media?
- Did people understand the information?
- Was there a response from the target audiences?

#### **Awareness raising methods:**

You can use a selection of different methods to raise awareness of EAFM issues. Methods need to match different stakeholder audiences.

- **Training**

- Formal (training sessions, workshops, lectures)
- Non-formal (small groups, exchange visits, peer-to-peer discussion, plays, one-on-one contact)
- Training the trainers – develop local resource persons who can effectively conduct awareness raising activities on their own

- **Focus Group discussions** (see Tool n.5).

- **Drama:** drama (live or through the media) and role-play using locally accepted means, can be a very powerful way of getting messages across, and creating a forum for issues to be voiced in the open.
- **Media:** local and national media such as radio, newspapers, online media, can be used to raise public awareness of EAFM issues.
- **Stories:** (live or through the media) can be a powerful way of getting messages across.



### When to use

After identifying and plotting your stakeholders in Startup A and B, the EAFM team will probably need to start carrying out awareness raising campaigns to educate and increase knowledge about EAFM issues related to direct and indirect resource users. You raise awareness to get the support of stakeholders and you continue with this process throughout the EAFM lifetime, as stakeholders will move, migrate or change.

### Resources needed:

Various; it will depend on what types of methods you choose.

#### Advantages

- ☺ Diverse methods cater for all audiences
- ☺ Build a knowledge base which enables people to act

#### Disadvantages

- ☹ Can be time consuming
- ☹ Difficult to assess the impact

### What is it?

Community mobilization is a process of empowerment, building awareness, promoting new values and behaviors, establishing self-reliance, building relationships, developing organizations and leadership, and enabling communities to take action through co-management.

### How to undertake community mobilization

There are several components in community mobilization:

1. Preparation	<ul style="list-style-type: none"> <li>• Create a core group(s) and core leaders;</li> <li>• Assess the situation (research);</li> <li>• Hold visioning exercises (see Tool n.23);</li> <li>• Decide on a mission for the organization/community group.</li> </ul>
2. Mobilization	<ul style="list-style-type: none"> <li>• Seek out community support and build a base of support among community members;</li> <li>• Hold meeting(s) to discuss the vision or mission, reach consensus and agree on developing an organization or join an existing</li> <li>• Develop organizational goals and objectives, organizational structure, leadership/membership and action plan;</li> <li>• Appoint a representative of the organization.</li> </ul>
3. Strengthening (see focus below)	<ul style="list-style-type: none"> <li>• Environmental education and social communication;</li> <li>• Building alliances and networking;</li> <li>• Organizational sustainability to keep members and funding;</li> <li>• Capacity building.</li> </ul>
4. Evaluation	<ul style="list-style-type: none"> <li>• Assess what has been achieved.</li> </ul>

### Focus on 3. Strengthening

a) **Environmental education** follows on from awareness raising (see [Tool n.9](#)) and covers environmental concepts and principles related to coastal and aquatic resource issues, and empowers the community with information and knowledge, in order to take the appropriate action to address the issues. The success of aquatic resource management depends on the level of the community's awareness and knowledge of their coastal and aquatic environment. Environmental education activities are directed towards the development and enhancement of resource management capabilities of individuals and organizations through formal and non-formal education and skills development training. Environmental education can build consensus, clarify perspectives and interests about issues, generate a receptive context for change, get people to help carry out activities, help monitor change and create a long-term commitment in the community.

b) **Social communication** is a term that describes the on-going flow of information and dialogue between the fishery management team and the community members, and among the community members themselves in order to have informed decision-making and to face change. Social communication initiatives can promote social discussions about problems, opportunities and alternative courses of action, including co-management, for the community. Social communication initiatives are very different from education initiatives. They do not merely aim at "passing on a message about an issue," but at promoting its critical understanding and acceptance in society.



The EAFM communication strategy developed in Step 4.1 falls under social communication, as it is a medium for communicating EAFM messages to stakeholders. The ongoing meetings or workshops that take place between the EAFM team, the core consultative group and stakeholders during Steps 1,3, and throughout implementation (Step 4), also fall under this umbrella.

These activities should involve as many of the sectors of the community as possible, including government, in order to build up a critical mass of local people with a common understanding of co-management and aquatic resource management. Efforts should be focused on cultivating potential local resource persons who could effectively conduct such activities on their own (e.g. local teachers to their students and other teachers) and in the process disseminate information to even more members of the community, leading to the greatest positive impact in the shortest period of time. It is important to monitor and evaluate the effectiveness of these activities, including changes in the community's attitude to the need for co-management.

c) **Building alliances and networks.** As explained throughout this course, EAFM requires forging linkages with organizations and institutions beyond obvious fishery-related ones. Building alliances within the community, as well as with external bodies and groups, can help to strengthen the support for EAFM. Networking among and between the sectors, with neighbouring countries and other EAFM stakeholders will increase the likelihood of acceptance of EAFM.

d) **Organizational sustainability to keep members and funding.** Community organizations (such as cooperatives, credit schemes) require active membership and funding. Initially, the same source of funding could be used that supports the development of the EAFM process; but in the long-term community organizations need to be self-financing and sustainable in their own right (i.e. not dependent on subsidies). One aspect of capacity development is to develop skills related to fundraising and self-management.

### When to use

Community mobilization is essential throughout the EAFM process as it is so interlinked with promoting co-management. You would start during Startup B stakeholder engagement, and basically continue community mobilization activities during the planning and implementation process. Community mobilization will involve using many of the other tools described in these toolkits.

### Resources needed:

Various; they will depend on what types of methods you choose.

#### Advantages

- ☺ Diverse methods cater for all audiences
- ☺ Creates ownership
- ☺ Fosters empowerment
- ☺ Creates solid basis for community participation

#### Disadvantages

- ☹ Time consuming
- ☹ Difficult to assess the impact

 **What are they?**

Interviews involve asking people questions, either individually or as a group. There are three different types of interviews: structured, semi-structured and unstructured. All interviews are suitable for literate and non-literate people, allow for the clarification of questions, and generally have a higher response rate than written questionnaires. A general disadvantage to be aware of is that interviewers can influence responses.

This tool will focus on semi-structured interviews as a more commonly used tool. Structured interviews are mainly used for comparative purposes and to obtain quantitative data, and often form part of a survey. Typically, structured interviews are combined with a sampling scheme and are used to generate data for statistical inference. Structured interviews ensure that questions are asked in the same way across a sample population by different interviewers, and they are easier to analyze. On the other hand, important, unanticipated information may be missed because spontaneous remarks cannot be explored. At the other end of the spectrum, unstructured interviews are more like a conversation, allowing the interviewer to respond quickly to individual differences and situational changes, but a great deal of time is needed to get systematic information and the subsequent analysis is more difficult and time consuming. Life histories and oral histories are types of unstructured interviews.

**Semi-structured interviews (SSIs)** are a more focused, two-way conversation than a formal interview. They rely on an adaptable, rather than rigid or prescriptive, interview guide. The advantage of this technique is its flexibility and responsiveness; the interview can be matched to individuals and circumstances. At the same time, the use of an outline or guide can make data collection reasonably systematic. Usually, SSIs start with general topics or questions, and then the interviewer follows with questions using what? why? when? how? and who? allowing for the conversation to develop naturally. Although the interviewer may have questions written down as prompts, most of the questions are generated as the interview progresses, allowing both the interviewer and the person being interviewed flexibility to discuss details or probe if necessary. SSIs can either be planned or take place spontaneously. They can provide a range of insights and can generate quantitative and qualitative information.

 **How to do semi-structured interviews****Before the interview:**

Prepare yourself for the interview. Make sure you are sufficiently informed about the topic so that you can ask relevant questions. Plan an interview framework – a checklist or matrix outlining the main topics or questions for discussion, going from the more general to the more specific – and a schedule. When selecting a team of interviewers try to be aware of the impact that, for example, their age, gender, ethnicity, class, etc. may have on the quality of information generated. Decide on a respondent sample size and a method for selecting appropriate interviewees. Ensure your sample size includes representatives from different social categories or groups. Be aware of the daily schedule of your respondents and ensure you time the interviews so that they do not interfere with people's important activities. It is a good idea to have a practice/pilot run with other interviewers or local people first. Think of the location for the interviews, any language issues and how you will ensure confidentiality.

### During the interview:

Make sure that the respondents feel comfortable during the interview. Start the interview with locally accepted polite topics. Be sensitive and respectful, and show an interest in the interviewees' responses. Use a variety of different question styles (probing, prompting, clarification – refer to [Tool n.6 Questioning Techniques](#)) and listen closely. Do not verbally judge, show contempt or disbelief or criticize the responses. Keep a low profile. Take only brief notes. Ensure that you elaborate on these immediately.

### After the interview:

After the day's interviewing, analyze the information you have gathered. Compare different interviewee's responses to triangulate and verify information. You can triangulate further by discussing the overall results with the larger community/organization. If you have planned to use a tape recorder bear in mind that transcribing interviews is very time consuming.

### When to use

Semi-structured interviews can be used at the analysis, planning and review phases of the EAFM process. They can be carried out as part of Startup A and B, scoping and identifying issues and priorities, as well as part of regular monitoring (to ensure EAFM implementation is going according to plan). They are also a common tool in evaluations (and impact assessments further down the line), where they are used to elicit views from a broad range of stakeholders regarding the changes and developments that have taken place since the inception of an EAFM project/programme.

### Resources needed:

Suitable and appropriate environment; pre-prepared interview checklist/guide; tape recorder, recording device or video if appropriate.

#### Advantages

- ☺ Less intrusive than formal interviews
- ☺ Keeps interaction focused, covering the same ground with respondent sets, while allowing individual experience to emerge
- ☺ Can help development workers build rapport with individuals and gather rich data fairly quickly
- ☺ Issues can be assessed from different perspectives to ensure greater understanding. Use triangulation to investigate "objective" facts as experienced or perceived by different people
- ☺ Can provide not just the answers but also the reasons for such answers
- ☺ Sufficient structure to avoid having dominant individuals
- ☺ Useful for exploring sensitive issues

#### Disadvantages

- ☹ Quality of information generated depends on the skills of the interviewer
- ☹ Insufficient rapport, understanding or trust may result in low quality
- ☹ Time consuming, especially if one-to-one
- ☹ Cannot divert far, or long, from agenda without losing part of "the story" people
- ☹ Interviewer might influence respondents
- ☹ Tend to generate a lot of information that needs to be processed; analysis more difficult and time consuming

 **What is it?**

Community mapping focuses on maps produced by the group to assist with planning, assessing change, constructing community/institutional profiles, monitoring or evaluation. The aim here is not accuracy, but to find out what people know, and how they themselves see their own territory and situation. This generates insight into local perceptions, and the process of group work opens opportunities for discussion. Maps are useful for understanding: a community's use of natural resources (water, coastline, reef, land use); social and residential stratification (wealth, ethnicity, religion); use of spatial arrangements by different social/economic resource groups and community mobility. They can help establish problems/opportunities, and equally can be used to record data generated by other tools.

 **How to do mapping**

Introduce the purpose or focus of the map to the group, making sure that this is clear to all. Participants create a map of their community territory, marking key features. These may include natural resources (aquatic and land), resource use, assets, services, facilities and infrastructure. People may use symbols or objects to represent features. It may help to identify common landmarks first (local names for coast, mangroves, rivers, harbors, roads, buildings) and then identify other areas and features relative to these.

The map is best done on the ground to allow people easy access, but the precise techniques can be adapted to the audience. A cross section of the community is required to validate the map. It may be more effective to have different interest groups each drawing their map and then compiling these into one agreed map. All different perceptions should be recognized. Identify people with the skills to make a paper copy of the map when it is finished, add the names of participants and the date, and display prominently. Local artists may help to add illustrations, or to create a 3D sculpture of the area. Consider the map as a dynamic tool rather than a "finished" product.

 **When to use**

Mapping can be used at various stages of the EAFM process. It would be very useful at the scoping and identifying/prioritizing issues stage. For monitoring purposes, changes can be recorded on the maps periodically; the maps can then be reviewed during the EAFM lifetime. For evaluation purposes, comparisons of maps (and other relevant drawings/photographs) at different times can be useful to show changes and impact.

**Resources needed:**

People can use any materials they choose to draw "their" map. Suitable places include the ground/floor/paper, and the medium could be sticks, stones, seeds, pens, chalk, etc. The objects and symbols chosen may provide insight about information and attitudes. You need to make your own recording of the map.

### Advantages

- ☺ Maps give a broad overview of the evolution of community resource use and the social infrastructure, and therefore have specific benefits for planning and monitoring work with natural resources management, infrastructure and service provision
- ☺ Many different interventions can be identified using one tool
- ☺ Communities can analyze the linkages and patterns of different issues and uses on land
- ☺ Maps/mapping are multi-purpose tools

### Disadvantages

- ☹ A comparison of individual maps may bring out feelings of inadequacy, or unwillingness to acknowledge specific ownership of land
- ☹ Conflicts may result if inequalities become apparent, or old hostilities are rekindled
- ☹ One person may dominate or direct if mapping is done by the group as a whole
- ☹ Facilitation may be needed to encourage participation and verification, or to move the group past sticking points, sensitive issues or deep discussion

### TIPS for success:

- Let participants create the map themselves
- Observe who seems to know most about certain areas and ask them for follow-up focus group discussions (see Tool n.5) or interviews (see Tool n.3)
- Do not expect the map to be accurate – it is more likely to be a visual reflection of people’s knowledge and priorities regarding their community areas

### What are they?

Venn diagrams show the key institutions and individuals in a community/network/co-management system together with their relationships, linkages and their importance in decision-making. Venn diagrams can help to identify potential conflicts between interest groups, and to clarify the roles of individuals and/or institutions. They are also useful for identifying the key stakeholders in the EAFM process.

### How to do Venn diagrams

Explain the purpose of the tool to the stakeholder group. Ask them to identify key institutions and individuals in the community and record these on a list. The group cuts out circles to represent each institution or individual. Bigger circles indicate more important stakeholders, or those with whom the group has the most contact. The circles are labelled. The Venn diagram can also be drawn directly on the ground (participants will probably need to erase or change the drawing as the discussion evolves).

Next, the group identifies the degree of contact and overlap between each circle in terms of decision-making. Overlap occurs if one individual or institution asks or tells another to do something or if they have to co-operate in some way. Arrange as follows:

Separate circles	=	no contact
Touching circles	=	information passes between institutions
Small overlap	=	some cooperation in decision-making
Large overlap	=	considerable cooperation in decision-making

Draw the diagram first in pencil and adjust the size or arrangement of circles until the representation is accurate. Alternatively, use lengths of string – these can be expanded or contracted until the right size is agreed upon. You should ensure a reproduction of the string/paper/pencil circles in paper format is made to keep as a permanent record. As with many of these tools, it is not only the final product that elucidates, but equally the discussion that has helped to generate it. It is therefore crucial to probe and ask why circles are placed where they are, noting any lack of consensus. For additional value, key relationships (current or expected) can be represented with colored lines, string, etc. Secondary sources, group interviews or key informants can be used to validate information.

See Venn diagram example on the following page.

### When to use

Primarily used at the stakeholder and institutional analysis (Startup A and B) and planning stages (Step 1), of the EAFM process, Venn diagrams can also be useful for Step 5 Monitoring and evaluation. They are particularly useful in EAFM, where criteria for successful implementation of agreed objectives include increased/improved linkages and relationships with other stakeholders. The diagrams allow a visual depiction which often captures more than a written analysis could. They can be used to monitor the changing relationships, either between departments/ administrative groups within an organization (organizational analysis), or between a particular organization/program and its multiple stakeholder entities. At the end of a phase, a Venn diagram of stakeholders or institutions can highlight the key current relationships or dynamics. Participants can be asked to recall the situation before and during the program (there may even be baseline records of Venn diagrams done at the planning stage, though these are not essential for comparison purposes).

### Resources needed:

Paper, pens/chalk board, chalk, string, scissors. The Venn diagram can also be drawn directly on the ground as long as the facilitator records it for reference.

#### Advantages

- ☺ Helps development workers plan who to work with
- ☺ As an organizational tool, provides richer information than is revealed through organization's own literature
- ☺ Can be used to show past, current and expected relationships

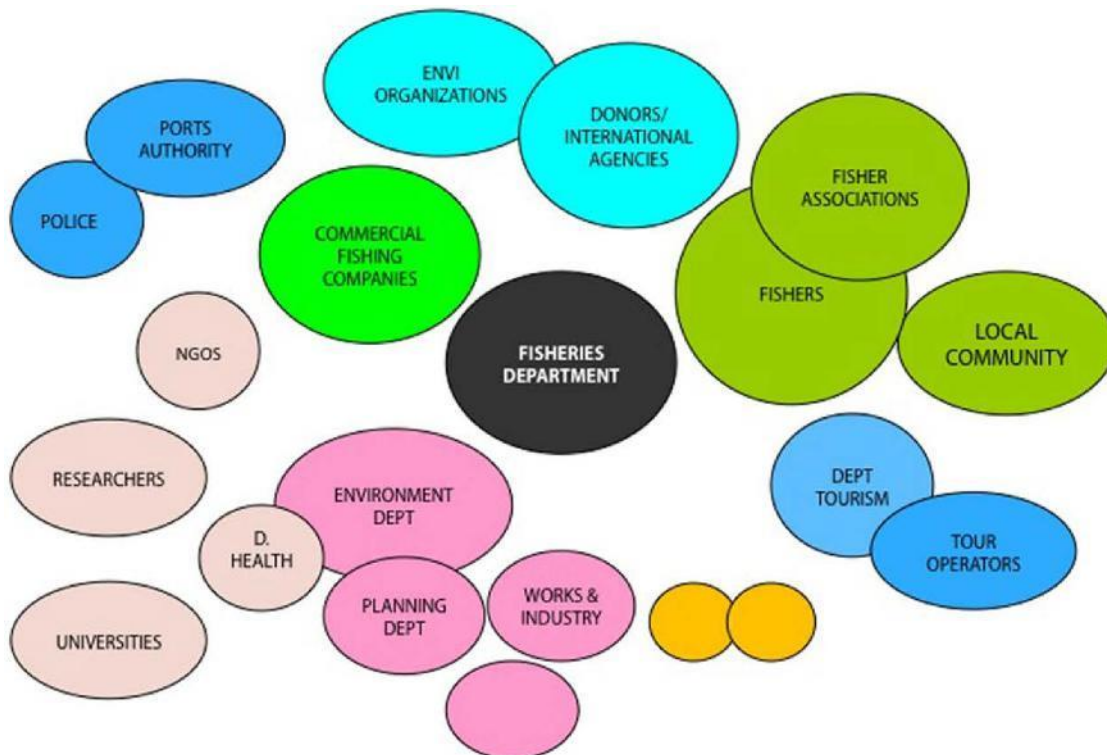
#### Disadvantages

- ☹ Participants confuse the two variables of proximity and size of the circles
- ☹ Political alliance may influence consensus over who is "important"
- ☹ Unless well facilitated, outcome will reflect opinion of dominant members

### TIPS for success:

- Specifically when asking about groups and institutions, probe for information on leadership, membership, decision-making processes, interaction/conflict with other groups

### Venn diagram of stakeholder relationships- example



 **What is it?**

A presentation is a formal way of delivering a message face-to-face to an audience. There are two broad types of direct presentations you may be involved in for EAFM:

**1. Traditional, frontal, one-to-many presentation**

Usually the format for this is a lecture by the speaker followed by questions from the floor. This format is useful for addressing very large groups; for situations where formality, hierarchy and authority are expected/the norm.

**2. Interactive, conversational-style talk to smaller groups**

This format allows for more continuous questions and answers between the speaker and the audience. The speaker may choose to brainstorm or elicit comments even before delivering the presentation. This type of presentation lends itself to subsequent facilitation of group discussions (see [Tool n.5](#)).

You will be delivering your presentation in a variety of cultural settings to diverse audiences and these will influence your method of delivery, the language you use, your choice of materials, the level of audience knowledge you can assume, and the very message of your presentation.

Whichever presentation type you are involved in, you need to follow the stages of planning, writing and delivering. Refer to [Tool n.15](#) for managing your audience and your environment.

 **How to prepare and deliver a presentation****Planning a presentation**

- Review the key factors that will affect your presentation, i.e. Who is the audience? What are their interests and level of knowledge about the topic? How much time has been given for the presentation? Does this include time for questions? Where will it take place? What equipment will be available? How formal will it be? What is the broader context of the event – is the presentation the main event or part of something else? How will the presentation fit?
  - Gather the information and materials that will inform the presentation.
  - Identify the best person in your team to deliver the presentation. This may not necessarily be the project leader, but needs to be someone who has the necessary presentation skills.

**Writing a presentation**

- Some people just use bullet points as the basis for their talks, while others prefer to have the text written out in full.
- Make sure the presentation has a beginning which introduces the topic, a middle which contains the bulk of the talk, and a summary or conclusion.
- Catch the audience's attention at the start with a quote/anecdote to make the situation human and real for them.
- Identify and list the key points and ensure that each has supporting facts and references. Place these key points in a logical order. Persuade the audience by supporting each statement with quotes, comparisons and examples.
- Make or select visual aids that support your presentation, but also add some value – for example, added interest or a "human angle".

**Delivering the presentation**

- Try not to read your written text aloud – try to either learn the text or just use bullet points as a reminder of each point.



- Stay within the required time frame.
- Speak loudly, clearly and slowly, and pause to allow people to consider key points.
- Use good visual aids to make the presentation more interesting and easier to understand.
- Make eye contact with the audience – don't look at the floor or at one person in the audience.
- Make the presentation like a conversation – don't talk at people, talk to them.

### Using notes

- Don't be afraid to use notes.
- Look up regularly.
- Have key words only.
- Pictures may help.
- Put them down or if small enough hold in palm of hand.
- Use card not paper (it doesn't shake so much!).
- Don't use your script.

### When to use

Given the cooperative nature of EAFM, and the reality that it involves active support from diverse stakeholders, you will probably need to deliver both formal and informal presentations to different audiences (such as government agencies, research groups, donors, different community groups). These will be mainly in Startup A and B, to rally support and "buy in"; during planning to explain the EAFM steps; and during implementation and follow up to explain achievements and to continue to attract financial and political support.

### Resources needed:

Various, depending on the presentation context and your personal style.

### Non-verbal communication during a presentation

Remember that it is not just what you say but how you say it and what you do while you are saying it. Study the body language uses in the table below and think of what is relevant/appropriate to the cultural context in which you are presenting.

Body language to use:	Body language to avoid:	Particularly avoid:
<ul style="list-style-type: none"> <li>• Easy eye contact across the audience</li> <li>• Relaxed posture</li> <li>• Head up</li> <li>• Facing audience</li> <li>• Arms hanging comfortably and naturally by person's sides</li> <li>• Open gestures with hands/arms</li> <li>• Smile/friendly expression</li> </ul> <p>These types of body language are positive, creating a positive image of self-confidence and self</p>	<ul style="list-style-type: none"> <li>• No eye contact</li> <li>• Slouched posture</li> <li>• Head down</li> <li>• Arms across body</li> <li>• Body turned away</li> <li>• Hands covering the mouth and face</li> <li>• Sullen expression</li> </ul> <p>These types of body language create a passive or defensive image, making the person look hesitant, appear lacking in confidence or sincerity. The audience is likely to feel mistrust, doubt, non-commitment and lack</p>	<ul style="list-style-type: none"> <li>• Staring eye contact</li> <li>• Upright or forward leaning stance</li> <li>• Head back</li> <li>• Clenched jaws</li> <li>• Feet set wide apart</li> <li>• Fists clenched</li> <li>• Hands on hips</li> <li>• Stern or fierce expression</li> <li>• Jabbing or pointing gestures</li> </ul> <p>These types of body language create an aggressive image of arrogance, bullying, over confidence, superiority. The audience may respond with</p>

assurance. They trigger trust and confidence.	of confidence in the presenter and what they are saying.	returned aggression, defiance or dislike.
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### Advantages

- ☺ You can target a variety of individuals in one setting
- ☺ You can choose audio-visuals, delivery method, setting, ways of explaining
- ☺ You can offer your selection of facts and opinions
- ☺ You can show visuals to illustrate a message
- ☺ A presentation is easy and cheap to organize, and it can have a powerful effect if well planned
- ☺ You can hand out copies of your presentation as a written record

### Disadvantages

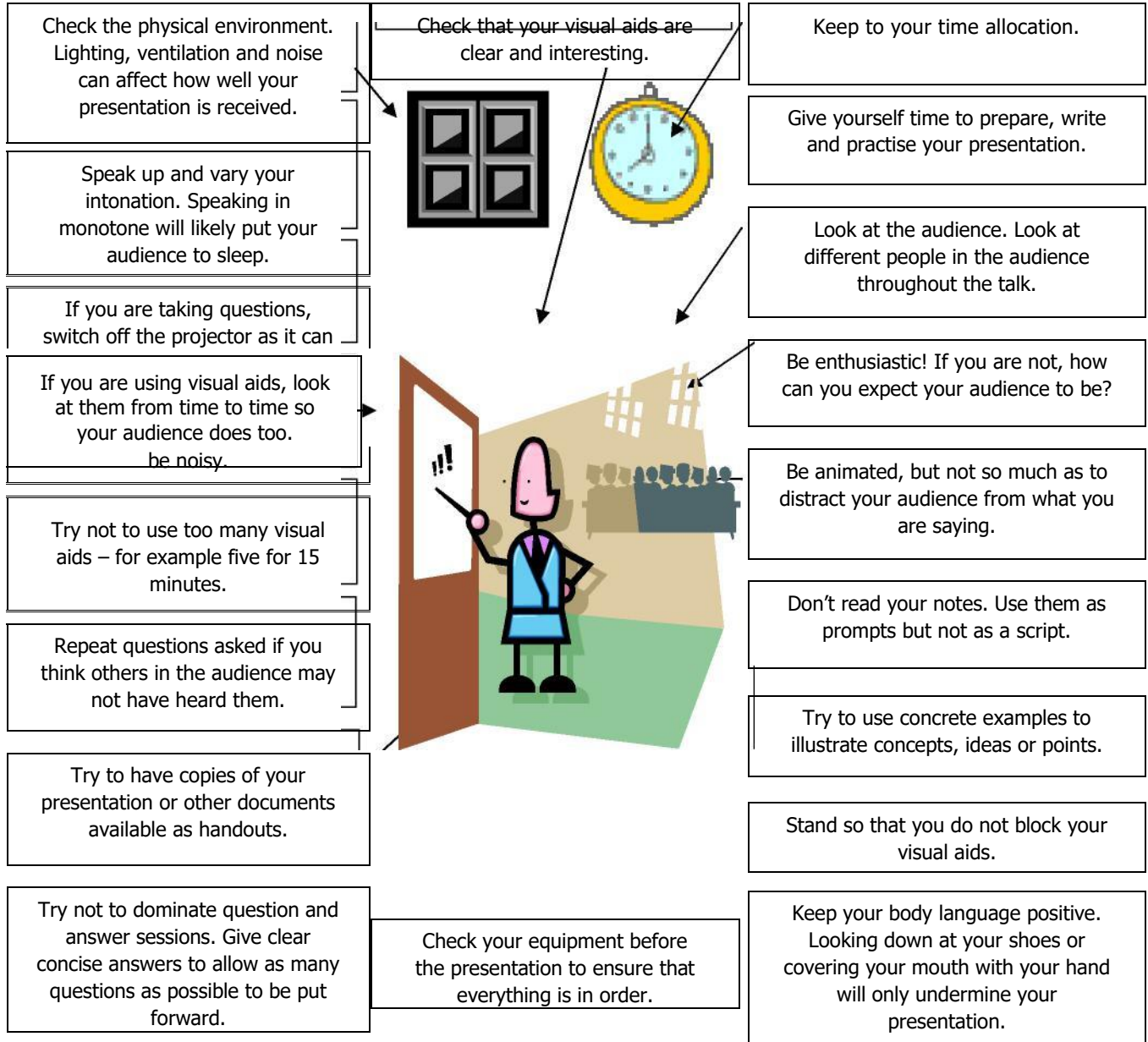
- ☹ Effectiveness dependent on individual's presentation skills
- ☹ A bad environment could spoil your presentation (noise, distractions, bad lighting)
- ☹ Delivering a lively and interesting presentation is a skill that needs to be learnt and practised
- ☹ No time to engage at length with detailed questions
- ☹ Cannot discuss sensitive issues with large audience
- ☹ You could be open to difficult questions from an unpredictable audience

### Tips for success

- How can we use our voice to enhance a presentation?
- *Pitch* – icebreaker saying hello (intonation may be questioning, irritation, happily, etc.)
- *Resonance; speed; articulation.*
- *Volume* – adjust accordingly; 1) assess the length of the room, 2) add half as much again 3) adopt a volume suited to the new imagined length.
- *Pauses* – a common mistake is to speak without pausing. If you rush through your presentation, one thought merges into the next. The audience listens to a lot of words, but doesn't hear a thing. Remember how powerful pauses are.



Advice on writing and delivering a presentation



### What is it?

The advice and suggestions on this kit card are aimed at helping you effectively manage your audience and environment, principally when delivering formal and informal presentations about EAFM (see [Tool n.14](#)). In addition, they are useful in a variety of other situations including: facilitating groups; face-to-face meetings; giving media interviews or press conferences.

NB. You may feel some of the advice is very basic and that you know all this. However, there is no harm in revisiting some basic steps to improve your performance.

In all of the above situations, you need to relate appropriately to both your audience and your environment.

Preparation is the key. You need to anticipate what might detract from your delivery and address these issues if you can. Think of the internal factors (yourself) and the external factors (audience and environment). Examples for each of these are given below.

In addition, you need to manage your time well. Make sure you practise and are aware of how long it takes you to deliver your message or make your point. Often we start as planned, take longer to explain than planned, and end up rushing through the findings and recommendations sections (which are often the most important).

Allow time for discussion, and for questions and answers. Ensure you finish promptly because many in your audience will have other commitments.

### **Managing yourself**

Managing yourself requires that you find ways to calm and ground yourself before and during difficult situations which may make you nervous. These could include: face-to-face meetings, presentations, facilitation of group meetings, media interviews or press conferences. People find very different ways to do this. Here are some general examples:

- Stretch out your muscles
- Sing
- Take a brisk walk
- Harness your nervousness
- Read through your notes
- Meditate or repeat a mantra
- Affirmations
- Visualize the presentation closing to rousing applause
- Imagine what people looked like when they were much younger

Think of which one works for you!

### **Managing your audience**

1. To gain the trust of your audience you need to introduce yourself and your EAFM project/ process. You then need to step in your audience's shoes and let them know you understand why they are there; what their needs/constraints are; and what the benefits are to them and their partners/networks of listening to you and learning about EAFM for practical and policy reasons.
2. To appear credible you need to know what you are talking about and to show you believe in what you are saying.

3. To get your audience’s attention, start by relating your topic to something close at heart and relevant/topical to the audience. Make sure you have done your research on this and be aware of your audience’s concerns and priorities. Try to introduce your topic by relating immediately to an issue of central concern to the majority of the audience.

### Managing your environment

Managing your external environment includes being aware and pre-empting the following. Much depends on the preparation you do beforehand. It helps if you can visit the venue where you will be delivering your message beforehand, so you can see and be aware of the physical layout, environment and possible limitations.

1. Be aware of competing activities/events in your audience’s calendar. Be equally aware of opportunities and events which you can link up with to maximize the effect of your message.
2. Be aware of any possible disturbances that may occur while you are delivering your message (whether indoors or outdoors, in whichever setting). Identify the ones that can be addressed or avoided (e.g. relating to things you have control over). Be prepared for the ones you do not have control over (external noise, power cuts, weather, people/events, etc.)
3. Ensure your audience is comfortable (seating, lighting, ventilation). If outdoors, try to be in the shade of a tree or building rather than in the full sun. Choose the time of day appropriately.

### Example: giving presentations in formal settings

1. Ensure that your seating arrangement is appropriate for your presentation. Move seating around until you are satisfied. Arrive early or preferably the day before to arrange the seating that you feel would be appropriate. Try and insist that any unwanted chairs are removed from the room because they add clutter and cause obstacles if you are organizing activities where participants move into groups and generally cramp proceedings. A “horseshoe” or U-shape seating arrangement is best so that you can make sure that everyone is on the front row and more likely to participate and be more attentive during your presentation.
2. A room may be made more appropriate if you present from a different wall other than the “set up” one. Do not arrange the room so that your back is to a window as this makes it difficult for your audience to look at you easily due to “backlight”.
3. Ensure that you have water at hand. The glass should be full when you start; do not try and fill it during your presentation as there will be an awkward silence and you are sure to spill some!

### When to use

Given the cooperative nature of EAFM, and the reality that it involves active support from diverse stakeholders, you will probably need to deliver both formal and informal presentations to different audiences (such as government agencies, research groups, donors, different community groups). These will be mainly in Startup A and B, to rally support and interest during planning to explain the EAFM steps; and during implementation and follow up to explain achievements and to continue to attract financial and political support.

#### Advantages

- ☺ Preparation results in better, more convincing delivery

#### Disadvantages

- ☹ Time consuming, need to plan in advance



## Tool 16. Timelines

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### What are they?

Timelines are a simple graphic method of representing a sequence of past events that a community or organization considers important. This is a helpful tool for the early stages of building rapport and engaging in mutual learning about past history and current identity. Timelines also establish any previous experience with development projects, and help development workers from repeating past mistakes. Like community maps, the finished timeline is something that many groups will want to display prominently. It can act as a focal point, and may be used to plan subsequent activities.

Semi-structured interviews ([Tool n.3](#)) and focus groups ([Tool n.5](#)) can then be used to validate key events and data. Timelines can also be linked with mapping exercises ([Tool n.12](#)) to help establish when and where the events generated in the timeline took place. Community or group historical maps can then be produced.

### How to do timelines

Explain that you would like to discover more about the history of the community. Draw a line on the floor/ground, or on a chalkboard or on several pieces of paper joined together. Ask stakeholders to begin by identifying significant events in the past related to their fishery and to add these to the timelines. Events may be represented in words, pictures or symbols, with dates where possible. These may include changes in resources or the marine environment; introduction of new harvesting practices; new livelihood activities; shocks, like tsunamis, floods, droughts, devaluation; changes in resource access and ownership; community or social changes, such as migration; and major political events.

Each person can be given a series of cards which they can write or draw on and add to the timeline. This enables participation, and allows events to be moved around as the timeline expands or if there are changes in the agreed order of events. Information from secondary sources (reports, media, archives) and from interviews with key informants (e.g. elderly people, leaders, respected community members) may be used to supplement this information if a detailed and accurate record is required. Group members can produce a final version of the timeline for display. However, the main purpose of the tool is not absolute accuracy, but a picture of what the stakeholder group thinks is important.

### When to use

Timelines can be used at the analysis (Startup A), planning (Step 1.3) and reviewing (Step 5) stages of the EAFM process. They can be a key tool in an evaluation, helping to look at EAFM implementation from its inception, and identifying all the major phases/events during the programme's lifetime. Having participants representing different stakeholder groups will also generate data about how the impact of program inputs and activities is, or was, perceived by different groups. Interesting comparisons can be made by carrying out preliminary timeline exercises for the EAFM element being assessed: one with management agency staff and another with other FMU stakeholders. These can then be placed side by side, with all participants commenting and comparing the outcome. Focus on the similarities and differences in key events/ items listed, and record different opinions as well as consensus.



## Tool 16. Timelines

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### Resources needed:

Suitable writing surface and writing materials. Cards, and a means of sticking these onto writing surface, are optional.

#### Advantages

- ☺ An important part of getting to know stakeholders and understanding their situation before moving too quickly into an analysis of needs. Perhaps there have been past failures with fisheries management. This may provide early warning of resistance to new ideas.
- ☺ Allows older people to share their knowledge and experience
- ☺ Affirms a common sense of identity and purpose

#### Disadvantages

- ☹ The facilitator does not verify events or stimulate discussion on new topics
- ☹ The facilitator fails to acknowledge indigenous calendars and ways of dividing up time

#### TIPS for success:

- Encourage discussion to validate data and to ensure all members participate
- Have trigger or prompt questions prepared and use these if the process seems to flag



## Tool 17. Ranking, rating and sorting

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### What is it?

These simple, adaptable and inexpensive tools provide information about preferences and choices. They can offer insight into individual or group decision-making and help to identify the criteria that stakeholders use to select certain items, activities or impacts. The process used facilitates discussion and analysis. In addition, the tools can be used in conjunction with many others: e.g. display the outcomes of choices using mapping ([Tool n.12](#)); and use semi-structured interviews ([Tool n.11](#)) or focus groups ([Tool n.5](#)) to probe the reasons for choices. See also matrices ([Tool n.18](#)) for alternative ways of ranking and comparing data.

### How to do ranking, rating & sorting

Decide which of the tools – ranking, rating or sorting – will be most effective at generating the information needed. Prepare the exercise and collect the materials required (see resources below). Select a group that is representative of the stakeholders from whom information is required. If this is not possible, repeat the exercise with different groups. Comparisons between these groups can illustrate differences in perception. These differences need to be taken into account and managed. Explain the tool to the individual or the group. Keep the choices straightforward and make sure that people understand what is required of them.

#### **Ranking**

This involves the selected stakeholder group ranking a series of picture cards, labelled cards or symbolic objects in order from first choice (most popular) to last choice (least popular). It is usually recommended not to rank more than six items at a time. Ask the group why they make a particular choice each time, or after each whole “set”.

When doing paired comparisons (the person must choose between two items) begin with the two most similar items. A good question could be: "If you could have only one of these trees, which would you choose?" The next question could be "Could you tell me why you have made that choice?"

#### **Rating**

This tool is useful to measure attitudes towards opinions and perceptions of change, and works best with literate people who are more used to structured answers. Participants rate or score a series of statements, or suggestions for change (no more than 25). These relate to aspects of the activities/inputs being rated. Suggested criteria for rating could be:

**1** Strongly disagree; **2** Disagree; **3** No opinion; **4** Agree; **5** Strongly agree

High scores are assigned to those opinions that will require most change. When coding, ensure that you keep the scales the same for each answer (“agree” on the left, “disagree” on the right), but your coding may vary according to the question. Total the points for each statement and divide this by the number of participants to show the dominant opinion (e.g. 40 participants produced a total rating score of 165, demonstrating an average rating of 4.1). This indicates that most people agreed or strongly agreed with the statement. For all items rating over 3.5, find out what the problems are and how they can be resolved. Finally, you need to summarize the results in a format that can be easily understood.



### Sorting

Sorting enables a set of information to be separated into categories. Participants are asked to separate a collection of picture cards, labelled cards or photos into piles or baskets that represent different criteria. The maximum recommended number of cards is 150. These criteria may already be set (by community leaders, the program, etc. In a fully participatory process the participants themselves would select the criteria they use for the exercise. The scores can then be added up and divided by the number of sorters to show rough percentages for each category.

#### When to use

These tools can be used at analysis and reviewing stages of the EAFM process. As part of the step 1.3 scoping, and step 2 identifying and prioritizing issues, these tools can bring out major differences and agreements related to choices in assets/resources/activities. They also enable stakeholders to discuss and agree criteria for the selection process. Throughout the EAFM lifetime, these tools can be used to monitor changes in preference as well as changes due to inputs and activities. As evaluation tools (step 5), they can be used to assess people's opinions and perceptions of impact.

#### Resources needed:

Paper, pens, picture cards, forms, baskets, etc. Forms to record responses.

#### Advantages

- ☺ These are flexible, fun to use tools which can be used in a variety of situations
- ☺ With ranking and sorting, handling the cards or objects encourages people to become more committed and involved in the process
- ☺ Ranking provides information on both the choices and the reason for the choices
- ☺ Sorting provides a community perspective on a topic
- ☺ Rating is an effective way to quantify "opinions"

#### Disadvantages

- ☹ Choices that are made are very specific, so it is important to seek the views of all stakeholders. Since the results are subjective, findings may not be applicable to other areas
- ☹ Tools are not pre-tested, and the physical objects (cards with drawings or writing) are not clearly understood by those who are to make the choices
- ☹ Reasons for choices are not recorded (a tape recorder may help)
- ☹ The cards are not shuffled properly and hence suggest a "right" set of choices
- ☹ Statements submitted for rating are unclear, too extreme or ambiguous
- ☹ Participants discuss the ranks they have assigned with affected parties, causing hard feelings within the community

#### TIPS for success:

- Let people use their own terms and units of measurement
- Probe the reasons for people's choices
- Have one facilitator and one person recording responses



## Tool 18. Matrices: stakeholder engagement matrix

### What is it?

A simple form of matrix ranking (see below) that allows the EAFM team to assess 1) how interested and committed stakeholders are to the EAFM process and 2) actions needed to foster stakeholder support.

### How to do a stakeholder engagement matrix

	1. Little awareness of problems in fisheries	2. Concern about these problems	3. Willingness to take action to solve these problems	Action needed
Stakeholder 1				
Stakeholder 2				
Stakeholder 3				

### When to use

During Startup B, once you have identified likely stakeholders, the EAFM team needs to assess their interest and commitment to the EAFM process. This assessment should be done by the EAFM team together with the core consultative group (so key stakeholders already have a voice).

List all the key stakeholders in left hand column. Then discuss in which of the categories (1 to 3) each of them should be placed. As you progress, and as a group you identify criteria to describe each of the three categories, you will need to re-position some of the stakeholders. The idea is to assess whether a stakeholder has (1) a minimal awareness of issues; (2) concern about these problems; and/or (3) is willing to take action to resolve them. Once you have plotted the stakeholders, you can then decide on what action is needed to move towards EAFM. For those in category (1) you will have to organize awareness raising to start with. For those in category (2) you can have more in-depth education and mobilizing. Strategies for those in category (3) could include support for writing policy briefs or to undertake advocacy at higher levels; enabling agreement on community solutions; supporting legalizing of user rights.

#### **Resources needed:**

Suitable writing surface and writing materials. This tool can also be used with the non-literate; you need to elicit symbols to represent stakeholders, as well as symbols to represent categories 1 to 3.

### Matrices in general - what are they?

Matrices can provide a structure for ranking and scoring activities (see [Tool n.17](#)). They are flexible and adaptable, and can be used in situations where it is important to ensure local preferences and choices are incorporated into the decision-making process. If the choices and outputs that emerge from matrix exercises are used to shape future decisions, matrices can be a key to empowering local people.

Direct matrix ranking is the simplest way to assess the qualities of various items. Pairwise ranking provides a system for discovering which items the group prefers out of the range of options.



### How to do matrices

#### Direct matrix ranking

Choose, or ask people to choose, some items you wish to investigate (e.g. fish species, ecosystem pollution). List the most important items (three to eight items). The group develops a set of criteria for assessing the quality of these objects. Elicit criteria by asking what is good and bad about each item until there are no more replies. List all criteria, turning any negative criteria into positive by using their opposite (e.g. "vulnerable to disease" would become "resistant to disease"). The items and the criteria for judging them are put quickly into a matrix by the facilitator:

	Item 1	Item 2	Item 3
Criterion 1			
Criterion 2			
Criterion 3			

Individuals, or the whole group, rank each item according to each criterion. Elicit choices in stages by asking: which is the best, then the next best item; or the worst, then next worst? Of the remaining items, ask which is better, or which criteria are most important to make the choice? Force a choice: "If you could only have one of these, which one would you choose?" At the end, it is important to ask which single item they prefer. This reveals which criterion people consider most important.

#### Pairwise preference ranking

This tool is useful for ranking smaller numbers of items (e.g. four or five). These may be placed directly into the matrix below by simply comparing pairs of items and asking which one they prefer.

	Item 1	Item 2	Item 3
Item 1			
Item 2			
Item 3			

(Shading is optional, to avoid repetition of pair comparison.)

This process may be assisted by getting the group to write or draw each item on separate cards. Place two of these cards in front of the group and ask them to make a choice, giving their reason. Record the response in the appropriate box of the matrix. Repeat until all possible combinations have been filled. List the results in rank order by sorting the cards in order of priority.

Check whether any important items have been omitted from the list. Let the group add these in the appropriate position in the ranking list. As a useful cross-check on the responses, ask the group which single item they would choose – in an ideal world, and in reality. This may reveal constraints on people's choices. This question is also useful if more than one item in the list scores highest.

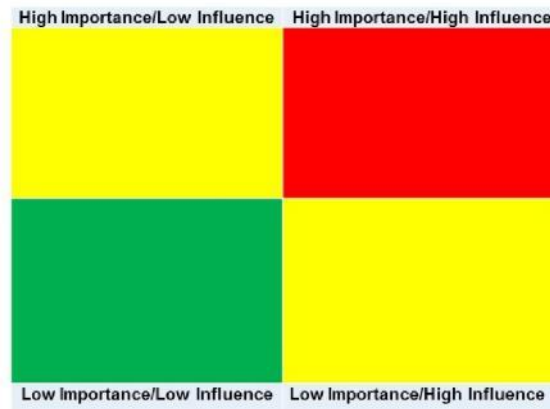
### Pair matrix analysis

This is the simplest type of matrix, which allows stakeholders to be categorised (by EAFM team) into four groups using two dimensions. All stakeholders can be seen through this window-some of them right at the margins, others very central. The dimensions used are commonly importance and influence. **Influence:** how much influence does stakeholder have over/in EAFM process? **Importance:** how important is stakeholder for EAFM process? Working in a group, use your judgement to determine how important each stakeholder is for the EAFM process and how much influence (power) they have over/in the EAFM process. Plot each stakeholder into one of the 4 boxes. The discussion of participants' views is important to be documented.

## Stakeholder Analysis

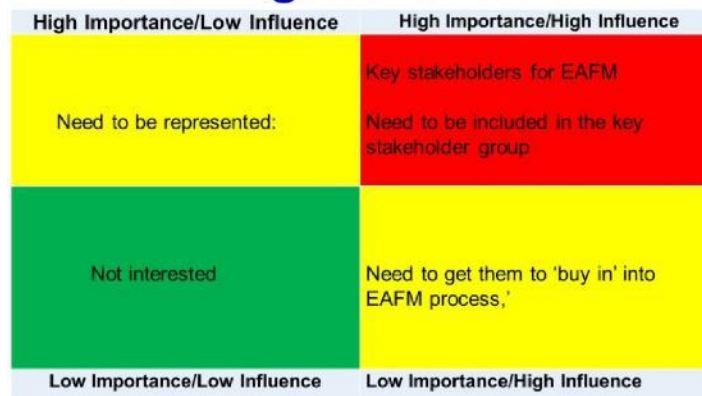
**Importance:** how important is stakeholder for EAFM process

**Influence:** how much influence does stakeholder have over/in EAFM process



This will result in four groups. You then adopt a different strategy for each of these.

## Prioritizing stakeholders



### When to use

Matrices can be used for prioritizing identified EAFM issues during Step 2.2, as well as for comparing possible objectives (Step 3.1). As a monitoring tool (Step 5.1), matrix exercises can be used to keep track of changes in preference for EAFM implementation of inputs or outcomes (such as activities or technologies). For evaluation purposes (Step 5.2), matrices can be used to assess and prioritize the impact of different aspects of EAFM implementation.

### Resources needed

Flipchart, chalk board or large pieces of paper; pens, cards and pre-prepared pictures if necessary. You can also use physical representations (stones, seaweed species, net mesh, etc.) and draw the matrix on the ground (as long as a record is kept for future reference).

#### Advantages

- 😊 Practical and easy
- 😊 Allows for rapid assessment adaptable to a variety of situations and can be linked with other tools
- 😊 Encourages commitment, involving an active stake in decision making
- 😊 Quantifies choices and provides information on the reasons for these choices

#### Disadvantages

- 😞 Specific choices may disguise highly subjective criteria for making decisions
- 😞 Reasons for choices are not recorded (a tape recorder may help)
- 😞 Lack of agreement over preferences, or process may be dominated by more vocal members

#### TIPS for success

- The discussion is as important as the final categorization. Have a facilitator and take notes
- Let people make their own choices for what is to be assessed, especially the criteria they choose for assessment
- Ask participants to explain why they selected certain criteria, and what the reasons are for ranking in a particular order (this discussion may generate much important data)

### What is it?

Social network analysis is the mapping and measuring of relationships and flows between people, groups, and/or organizations. The nodes in the network are the people and groups, while the links show relationships or flows between the nodes. This provides both a visual and a mathematical analysis of complex stakeholder systems.

We use people to find content, but we also use content to find people. If stakeholders are understood better, relationships and knowledge flows can be measured, monitored, and evaluated, perhaps (for instance) to enhance organizational performance for achieving EAFM. Given the need for cooperation and co-management for successful EAFM, the results of a social network analysis might be used to:

- Identify the individuals, teams, and units who play central roles;
- Discern information breakdowns and bottlenecks, as well as isolated individuals, teams, and units;
- Identify opportunities to accelerate knowledge flows across functional and organizational boundaries;
- Strengthen the efficiency and effectiveness of existing, formal communication channels;
- Raise awareness of and reflection on the importance of informal networks and ways to enhance their organizational performance;
- Leverage peer support;
- Improve innovation and learning;
- Refine strategies.

### How to do social network analysis

Typically, social network analysis relies on questionnaires and interviews to gather information about the relationships within a defined group. The responses gathered are then mapped. (Social network analysis software exists for the purpose.) This data gathering and analysis process provides baseline information against which one can then prioritize and plan interventions to improve knowledge flows, which may entail changing social connections.

For the key stages of the basic process, you:

- Identify the network of individuals, teams, and units to be analyzed;
- Gather background information, for example by interviewing senior managers, community leaders and key stakeholders to understand specific needs and issues;
- Define the objectives and clarify the scope of the analysis, and agree on the reporting required;
- Formulate hypotheses and questions;
- Develop the survey methodology;
- Design the questionnaire, keeping questions short and straight to the point. (Both open-ended and closed questions can be used.);
- Survey the individuals, teams and units in the network to identify the relationships and knowledge flows between them;
- Use a social network analysis tool to visually map out the network;
- Review the map and the problems and opportunities highlighted using interviews and/or workshops;
- Design and implement actions to bring about desired changes;
- Map the network again after a suitable period of time. (Social network analysis can also serve as an evaluation tool.)

### When to use

In Startup B when you are identifying stakeholders relationships; in Startup B and Reality check II while you focus on co-management issues.

### Resources needed:

Various; it will depend on what types of methods you choose. Software is optional as mapping can be done manually.

#### Advantages

- 😊 Creates visual basis for community participation
- 😊 Generates data useful for various EAFM stages

#### Disadvantages

- 😞 Time consuming
- 😞 Costly
- 😞 Replicates other tools

### What is it?

Resource and ecological assessments (REA) are detailed studies which may include biological and physico-chemical parameters. They show the current status of the fishery resources and provide a description of resource and fleet/gears used.

Resource and ecological assessments also explain the history of fishing and management, by providing details on past development of the fishery in terms of fleets, gear, people involved, etc., as well as the history of resource use (number of resource users, gear, catch, habitat).

The information obtained can be used to determine the status of the ecosystem. REAs can be conducted with community participation and minimal technical input.

### How to carry out a resource and ecological assessment

Resource maps, transects and trend diagrams are generated as a result of participation among community participants. Information is likely to include:

- Physical setting (geophysical overview including: land; soil; slope; sea floor; coastal habitat classifications; overview of coastal forests, rivers and watershed);
- Ambient environment (salinity, turbidity, light penetration);
- Climate (seasons, rainfall, winds, temperature, cloud cover);
- Oceanography (bathymetry, current/circulation patterns, tidal flow, waves, water quality, eddies, runoff patterns, substrate);
- Important habitats (coral reefs, seagrass beds, mangroves, wetlands, beaches, soft-bottom, estuaries, lagoons and bays);
- Fish, crustaceans, molluscs, echinoderms, elasmobranchs, porifera, aquatic plants, marine mammals, seabirds and other aquatic life;
- Resource use (terrestrial and marine uses);
- Technical attributes of the fishery, e.g. type (artisanal, small-scale, commercial, industrial), gear/fishing technology, species harvested, level of exploitation;
- Special environmental considerations: details of critical environments, particularly sensitive areas and endangered species.

Mapping is one of the most important REA activities. Mapping can be more accurately accomplished or verified with global positioning system (GPS) technology.

Several types of maps can be produced:

sketch map	spot map	land use map
thematic map	coastal habitat map	transect
base map	resource map	

Before undertaking such an assessment, it is important to recognize that there is considerable natural variation within marine ecosystems, both spatially and temporally. In order to describe the communities in an ecosystem accurately, survey programs should be designed to minimize differences caused by the sampling procedure itself. In undertaking this assessment it is important that there is a common understanding of local names and terms among the scientists and local people.



### When to use

A REA needs to be carried out in Step 1.3 when scoping the FMU, in conjunction with a socio-economic assessment ([Tool n.21](#)) and a legal and institutional analysis ([Tool n.22](#)).

### Resources needed:

Various; it will depend on what types of mapping methods you choose.

#### Advantages

- ☺ Can be as simple or complicated as necessary
- ☺ Diverse methods cater for all audiences

#### Disadvantages

- ☹ Time consuming
- ☹ Some methods costly

### What is it?

Socio-economic assessment (SEA) is a way to learn about the social, cultural, economic and political conditions of individuals, households, groups, communities and organizations in the context of a fishery. A SEA can help to determine the potential effects of management decisions on the stakeholders, to improve policy decisions and minimize adverse impacts and maximize benefits.

### How to undertake community mobilization

There is no fixed list of topics that are examined. The most commonly identified topics are:

- Resource use patterns
- Description of stakeholders (characteristics) and their interests
- Description of other uses/users of the ecosystem, especially activities that could have major impacts
- Arrangements for coordination and consultation processes
- Economic and political power relations
- Productive assets characteristics
- Gender issues
- Stakeholder perceptions
- Indigenous knowledge
- Community services and facilities
- Market attributes for extractive uses of resources
- Market attributes for non-extractive uses of resources
- Non-market and non-use values
- Social and economic benefits (including post harvest), both now and in the future

SEAs can involve the analysis of the benefits and costs that are derived by an individual, group or community from their use of a given fishery resource. Economic evaluations focus on net economic benefits, which describe benefits through the use of prices and markets. Social evaluations tend to focus on a broader definition of benefits and costs that an entity derives from a given activity or resource. Often, the benefits or costs to society that are assessed in social evaluations are not captured in market-based terms (as used in economic evaluations). The large number of factors that can be dealt with in social evaluations means that such evaluations can focus on a variety of issues and produce multiple outputs.

The main tools for SEA include: semi-structured interviews ([Tool n.11](#)), focus group discussions (see [Tool n.5](#)), household surveys, questionnaires, economic analysis (such as cost-benefit analysis).



### When to use

A SEA needs to be carried out in Step 1.3 when scoping the FMU, in conjunction with a resource and ecological assessment ([Tool n.20](#)) and a legal and institutional analysis ([Tool n.22](#)).



### Resources needed:

Various; it will depend on what types of methods you choose.

#### Advantages

-  Can be as simple or complicated as necessary
-  Diverse methods cater for all audiences

#### Disadvantages

-  Time consuming
-  Some methods costly

### What is it?

A legal and institutional assessment (LIA) seeks to identify and analyze the organizations and governance structures for resource management. The LIA identifies the various resource users, stakeholders and organizations involved in resource management, analyses their roles in management, and evaluates the existing level of involvement of stakeholders in managing resources. The LIA identifies and examines the existing legislation, policies, regulations and programs for resource management (fisheries, coastal management, marine protected areas, coastal ecosystems) at different levels of government (village, municipal, district, province, regional, national, international) and community (customary, traditional). The LIA identifies existing property rights and tenure arrangements (formal and informal), in order to determine rights of access and users of the resource, whether these rights are transferable, and the identification of the rules that must be followed. The LIA also identifies the existing political and economic power structures in the community and what likely effects proposed changes in participation and governance will have. The LIA is crucial to the development of the management plan.

Organizations are groups of individuals bound by common purpose to achieve objectives. These include formal and informal decision-making and representative bodies, cooperatives and associations. Of concern are the organizations that formulate, supervise, monitor and enforce the various rights, rules and regulations governing coastal and aquatic resources. Institutions and agencies are those government bodies with responsibility for managing fish and coastal resources. These include ministries or departments of environment and fisheries agencies.

Resource governance is the way in which resource users are managed by sets of rights, rules, social norms and shared strategies and includes enforcement mechanisms, such as policing measures and punishments. Resource governance can include:

- Formal and informal forms of resource ownership;
- Use rights and the laws that support these rights;
- The rules, rights and regulations that dictate how resources may or may not be used.

Resource governance can be defined by formal organizations and law, by traditional or customary bodies, and/or by accepted practice.

Institutional and organizational arrangements are identified and examined both within and outside the community since, for example, national or international laws and policies can affect management plans. National administrative and economic development laws and policies are also examined since they may impact upon resource management and community development efforts.

### How to undertake a legal and institutional analysis

#### **Background**

There is a wide range of parameters which can be included in a LIA. These include:

- Political context: the political structure of the nation; the extent to and way in which stakeholders are represented; democratic processes and levels of representation.

- External to the community institutional and organizational arrangements (international, national, regional, provincial, municipal, village): government administrative agencies (mandate, functions, structure, resources); policies, legislation, regulations and programmes for resource management and environment; government administration; agriculture; economic and community development; resource management strategies and programmes; non-governmental organizations (mandate, functions, structure, funding); surveillance, monitoring and compliance; nested relationships between organizations and spheres of influence (complementarities, conflicts, overlaps, gaps which support or hinder effective management).
- Community institutional and organizational arrangements: identification of stakeholders; community organizations (mandate, functions, membership, structure, period of existence, resources, funding); boundaries (political, physical/natural, gear, customary, fishing area); property and tenure rights; rules and regulations (formal/informal, operational, collective choice, constitutional); decision-making and conflict management mechanisms; surveillance, monitoring and enforcement; compliance levels; nested relationships between organizations and rights (complementarities, conflicts, overlaps, gaps which support or hinder effective management).
- Incentives for collective action and cooperation among resource users.
- Extent of stakeholder participation.
- Extent of community-based management and co-management arrangements.
- Macroeconomic/political/sociocultural exogenous factors (natural calamities, political stability, peace and order, technological innovation, inflation, economic development, international agreements).

The level of detail of a LIA can range from a simple description of the existing coastal resource management system to a very detailed legal, economic and political analysis of the management system in terms of its impact on equity, efficiency and sustainability. Secondary data on organizations and resource governance can be obtained from official publications, including court records, official statutes and government reports.

### Process

The approach to conducting an institutional analysis involves:

#### 1. Collect secondary data on:

- Stakeholders;
- Organizations at the community level (mandate, functions, membership, structure, resources);
- Institutional arrangements at the community level (property rights/tenure, rules, regulations, boundaries, decision-making mechanisms, monitoring and enforcement);
- Institutional arrangements above the community level (provincial/state, national laws), (policy, legislation, regulation, programs).
- Organizations/agencies above the community level (provincial/state, national, NGOs), (mandate, functions, structure, resources); and
- Complement and validate the secondary data by collecting primary data. A variety of participatory techniques and methods can be used. These include structured and semi-structured interviews, focus groups, resource mapping, historical timelines, flow patterns, case studies, social network analysis and Venn diagrams.

2. Collect and sort the data, focus on relationships between and among the various institutional arrangements and organizations for management.
3. Identify synergies, conflicts, overlaps and gaps in the institutional arrangements and organizations that support or hinder effective management at various levels of government and within the community.
4. Identify what is needed to support management, such as new regulations, laws, organizations and enforcement mechanisms.
5. Recommend strategies for implementing patterns of relationships in space, time, flow and decision-making, using various tools such as transects, maps, timelines, Venn diagrams and matrices.
6. Analyse the rules at operational, management and legislative levels.
7. Validate findings with the community to ensure accuracy and to fill in any data gaps.

In general the main methods for collecting primary data are semi-structured interviews (see [Tool n.11](#) and focus groups (refer to [Tool n.5](#)) with key informants, such as government officials, organization officers, and other knowledgeable individuals involved in the organizations and governance. Some useful visualization techniques include:

- *Timelines* – to understand the history of organizations (see [Tool n.16](#))
- *Organizational charts* – to represent aspects of the structure of the political hierarchy and the structure of organizations, as well as links between organizations and agencies
- *Maps* – to illustrate areas covered by specific use rights (see [Tool n.12](#))
- *Venn diagrams* – to illustrate organizational relationships (see [Tool n.13](#))

Observations, surveys and oral histories can also be useful, particularly for assessing levels of stakeholder participation, surveillance, enforcement and compliance.

### **When to use**

A LIA is usually carried out in Step 1.3 during the scoping of the FMU, and the data it generates become your baseline data. It needs to be done in conjunction with a resource and ecological assessment ([Tool n.20](#)) and a socio-economic assessment ([Tool n.21](#)).

### **Resources needed:**

Various; it will depend on what types of mapping methods you choose.

<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"> <li>☺ Diverse methods cater for all audiences</li> <li>☺ Can foster participation and empowerment if participatory approaches are used</li> <li>☺ Can generate very detailed data which can be used throughout EAFM process</li> </ul>	<ul style="list-style-type: none"> <li>☹ Time consuming</li> <li>☹ Danger of generating too much data that will not be used</li> </ul>

This tool comes from FAO's EAFnet.

### What is it?

Visioning helps the stakeholders (including the community and government) of a fishery to generate an agreed set of key values and outcomes for use in EAFM planning by encouraging them to look backwards from some future time.

Visioning exercises are used to define and help achieve a desirable future by setting the stage for creating the future through positive discussions. Studies have shown that we are more likely to reach an objective if we can see it, and can then imagine the set of steps needed to reach it. The aim is to first create a "Vision of Success" statement, which is a brief written account of what a successful management plan would produce over the long-term (i.e. five to 20 years). This statement outlines what would be the result from the successful implementation of an EAFM plan and what would define the high-level fishery objectives which, if achieved, would produce that success. The basis of this method is that if you don't know what success might look like it is very difficult to get there. The exercise is therefore intended to present the participants with a scenario in which they can visualize the fishery as successful, but without the facilitator dictating what the success looks like. Therefore, the visualization presents the "outline" but each participant colours in the outline with his/her particular view.

Visioning encourages participation for developing a long-range plan and is an integrated approach to policy-making. With overall goals in view, it helps avoid piecemeal and reactionary approaches to addressing problems. Visioning uses participation as a source of ideas in the establishment of long-range policy. It draws upon deeply held feelings about overall directions of public agencies to solicit opinions about the future. When completed, visioning should have developed a democratically-derived consensus. The method could be used first by the EAFM planning team to test it and then, if it appears to have merit, it could be extended to the broader stakeholder group.

### How to do visioning

This can be done in a number of ways:

1. Ask the group "Five (10, 20) years from now, if your new fishery management programs are hailed as a great success, what will that success look like?" Then have the group brainstorm a list of characteristics and/or outcomes which would indicate this success.
2. Hand out copies of a visioning exercise (see example below) and allow time for the group to complete the exercise. You may want participants to have been provided with this beforehand and return it or mail it prior to the group meeting. It is very effective to compile the answers before returning the entire copy to participants.
3. The "cover story vision" is an imaginative exercise where the group envisages their fishery on the cover of a magazine. They build the story in parts: creating the big headlines, the sidebar stories, the images and the quotes, as well as the cover (deciding which magazine or web-site they are being featured in). This exercise gets the group dreaming about what they really want and what success means to them. In a subtle way, it brings out the essence of what they want to become.

### When to use

Ideally use this technique in Step 1.2 when agreeing the joint vision for the FMU.

#### **Resources needed:**

Various; it will depend on what types of mapping methods you choose.

### Advantages

- ☺ Generates a common goal, hope and encouragement
- ☺ Offers a possibility for fundamental change
- ☺ Empowering
- ☺ A vision is something positive to move towards

### Disadvantages

- ☹ Sometimes visioning can lead to poor results because people can't aspire to something they don't know

**A visioning exercise for fisheries** (Adapted from [www.kstoolkit.org](http://www.kstoolkit.org))

### Revisiting your fishery

In your mind's eye, please think quietly and deeply about the following imaginary experience. Tomorrow it becomes necessary for you to move away from this fishery and the area. You have to make changes and develop a life for yourself elsewhere and it is not possible for you to go back for a visit until 20 years later. Twenty years is a long time – not a lifetime, but enough time to notice changes.

As you wander back through the area you left, you happen to meet four people: a current fisher, a retired fisher, a community citizen and an elected official.

What would you like each of these people to say about the "current" (20 years on) state of your fishery? What kind of fishery is it today? What are its values? What difference did your group make to the lives of these people? What kind of character did this group develop? What were the group's greatest accomplishments since you moved? What was the main purpose for its existence?

Here come the speakers. What would you like each one to say?

1. A current fisher
2. A retired fisher
3. A community citizen
4. An elected official

This can be done as an individual exercise or in a group of no more than four as everyone needs to directly document at least one perspective.

This tool comes from FAO's EAFnet.

### What are they?

Transects are observational walks or treks along the coastline, or across countryside and fields and off the beaten track in any given area, around a village or within a watershed. In a fisheries context, transects also include exploring the marine landscape using local craft. Transects serve to help outsiders see at close range many items of interest and relevance which they would otherwise miss. Some of these include:

Physical features	Such as topography, hydrology, types of problems such as erosion, etc.
Locally evolved technologies and management systems	These include traditional, indigenous technologies that fishers have been using, (sometimes over several generations) and their management.
Fishery resources	Here marine use, harvesting practices and patterns, productivity, yields, etc., are studied.
Local vegetation	This includes prominent plant species in the area – local vegetation and its uses, e.g. medicinal plants, non-food plants, etc.

An important feature of transects is that the group doing this exercise consists of a combination of outsiders and local fishers. In this way local knowledge and experiences supplement observations. This enhances the quality of the exercise whether it is for planning, monitoring or obtaining a general knowledge about the area.

Look out for:

- Micro environments;
- Local technologies (e.g. resource management, water conservation, erosion control);
- Problems and opportunities (e.g. problems such as deforestation, pollution, acidification, and how these impact on marine resources, etc.) Along with the solutions to these problems additional opportunities can also be recorded in consultation with the local fishers.
- Alternative livelihoods, including:
  - Non-fishing/non-extractive livelihood that is based around the resource (eco-tourism, boat repairs);
  - Extractive non-fishing (seaweed culture, some forms of aquaculture, salt making, handicrafts related to use of coastal forest);
  - Extractive alternative fishing (fish processing, shell collection/handicrafts, aquaculture fed on fish or using wild fish feed supply);
  - True non-fishing or non-extractive alternatives (clothes making, bike repairs, home gardens, small retail, fuel collection, etc.).

### How to do transects

#### Beforehand

1. Plan the transect. Think of the purpose (is it to gather baseline data relating to the FMU, to monitor or assess impact of management actions?).
2. Plan who will be involved: any person, especially local people, who have a knowledge of the area (marine/coastal resources/fishery). Also plan how you would put together and use the information collected by different groups.



3. Brief the groups clearly on the exercise and give them some tips on how to go about it. Let them have a clear idea of the basic information to be collected (indigenous technology, introduced technology, problems and opportunities covering the areas of marine, coastline, mariculture, fresh water, vegetation, etc.).
4. Take trouble to make the exercise interesting for all the participants, especially the locals. In the sub-group spend some time thinking it out and discussing it with your team members.

### During

5. Involve local people in the exercise, talk to them, ask them questions about the different things that you see, even if you think you have seen them before or know them well. Encourage them to talk to you and tell you about different things. Be in a patient and interested frame of mind. Don't take anything for granted or pass over anything without asking questions.
6. For greater learning try to relate your observations to the other items/aspects of the local situation, and follow leads. In this way, you begin to understand the local situation more comprehensively. For example, who has access to certain marine areas? Who harvests and sells minor marine produce? Where do they sell and at what price? In the case of migrants ask them where they come from, what work they are doing and why they left their home village? How long ago they migrated and how much they earn.
7. Encourage discussions among the fishers.
8. Record observations in the form of a map of the area/terrain covered on the transect and the significant features of each segment of the area/terrain.

### Follow up

9. Take trouble compiling the information your group has collected.




### When to use

Transects can be used during Step 1.3 while scoping the FMU (they are often a key element of resource and ecological assessments (see [Tool n.20](#)) and the data they generate is part of the baseline data. When used as part of Startup B they can be a way of engaging with different stakeholder groups. They can also be used in Step 5.1 for monitoring management performance.


### Resources needed:

Notebook for those jotting notes, or recording device; camera.

#### Advantages

-  Incorporates and validates indigenous knowledge
-  Can foster ownership
-  Can strengthen bond between insiders and outsiders

#### Disadvantages

-  Easier to do on land than on water

### TIPS for success:

- A good transect is that which combines observations with discussions
- Don't miss any opportunity to talk to passers-by
- Be curious
- Start the exercise in the morning because it is cooler then

This tool comes from FAO's EAFnet.

### What is it?

A **SWOT** is a planning tool that can be used to evaluate the **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats that you may face in undertaking the EAFM planning process or in implementing a proposed set of EAFM-based management arrangements.

This tool can help the EAFM planning team focus on main strengths and any key opportunities whilst avoiding the threats and dealing with any identified weaknesses.

Developing the SWOT chart for your EAFM planning process will help you think about what will affect the success of the process, because a SWOT essentially tells you what is good and bad about a particular proposal generated from both internal (strengths and weaknesses) and external sources (opportunities and threats), both with the aim to improve it:

- Strengths (maintain, build and leverage)
- Opportunities (prioritize and optimize)
- Weaknesses (remedy or remove)
- Threats (try and counter)

### How to carry out a SWOT analysis

Draw a 2x2 matrix on a large sheet of paper; give all stakeholders involved cards and pens and get people to write their ideas for each of four categories. Continue the discussion generating different suggestions for each of the four different areas until there are no more new thoughts to fill in the chart.

<b>Strengths</b>	<b>Weaknesses</b>
<b>Opportunities</b>	<b>Threats</b>

Use these pointers to guide your thinking and discussion:

Strengths: What are the attributes of the organization/group/situation? (*internal origin*)

Weaknesses: What are the negative aspects within the organization/group/situation, which may prevent achieving the objective? (*internal origin*)

Opportunities: What are the attributes of the environment? (*external origin*)

Threats: What are the negative aspects which may prevent achieving the objective? (*external origin*)

- These thoughts can then be refined and potential solutions developed for the negative aspects, from which you should be in a much better position to determine if the workplan you have developed for EAFM planning, together with the set of management options, are likely to be successful.

- The best thing about this tool is that it recognizes that there are usually two different sides (positive and negative) to any given issue or situation and it encourages discussion of both. It helps to set the basis for negotiations and trade-offs.
- Open, in-depth, focused and frank discussions are facilitated because agreement must be reached to identify what is a strength and what is a weakness. What is seen as a strength to one person may be a weakness to another.
- Encourages thinking about creating opportunities, considering strengths and weaknesses, and the limitations that might be present.

A SWOT can be undertaken by the EAFM team or it can involve the project team or it can be done by a broader group. If a larger group of stakeholders is involved, the process of identification can be done together as one large group, or by a series of smaller groups (or even individually), who all report back to the larger group.

### **When to use**

Initially, the EAFM team would carry out a SWOT during Startup A to see if all is in place to carry out the EAFM planning. The analysis could show that the proposition is currently too weak to progress at this point and, hopefully, what would be needed to address these weaknesses. It is also possible to use a SWOT for Step 3.3 for agreeing management actions. In this case it is used to indicate whether the set of actions is not strong compared with the SWOT's for alternative propositions. If the proposal is strong then this analysis should help support the decision to proceed and you can then translate each of the issues into category actions with suitable ownership by team(s).

### **Resources needed:**

Paper, card, pens.

#### **Advantages**

- ☺ Low cost
- ☺ Formal/informal; can adapt to participants
- ☺ Easy to facilitate
- ☺ Can bring more and new ideas to the table that you may not have thought of on your own

#### **Disadvantages**

- ☹ Can be demoralizing if you have more weaknesses and threats than other categories

 **What is it?**

A qualitative analysis assesses the risks of each of the identified issues for the EAFM components to determine their relative priority for direct management or other actions. This approach is a formalized system which enables the assessment of risks where insufficient information is available for fully quantitative methods.

This risk assessment process involves selecting the most appropriate combination of impact (consequence) and likelihood levels that fits the situation for a particular issue, based upon the information available and the collective wisdom of the group (including stakeholders) involved in the assessment process. These scores are multiplied to generate an overall risk score.

 **How to do qualitative analysis**

Here you score both the likelihood and impact of failure in relation to each issue on a scale of zero to five. Table A below outlines possible levels and descriptions of both impact and likelihood. For each issue you would agree a score for both impact and likelihood. Then you plot it onto Matrix B.

**Table A. The different levels of impact and likelihood used to calculate the risk value**

Impact		Likelihood	
Level	Description	Level	Description
0 – Negligible	Very insignificant, probably not measurable against background variability	1 – Remote	Insignificant probability of occurring
1 – Minor	Possibly detectable but minimal impact	2 – Rare	May occur in exceptional circumstances
2 – Moderate	Maximum acceptable level of impact	3 – Unlikely	Uncommon, but has been known to occur either here or somewhere comparable
3 – Severe	Above acceptable limit, wide and long-term negative impacts	4 – Possible	Evidence that it could occur
4 – Major	Very serious, likely to require long restoration time to undo	5 – Occasional	May occur
5 – Catastrophic	Widespread and probably irreversible	6 – Likely	Expected to occur

### Risk Matrix B

Numbers in cells indicate risk value, the colours/shades indicate risk rankings (see below).

		Impact levels					
		negligible	minor	moderate	severe	major	catastrophic
Likelihood		0	1	2	3	4	5
remote	1	0	1	2	3	4	5
rare	2	0	2	4	6	8	10
unlikely	3	0	3	6	9	12	15
possible	4	0	4	8	12	16	20
occasional	5	0	5	10	15	20	25
likely	6	0	6	12	18	24	30

Using the Risk Matrix B above, if the assessment group concludes that the most appropriate combination for an assessment of a particular issue is that - *it is possible that a major consequence could occur*, this is an Impact level 4 and a Likelihood level of 4. These two scores are multiplied to generate a Risk Score of 16 which for this system would equate to a High Risk (see Risk Levels and Outcomes below) which is an unacceptable level of risk, and therefore increased management actions would be needed to achieve the objective.

To correctly assign the levels of consequence and likelihood, it is important to recognise that these form a pair, they are not to be chosen independently. It is the likelihood that, given a particular fishing management strategy, a particular level of impact may be the result (either from an accumulation of small events or from a single large event). **It is assessing the likelihood of an outcome being generated not the likelihood of an activity occurring.** This type of error must be avoided as it results in over-rating risks.

When making decisions about what are appropriate combinations of consequence and likelihood, if more than one combination of consequence and likelihood is considered plausible, the combination with the highest risk score should be chosen (i.e. this is consistent with taking a precautionary approach).

Whichever final combination of consequence and likelihood is chosen, it is very important that the justifications for choosing this combination of levels is recorded. Other parties who were not part of the assessment process may need to be able to see the logic and assumptions behind the decisions. It also greatly assists the review of the risk in the future if you know why the levels were originally chosen.

### Risk Levels and outcomes for a 6 x 6 matrix

Risk levels	Risk scores	Likely management response	Likely reporting requirements
<b>Negligible</b>	0 – 3	None	Brief justification
<b>Low</b>	4 – 5	No specific management	Full justification needed
<b>Medium</b>	8 – 17	Specific management/monitoring needed	Full performance report
<b>High</b>	18-13	increased management activities needed	Full performance report



## Tool 26. Qualitative risk analysis

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### When to use

During Step 2.2 once you have identified and categorized stakeholder EAFM issues and you need to prioritize them. This is an adaptation of the tool on EAF net.

For more details see: <http://www.fao.org/fishery/eaf-net/eaftool/eaftool4/en>

### Resources needed:

Various; it will depend on what types of methods you choose.

#### Advantages

- ☺ Can be as simple or complicated as necessary
- ☺ Diverse methods cater for all audiences

#### Disadvantages

- ☹ Time consuming
- Ⓜ Some methods costly

### What is it?

A qualitative analysis that assesses the risks of each of the identified issues for the EAFM components to determine their relative priority for direct management or other actions. This is the same tool that was used for prioritizing stakeholders ([Tool n.18](#)) and is a version of [tool n.26.](#))

Issue identification is likely to result in a long list of potential issues, but there is a practical limit to the number of issues that can be dealt with by a management system. Prioritization of specific issues is usually conducted using a risk assessment. The risk assessment can be either qualitative and opinion based, or highly quantitative and data based.

This approach is a formalized system which enables the assessment of risks where insufficient information is available for fully quantitative methods.

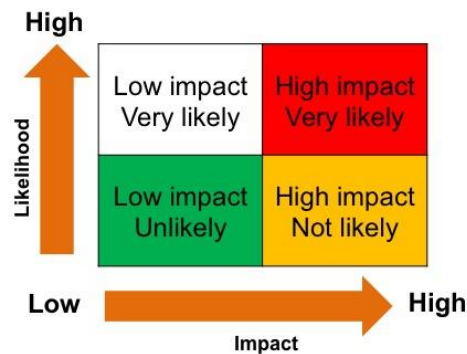
### How to undertake a risk assessment to periodize issues

A risk analysis typically seeks answers to three questions:

- What can go wrong? (Risk)
- How likely is it to go wrong? (Likelihood)
- What would be the consequences of it going wrong? (Impact)

$$\text{Risk} = \text{likelihood} \times \text{impact}$$

To conduct a risk assessment, you score both the likelihood and impact of failure in relation to each issue. A simple semi-quantitative risk assessment is to rate each issue as to whether it has (i) high, medium or low likelihood of occurring and (ii) high, medium or low impact when it does occur. Likelihood is the probability of occurrence and impact is how change would occur. These are then plotted on a 2x2 matrix diagram.





## Tool 27. Risk assessment for prioritizing issues

In this way, the high likelihood/high impact issues are identified. High priority issues are those with a high likelihood of occurrence and high impact. These high priority issues are the ones that require direct management and need to be taken forward into the planning process. The medium risk issues might also be identified and mentioned in the in planning in case their priority changes over time.

To correctly assign the levels of consequence and likelihood, it is important to recognize that these form a pair, they are not to be chosen independently. It is the likelihood that, given a particular fishing management strategy, a particular level of impact may be the result (either from an accumulation of small events or from a single large event). It is assessing the likelihood of an outcome being generated not the likelihood of an activity occurring. This type of error must be avoided as it results in over-rating risks.

When making decisions about what are appropriate combinations of consequence and likelihood, if more than one combination of consequence and likelihood is considered plausible, the combination with the highest risk score should be chosen (i.e. this is consistent with taking a precautionary approach).

### **When to use**

This tool is most useful in Step 2.1 when stakeholders are identifying their FMU issues. It allows you to prioritize the wide range of issues identified.

### **Resources needed:**

Paper, card, pens.

#### **Advantages**

- ☺ Risk assessment is a very effective tool for participatory priority setting
- ☺ The assessment can be as simple or complicated as needed – caters for all audiences
- ☺ Can be carried out with simple props

#### **Disadvantages**

- ☹ Can be time consuming
- ☹ Can become too complicated





## Tool 28. Component trees

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### What is it?

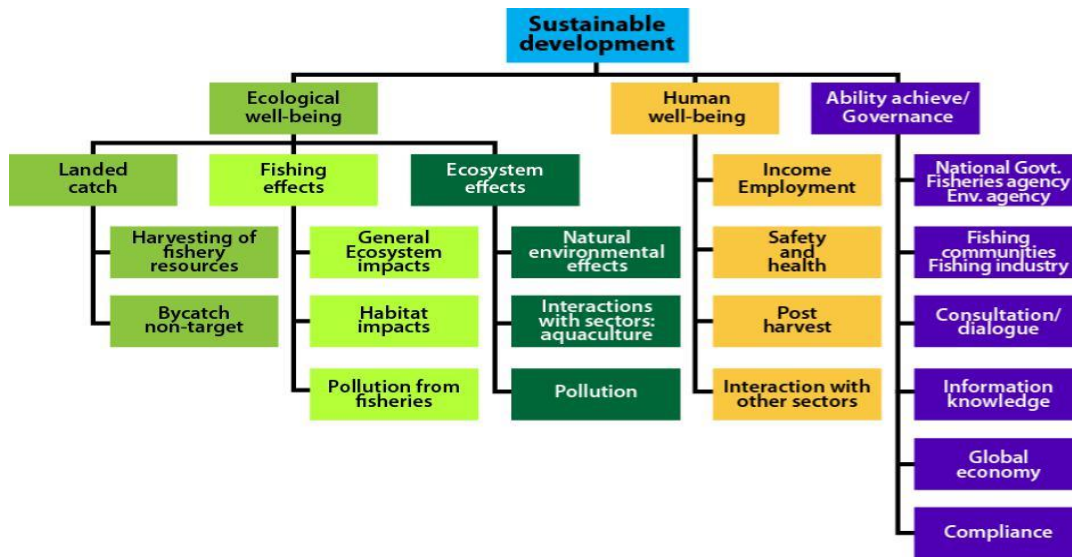
The Component Tree approach allows you to categorize issues according to the three EAFM components and break issues down to a level that can be managed. The use of “component trees” allows the issues to be put into a structured framework for subsequent risk analysis and prioritization. Thus, the issues and the management objectives in this framework will be a mix of ecological, social and economic objectives for a given fishery. The strength of this approach is that it deals explicitly with the hierarchy of issues and objectives inherent in fisheries management. It also ensures that issues are linked to higher-level principles of the CCRF and the overall goal of sustainable development.

### How to do a component tree

Have the heading Sustainable Development at the top of a large piece of paper. Under this put the three EAFM component headings: Ecological well-being; Human well-being and Governance. Ask stakeholders to identify the issues for their fishery, and categorize each issue under one of these three component headings. Continue to identify the issues in a hierarchical setting. It is likely that initially you will brainstorm a whole variety of issues. Stakeholders need to agree to headings or categories for them and place them in the hierarchy. This process can be disorderly and full of debate. Get stakeholders to write their issues on cards and place them under the headings; the cards can then be moved about easily during the debate.

If possible, broad issues should be broken down into more specific issues. This is the most difficult step and sufficient time must be allocated for it to be completed, involving a process that is transparent and participatory. Starting with the broad issue, the hierarchical tree diagram is further developed to include all issues relevant to that broad issue for a given fishery. Constructing the branching of the tree is the process of moving from the high-level issue to an operational level, with as much branching as is necessary to specify the issue at a level that can be managed with one or more management interventions.

Alternative: FAO’s EAFnet and EAF Toolbox suggest a slightly different approach, which consists of modifying a set of “generic component trees” to document and structure the various issues associated with a fishery system into their related components. Adapting the already tested generic trees minimizes the chance of missing issues. See details at [www.fao.org/fishery/eaf-net/topic/166252/en](http://www.fao.org/fishery/eaf-net/topic/166252/en)



The figure gives an example of the main headings in the tree that might need to be considered.

For example, likely issues in Asia will include:

- overcapacity of fishing and high level of illegal, unregulated and unreported fishing (IUU);
- overfishing of the main commercial species resulting in less than optimum long-term yields;
- degraded critical habitats;
- ecologically unviable catches of non-retained species (bycatch), especially endangered and vulnerable species;
- detrimental impact on the structure, processes and functions of the ecosystem;
- unsustainable livelihoods; and
- high regional unemployment.

### When to use

This tool is most useful in Step 2.1 when stakeholders are identifying their FMU issues. It allows you to categorize what would otherwise be a mass of diverse issues. It can be done simply with large sheets of paper stuck together, card and pens (on tables or on the floor); in this case the final product will need to be recorded electronically. Or it can be done using spreadsheets and with software that all involved in the process can share (see FAO example).

### Resources needed:

Paper, card, pens.

#### Advantages

- ☺ Identifies fishery issues for each of the three EAFM components
- ☺ Fosters discussion and debate

#### Disadvantages

- ☹ Time consuming if involving many stakeholders
- ☹ Can be a complicated process if not facilitated well

### What is it?

A causal chain is an ordered sequence of events in which any one event in the chain causes the next. Causal chain analysis (CCA) attempts to identify the sequence such that the underlying cause(s) can be identified and management actions be directed at the causes, not the symptoms. Can be used in conjunction with [Tool n.30 problem - solution tree](#).

### How to undertake causal analysis

In a participatory process where stakeholders are asked to brainstorm “issues”, these often range from broad underlying causes to more obvious symptoms.

One system of causal analysis recognizes the following hierarchy of “issues”:

*Root cause* = fundamental cause of a particular event or series of events.

*Immediate cause* = the direct cause of an issue or event.

*Underlying cause* = causes are those that contribute to the immediate causes

*Impact* = the obvious manifestation of the cause(s). This is often described in terms of the environmental impact and the linked socio-economic impact.

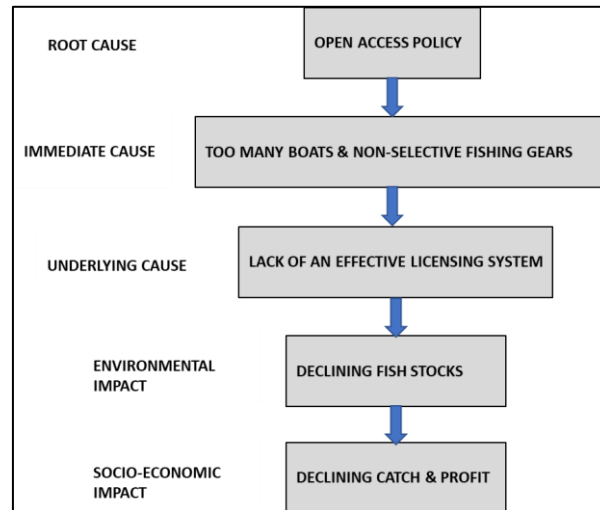
Note: Fishery management actions are usually more effective if they target the root cause or the immediate causes. More often than not, management cannot address the driver as it is usually outside the control of a single sector. Addressing the symptom without analyzing the underlying causes is often counterproductive.

In the example shown below, the issue identified by stakeholders is “declining fish stocks”. One stakeholder also identified an issue of “too many boats and non-selective gears”, while yet another identifies “open access policy” as an issue (a policy that gives everybody the right to fish in contrast with a “limited entry” policy that controls the right to fish).

A causal analysis shows that the issue of “declining fish stocks” is the impact resulting from the issue, along with the socio-economic impact of “declining catch and profit”. The root cause of the issue is the “open access policy” that in turn causes too many boats and unselective fishing gear.

Addressing the issue of “declining fish stocks”, therefore, would focus on reducing the number of boats and equipping them with more selective fishing gear under a “limited entry”, rather than an “open access” policy.

### CAUSAL CHAIN ANALYSIS



In reality, as with food chains, causes are usually intertwined into a complex causal web. However, the aim of CCA is not to tease out the causal web in detail, but to recognize that there is a hierarchy of causes that need to be recognized, and often one causes another. When the question is asked “What issue can management actions address”, a rough causal analysis usually takes place with some issues such as “climate change” obviously not able to be addressed by direct management, and other issues such as “degraded habitats” not able to be addressed unless the immediate and root causes are identified.

#### When to use

This tool is most useful in Step 2.1 when stakeholders are identifying their FMU issues. It allows you to sort the wide range of issues identified.

#### Resources needed:

Paper, card, pens.

#### Advantages

😊 Fosters discussion and debate

#### Disadvantages

😞 Needs to be well facilitated

 **What is it?**

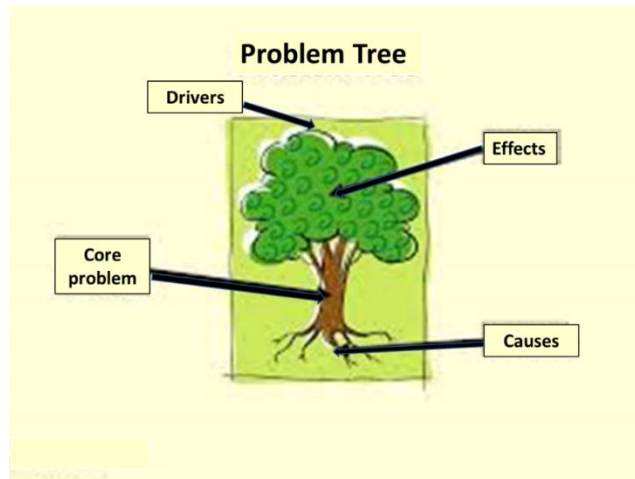
Problem tree analysis is a visual tool to help tease out cause and effects by mapping out the anatomy of cause and effect using an analogy of a tree. The effects are the branches of the tree, the core problem is the trunk, and the causes lie underground in the roots of the tree. It is an alternative to causal chain analysis ([Tool n.29](#)).

The problem tree is designed to provide a way of separating out causes and effects and being able to identify the underlying causes that can be addressed by management measures. The problem can easily be converted into a solution tree.

 **How to undertake problem - solution trees**

A problem tree recognizes four levels of an issue that help sort out the causes and effects, as follows:

1. Drivers: the large-scale events that have a flow-on effect on many issues, e.g. growth in population and wealth, or climate change.
2. Effects: what the core problem creates;
3. Core problem: the actual problem; and
4. Causes: the causes of the problem. These can be broken down further into main and underlying causes.



The problem tree analysis can be conducted by using cards and flipcharts, or even drawings in the dirt. The first step is to agree on what the core problem is.

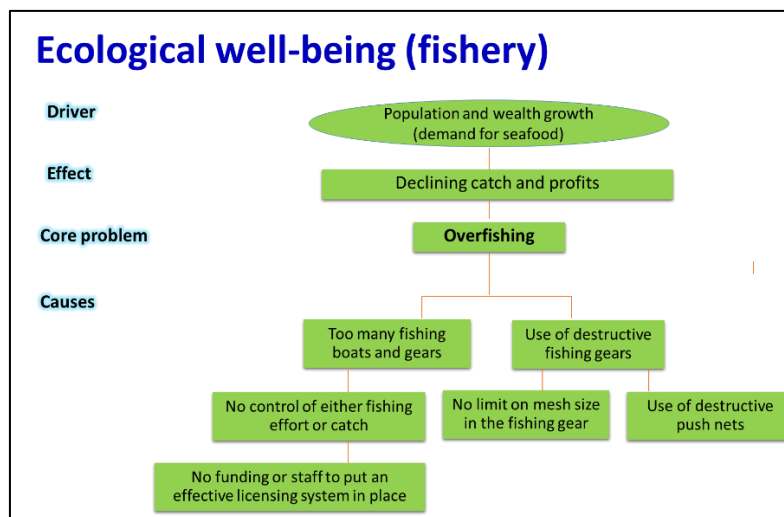
In its simplest form, and the one that promotes the participation even of stakeholders without formal education, the problem tree is a way to set out the problems in a hierarchical, order using the following steps:

1. Take one of the high priority issues identified in the risk assessment.
2. Decide whether the issue is a drivers, an effect, a core problem or the causes of the problem.
3. Agree on the core problem and then using some of the "issues" identified earlier plus adding new causes:
  - a. Group causes below the core problem
  - b. If it is an effect, it goes above the core problem

As with many causal analyses tools, the "5 whys method" that was developed by the Toyota Production System can be used to identify underlying causes.

*"The basis of Toyota's scientific approach is to ask why five times whenever we find a problem ... By repeating why five times, the nature of the problem as well as its solution becomes clear." Taiichi Ohno*

This technique is useful in digging down into the real underlying causes of a problem.



One of the strengths of the problem tree tool is that it can quickly be turned in to a solution tree that can be used to frame an EAFM plan. The problem tree effect is often linked to the goal and the core problem often identifies the operational management.



## Tool 30. Problem – solution trees

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Appropriate management measures are selected that can address the causes of the problems (not the effects). Ideally, this should be framed as a harvest control rules (or decision rule) that specifies and agreed action that will be taken to apply the management measure.

### **When to use**

This tool is useful in Step 2.3 when stakeholders are setting goals, and step 3.1 and 3.3 when objectives and management actions are being developed.

### **Resources needed:**

Paper, card, pens.

#### **Advantages**

- ☺ Terminology and analogy to a tree is easy to understand
- ☺ Provides a direct link between a problem and a solution

#### **Disadvantages**

- ☹ Needs to be well facilitated
- ☹ Can be confusing deciding whether something is an effect, a cause or an underlying cause (often case specific)

This tool comes from FAO's EAFnet.

### What are they?

The lists below outline some of the most common operational objectives that have been developed for use in each of the main areas of EAFM (ecological; social; economic and governance) including some description of why these were chosen. The examples can be used to select an appropriate objective for your fishery or they can be useful just as starting points for the development of a specific operational objective for use in your fishery. It is likely that at least one or more will be directly applicable somewhere in your fishery.

### How to use this tool

The operational objectives that are chosen for each of the issues to be managed need to be outcome based and can best be described by answering the question: *"What do you want the fishery to achieve for this component at the moment and why?"*

### When to use

You can use this tool for guidance in Step 3.1 to help in the identification, development and selection of appropriate operational objectives for each of the issues that will be directly managed through the EAFM plan.

#### 1a. Target species

Four alternative formal operational objectives for target species that have been developed are to:

- "Maintain spawning biomass at least above the level where it is likely not to result in recruitment overfishing". This is based on wanting to avoid recruitment overfishing and so would be appropriate to meet a stock sustainability (ecological) objective.
- "Maintain the biomass above the level that will generate maximum sustainable yield (MSY)". This is based on wanting to maximize the catch levels and would therefore be relevant to meeting a social or food security related objective.
- "Maintain the biomass above the level that will generate maximum economic yield (MEY)". This is based on wanting to maximize the level of economic return or profit that the fishery will generate and is therefore relevant to meeting an economic objective for the stock.
- Maintain the biomass of keystone species at levels that will ensure maintenance of their specific role in ecosystem function". This is only relevant where a true keystone species (e.g. not just any apical or top predator) is involved and is therefore relevant in meeting an ecosystem objective.

#### Less formal

- Maintain stock abundance (or catch or effort) at or near current levels (where you think the stock is at about the right level, currently okay).
- Increase stock levels by x% (where you think it is not okay).
- Reduce catch/effort by x% (where these are considered too high).

These less formal operational objectives will often include the indicator and performance measure in the one statement – that is fine.

"Ensure catch levels of the country meets its convention obligations."

"Ensure catch levels of the country do not exceed those determined as being appropriate for the exclusive economic zone (EEZ), based on a catch-rated weighted area calculation."



**1b. Non-target (by-product) species**

The common operational objectives for by-product species can use the same format as target species.

Formal

- Keep stock levels above Bmsy (biomass that can support maximum sustainable yield).
- Keep stock levels above the level of recruitment overfishing.

Less Formal

- Maintain catch levels in historical range.
- Do not increase catch levels by more than x%.
- Reduce catch levels by x%.

**Bycatch (discarded) species**

General discard species

- To maintain appropriate levels of biomass of bycatch species to minimize any significant impact on their dynamics and the broader ecosystem.
- To minimize/decrease/eliminate the impact of the fishery on {insert name of species/group of species}.

To maintain appropriately low levels of impact of the fishery on {species/group of species}.

Protected/Iconic Species

- "To keep the level of capture of this species at acceptable levels."

Wastage

- "To minimize the wastage of captured species."

Informal

- Do not increase the level or area of capture of discarded/protected species (where the current level of capture and discarding is considered acceptable).
- Reduce the level or area of capture of discarded/protected species (where the current level of capture and release is considered too high).
- Reduce the level of discarding for bycatch species (where wastage is considered too high).
- Increase the rate of survival of discarded species (where capture can't be avoided but the mortality of the discards can be improved).

**2. Ecosystem**

**Ecosystem structure**

Common operational objectives

- To maintain any impact on the wider ecosystem within acceptable levels
- To maintain appropriate levels of biomass of target and other by-product species to minimize any significant impact on the broader ecosystem.
- To maintain the spatial extent of the fishing activity to a comparatively small percentage of the habitat/community.

Less formal

- Ensure that there are no major shifts in the relative species composition/relative trophic levels of the community.
- Keep the total levels and composition of removals at current levels.

**Habitat**

Default objective "To maintain the spatial extent of habitat impacts from the fishing activity to a comparatively small percentage of the habitat/community."

Less formal

- No increase of habitat directly impacted by the fishery.
- Keep the area of impact at less than historical boundaries.



## Tool 31. Examples of operational objectives

3. Socio-economic	
Component	Possible Operational Objective
Effects of fishery on industry participants <ul style="list-style-type: none"> <li>Economic</li> </ul>	Maintain or increase income to fishers
Employment	Maximize local employment in fishery
Food security <ul style="list-style-type: none"> <li>Social</li> <li>Health</li> </ul>	Ensure level of catch meets food requirements of sector Minimize death and accidents rate for fishers
Lifestyle benefits and costs	Maintain or improve lifestyle for fishers Ensure crew separation from family does not cause unnecessary problems
Allocation	Acceptable levels of allocation of access among fishers and among sectors
Effects of fishery on communities <ul style="list-style-type: none"> <li>Economic</li> </ul>	Maintain or increase jobs, profits and flow-on benefits to the community
<ul style="list-style-type: none"> <li>Social</li> <li>Social capital</li> </ul>	Maintain or increase the contribution the fishery makes to social capital at the local scale
Employment	Maintain or increase regional/local employment in the fishery and related industries
Regional industry	Maintain or improve local/regional attitudes to the fishery
Effects of fishery on national economic wellbeing	Maintain or increase the contribution of the fishery to the national economy
Import replacement	Maintain or increase the proportion of domestically harvested fish consumed
Social <ul style="list-style-type: none"> <li>Health benefits/risks seafood eaten</li> </ul>	Improve human health/nutrition at the national level by increasing fish consumption
Seafood quality	Ensure seafood meets food safety requirements

4. Governance	
Component	Possible Operational Objective
Legislation	Ensure legislation allows the development of effective regulations and management arrangements
Management plan	Having an effective management plan that will deliver the objectives of the fishery
Management effectiveness	Ensure that the management system is effective
Compliance	Ensure that there is an acceptable level of compliance
Monitoring	Ensure that there is an effective monitoring program for each of the management systems
Reporting	Ensure that there is appropriate reporting to all relevant stakeholders
Consultation	Ensure that there is effective consultation with key stakeholders

### What are they?

The tables below show linkages between some operational objectives indicators and basic data requirements for a hypothetical fishery.

### How and when to use

You can use this tool for guidance in Steps 3.1–3.3 to help in the identification, development and selection of objectives, indicators and relevant data requirements for each of the issues that will be directly managed through the EAFM plan.

Objective	Example indicator	Data requirements
<b><i>Fishery resources</i></b>		
Reduce fishing effort	Fishing effort of different fleets	Vessels, time fished and gear type per fleet
Reduce fishing capacity	Fleet capacity	Vessels registered and gear type per fleet
Increase/maintain fish landings of commercially valuable species by area	Fish landings by major species by area	Total landings by major species per fleet per year
Increase/maintain spawning stock biomass of key landed species	Spawning stock biomass of key species (or suitable proxy)	Length and/or age composition of major species
Decrease/maintain the level of fishing mortality for key species	Level of fishing mortality for key species	Length and/or age composition of major species
<b><i>Other ecological concerns</i></b>		
Reduce discards to the extent practical	Total amount of discards	Total catches of the bycatch
Reduce discards of high risk bycatch species (or species groups)	Amount of discards of high-risk species	Total catches and releases of high-risk bycatch species
Reduce number of deaths of vulnerable and/or protected species	Number of deaths of vulnerable and/or protected species	Catch and release of vulnerable and/or protected species
Decrease/maintain area impacted by a certain gear	Area impacted by the gear	Area fished by gear type
Increase amount of habitat protected by MPA	Amount of habitat protected by MPA	Area under MPA by habitats
Increase proportion of large fish landed	Size spectrum of fish community	Length of fish in a representative sample
Minimize the impact of other activities on fish nursery areas	Area of fish nursery area degraded	Area and status of different habitats
Maintain ecological balance	Mean trophic level of catch	Species composition from sample catches



## Tool 32. Linkages for a hypothetical fishery: objectives-indicators-data

Objective	Example indicator	Data requirements
<b>Economic</b>		
Increase the contribution of fishing to the national economy	Net economic return for the fishery	Revenue and costs of fishing per fleet, per year
Increase/maintain profit of the harvesting sector to that of similar industries	Profit to harvesting sector	
Increase exports	Export quantity and value	Quantity and value of exports by destination
Maintain or increase economic contribution to community	Household income derived from fishing/post-harvest credit/cooperative group activity	Household income figures (household survey/questionnaires/credit group details)
<b>Social</b>		
Increase fish consumption per capita for better health	Fish consumption per capita	Fish consumption of representative sample (household survey)
Ensure seafood quality meets food safety requirements	Number of food compliance reports	Food safety compliance reports
Increase/maintain employment in the harvest and post-harvest sectors	Employment in harvest/post-harvest	Total number employed in harvest and fishery associated industries
Maintain or improve lifestyle or cultural values	Lifestyle or cultural values	Social surveys
Maintain/increase activity of indigenous communities	Number of indigenous fishers	Number of indigenous fishers
Reduce dependence of communities on fishing	Number of people/households wholly dependent on fishing	Other income or livelihoods derived from other activities

Objective	Example indicator	Data requirements
<b>Governance</b>		
Have well-developed fishery management plans to include objectives, benchmarks and performance measures	Number of well-developed fishery management plans that include objectives, benchmarks and performance measures	Number of well-developed fishery management plans that include objectives, benchmarks and performance measures

 **What are they?**

This list provides some examples of gender sensitive indicators for fisheries and aquaculture. Combine this with indicators in [Tool n.31](#).

 **How to use these suggestions**

The EAFM team will need to be aware of how the EAFM planned objectives and management actions will affect both women and men. Refer to this list for possible EAFM indicators which are gender sensitive, and which will enable the EAFM team to monitor change for both women and men stakeholders.

 **When to use**

In step 3.2, when developing indicators.

- Increased number of women managing successful productive projects (i.e., marine farms, ponds, eco-shelters).
- Number of women that recognize themselves as “fisher-women”.
- Level of community recognition regarding the fact that women and men possess the same capacities to undertake the same type of job.
- Women and men are paid equal salary for the same type of job and work shift (particularly in fish processing plants).
- Women and men are acquainted with adequate marketing and accounting techniques.
- Women and men participate actively in the conservation of marine-coastal resources.
- Number of women’s organizations formally incorporated.
- Women trained to assume responsibilities in power or decision-making positions.
- Women actively participate in the decisions about the use of natural resources.
- Women and men participate in mixed organizations (i.e. fishing cooperatives/associations).
- Community members recognize that women are capable of making decisions.
- % increase of men taking responsibility for children’s care.
- % increase of men participating in household tasks.
- % of girls and boys from fisher households attending school.
- Food is equally distributed among men and women in the household.
- Improved access to and control over key resources by women (e.g. fuel wood, craft supplies, shellfish).
- Number and type of formal tourism sector jobs held by women; not just the housecleaning and food jobs.
- % of women obtaining fisheries-related accreditations.
- Number/percentage of women that own aquaculture ponds.



## Tool 33. Gender sensitive indicators

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### Quantitative:

- Participation of all stakeholders in project identification and design meetings (attendance and level of participation/contribution by sex, age, and socio-economic background).
- Degree of rural women and men's inputs into project activities, in terms of labour, tools, money, etc.
- Benefits (e.g. increased employment) going to women and men, by socio-economic background and age.

### Qualitative:

- Level of participation as perceived by stakeholders through the different stages of the project cycle (by sex, age, and socio-economic background).
- Degree of participation of an adequate number of women in important decision-making (adequacy to be mutually agreed by all stakeholders) – to be measured through stakeholder responses and by qualitative analysis of the impact of different decisions.



## Tool 34. Manager's toolbox

### What is it?

There is a range of management actions<sup>1</sup> that can be used to address issues and meet objectives in a fishery. These are described below and set out as a table showing their duration of their effect as well as their direct and longer-term effects. It is work in progress, and the section on governance still needs to be compiled. There is a range of management actions<sup>2</sup> that can be used to address issues and meet objectives in a fishery. These are described below and set out as a table showing their duration of their effect as well as their direct and longer-term effects. It is work in progress, and the section on governance still needs to be compiled.

### EAFM Management Actions

While it is beyond the scope of this toolkit to fully discuss all the resource management actions available, a short discussion will be presented. A large variety of management actions have been developed and are available to the fisheries manager. These include conventional fisheries management actions and “new” management actions. In conventional fisheries management, actions focus more on managing people to promote sustainable use of the fish resource. For example, technical actions may control the type of fishing gear used and impose closed seasons to protect spawning stocks. In EAFM, because the issues and objectives being considered are broader, an expanded suite of management actions is required. Some of the issues and objectives of EAFM will fall outside the mandate of the fishery agency. In these cases, activities that link to additional management sectors, such as coastal management, disaster risk reduction and climate change adaptation are required. EAFM management actions should be inclusive of management plans and actions undertaken through other management strategies (e.g. ICM, MPAs, marine spatial planning).

The suite of EAFM management actions available include:

- (i) Conventional fisheries management actions to address target species concerns and technical actions to regulate fishing mortality:
  - catch and effort controls:
    - input (effort) controls (e.g. limited entry, boat capacity limits, fishing location limits, intensity of operation, fishing time, gear restrictions, gear modifications)
    - output (catch) controls (e.g. Total Allowable Catch, quotas, escapement controls, size limits)
  - spatial controls (e.g. area closures, MPAs and no-take areas);
  - temporal controls (e.g. seasonal closures; protecting spawning aggregations; permanent closures)
  - bycatch and juvenile reduction devices (e.g. BRDs, JTEDs)
  
- (ii) Actions to maintain, restore, and conserve the structure and function of the ecosystem include ecosystem manipulation (e.g. MPAs; no-take areas; habitat restoration, creation and enhancement and population manipulation, such as restocking, planting mangroves, stock enhancement and culling; artificial reefs; protection of endangered and protected species);

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<sup>1</sup> Often referred to as management measures

<sup>2</sup> Often referred to as management measures



## Tool 34. Manager's toolbox

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- (iv) Actions that address human social/economic dimensions such as public education, human capacity development (e.g., fishery management skills), community and economic development, income diversification and livelihoods, consumers (certification and ecolabelling), reduced energy usage, short term subsidies and vessel buyback. Actions to address the governance issues such as community-based management and co-management and reduction of fishing conflicts through zoning of fishing grounds.
  
- (v) Actions to address open access to the fishery such as rights based management including limited entry or access rights (TURFs, fishing rights area, limited entry licenses, input rights (limit total amount of effort, such as time fished, vessel size, amount and type of gear), and output rights (right to catch a piece of the TAC, such as individual quotas and community quotas). The Individual Transferable Quota (ITQ) is probably the most well-known form of rights-based management.
  
- (vi) Actions to address enforcement and compliance can be 'soft' preventive measures or 'hard' sanctions. Soft enforcement approaches promote voluntary compliance with the requirements of the law without going to the courts. Negative or 'hard' enforcement uses legal sanctions imposed by a court or regulatory authority for deterrence.
  
- (vii) Actions to address non-fishery issues such as integrated coastal zone management, marine spatial planning, integrated watershed management, and integrated ecosystem-based management





## Tool 34. Manager's toolbox

### How and when to use

You can use this tool for guidance in Step 3.3 to help in identifying appropriate management actions for the FMU objectives you have selected. These lessons learnt are the aggregation of experiences from many fisheries across many nations. They only provide generic guidance and what works and what doesn't work is very fishery specific and will depend on (i) socio-economic conditions (ii) operational characteristics of the fishery, (iii) governance system in place, including compliance and enforcement.

Management Measure [Fisheries resources]	Duration	Direct Effect(s)	Longer-term Effect(s)
Total allowable catches (TACs)	Temporary	<ul style="list-style-type: none"> <li>- likely to accelerate, not reduce the growth of fishing capacity</li> </ul>	<ul style="list-style-type: none"> <li>- capacity and effort increase if effort and entry unrestricted</li> <li>- race for fish ("fishing derby")</li> <li>- potential for frequent overruns of the TAC</li> <li>- frequently results in excess capacity and processing plant down time during closed season(s)</li> <li>- create motives for IUU fishing</li> <li>- capacity will increase</li> <li>- requires regulations to ensure traceability and to control transshipment</li> </ul>
Non-transferable vessel catch limits (individual quotas/IQs)	Temporary	<ul style="list-style-type: none"> <li>- overcapacity not addressed</li> <li>- may limit additional growth of capacity</li> </ul>	<ul style="list-style-type: none"> <li>- requires regulations to ensure traceability and to control transshipment</li> <li>- additional regulations required</li> <li>- create motives for IUU</li> <li>- capacity will increase</li> </ul>

Management Measure [Fisheries resources]	Duration	Direct Effect(s)	Longer-term Effect(s)
Individual transferable quotas (ITQs)	Potentially enduring	<ul style="list-style-type: none"> <li>- market forces drive out overcapacity</li> <li>- consolidation occurs if overcapitalized</li> </ul>	<ul style="list-style-type: none"> <li>- capacity managed automatically</li> <li>- compliance concerns internalized by fishers to protect asset (less IUU fishing)</li> <li>- supplementary regulations helpful to reinforce conservation</li> </ul>
Effort limitation through limiting boat numbers and gear (TAEs)	Mid-term only	<ul style="list-style-type: none"> <li>- disruption due to difficult allocation of access rights</li> </ul>	<ul style="list-style-type: none"> <li>- effort creep (increase in horsepower, length, breadth, and tonnage) frequently occurs</li> <li>- requires regulations to control transshipment</li> <li>- can create incentives for IUU</li> </ul>
Individual effort quotas (IEQs) in trawl time, gear use, time away from port, fishing days, etc.	Mid-term only	<ul style="list-style-type: none"> <li>- enforcement difficult</li> <li>- additional regulations required to control input substitution</li> </ul>	<ul style="list-style-type: none"> <li>- effort creep (increase in horsepower, length, breadth, and tonnage) frequently occurs</li> <li>- requires regulations to control transshipment</li> <li>- create motives for IUU</li> </ul>
Individual fishing rights (IFQs)	Potentially enduring	<ul style="list-style-type: none"> <li>- market forces drive out overcapacity</li> <li>- consolidation occurs if overcapitalized</li> </ul>	<ul style="list-style-type: none"> <li>- capacity managed automatically</li> <li>- compliance concerns internalized by fishers to protect asset (less IUU fishing)</li> <li>- supplementary regulations helpful to reinforce conservation</li> </ul>
Vessel buyback programmes	Temporary	<ul style="list-style-type: none"> <li>- purchase of vessel(s), license(s), and/or gear(s)</li> <li>- capacity may be temporarily reduced in the fishery</li> </ul>	<ul style="list-style-type: none"> <li>- any improvements in stock abundance will attract additional capacity</li> <li>- create motives for IUU fishing</li> <li>- capacity will increase</li> </ul>
Territorial Use Rights (TURFs) Management and Exploitation Areas for Benthic Resources (MEABRs) Limited Access Privilege Programs (LAPPs) Designated Access Privilege	Potentially enduring	<ul style="list-style-type: none"> <li>- reallocation of the fishery to the recipient community</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- requires group understanding of asset value of user rights, capability to manage</li> <li>- reduction of overcapacity or containment of capacity linked to subsequent management</li> <li>-</li> </ul>

<b>Management Measure [Fisheries resources]</b>	<b>Duration</b>	<b>Direct Effect(s)</b>	<b>Longer-term Effect(s)</b>
Programs (DAPPs)			
Seasonal and temporary spatial closures (spawning and juvenile habitats)	Potentially enduring if of sufficient size	- reduced time/area for catching fish	- requires effective enforcement and cooperation of users - may not reduce fishing capacity but can provide refuge for fish
Permanent closures (e.g. nursery areas)	Long-term if of sufficient size	- may result in reduced harvest for some gear	- requires effective enforcement - potential increase in both quantity and value of the harvest
No take areas, MPAs, etc.	Potentially enduring if of sufficient size	- can concentrate fishing to areas outside of MPAs	- requires effective enforcement and cooperation of users - may not reduce fishing capacity - can provide refuge for fish and critical habitats and result in rebuilding of some fish stocks
Eco-labeling	Potentially enduring if based on consumer preferences	- more responsible fisheries to gain price differential	- only works in societies where consumers are prepared to pay more for ecologically sustainable fish products e.g. developed nations. - can have flow-on effect to exports from developing nations
Restocking and stock enhancement	Long-term if based on sound ecology	- ownership in management intervention	- can slow or even reverse trends in fishery resource declines long-term - building of some stocks provided critical habitats have not been removed - costs may outweigh benefits in the long-term
Banning of destructive gears	Mid-term	- shift to other gears	- substitution of unregulated inputs or new gear types to replace restricted inputs - regulations lose effectiveness and additional regulations required

<b>Management Measure [Fisheries resources]</b>	<b>Duration</b>	<b>Direct Effect(s)</b>	<b>Longer-term Effect(s)</b>
Gear modifications (mesh size, panels and grids) to exclude undersized fish	Long-term	- initial reduction in harvests but not necessarily value	- if enforced and complied with this will result in increased quality of fish and increased value
Bycatch/juvenile reduction devices (BRDs, JTEDs, etc.)	Mid-term	- initial reduction in harvest but increase in more valuable species	- difficult to enforce - can lead to increased discarding
Minimum size limits on selected species	Mid-term	- initial reduction in harvest but increase in more valuable species	- difficult to enforce - can lead to increased discarding

<b>Management Measure [Ecosystem]</b>	<b>Duration</b>	<b>Direct Effect(s)</b>	<b>Longer-term Effect(s)</b>
Habitat modification (e.g. mangrove/seagrass restoration)	Long-term if based on sound ecology	- ownership in management intervention	- can slow or even reverse trends in fishery resource declines long-term - building of mangrove/seagrass dependent stocks back to original carrying capacities
Artificial reefs	Potentially enduring if right construction	- ownership in management intervention	- unsure. Artificial reef may act to increase productivity but also may act as an aggregating device that increases the fishing power of existing gears
Culling/introductions to maintain balance in an ecosystem	Could be detrimental if opposed by some groups	- change in ecosystem structure	- Unsure; ecosystem response to manipulations very unpredictable
Protection of endangered, threatened and protected species (ETPs) (e.g. turtle nesting areas)	Long-term if complied with	- reduces mortality of ETPs but may affect the food security of fishing communities	- can be effective if complied with
Improved handling techniques for ETPs	Long-term	- reduces mortality of ETPs but may affect the food security of fishing communities	- can be effective if sufficient guidance and training is available

<b>Management Measure [Human]</b>	<b>Duration</b>	<b>Direct Effect(s)</b>	<b>Longer-term Effect(s)</b>
Taxes	Long-term	- increase costs	- provides long-term funding and better participatory management
Subsidies	Should be used only to reduce short- term hardship during transition periods	- allows unviable operators to remain in the fishery	- if allowed to continue, subsidies distort market forces and often results in overcapitalization and overexploitation of fishery resources
Zoning of fishing grounds to reduce conflict	Long-term	- decrease in conflict between different fishing gears (e.g. trawlers and traditional gill netters)	- can result in co-existence of small-scale and large-scale commercial fishing
Microfinance and microcredit	Long-term	- increased profits and rents, especially for small-scale fishing communities	- can increase the contribution of small-scale fishing communities to sustainable development
Fisheries cooperatives	Long-term	- fishers have greater control over their products	- can improve profitability if sufficient financial and cooperative behavior exists
Improving market access	Long-term	- increased opportunities to generate higher incomes	- potential to earn higher per unit prices
Seafood direct marketing	Long-term	- increase in fishers' incomes	- increase in fishers' incomes by providing outlets for lower-volume, higher-value (price-per-pound) fisheries
Value-added production	Medium-term	- new source of income and provide new market opportunities	- depends on market forces, but could be beneficial if new markets are found
Alternative livelihoods	Long-term	- can reduce fishing effort if viable alternatives can be found	- only effective if long-term sustainable livelihoods are found
Reduced energy usage and other costs (fuel saving)	Long-term	- could provide increased profitability as a result of decreased costs	- essential for the long-term viability of fishing
Human rights-based fisheries	Long-term	- increased participation and benefits for small-scale fishing communities	- Adding human rights addresses fundamental issues that may hinder successful rights-based fisheries governance aimed at helping small-scale fisheries to fish responsibly and contribute to reducing poverty.

Gender mainstreaming	Long-term	- reduced vulnerability of women the fish value chain	- aims to ensure equitable benefit distribution and sustainable human development for all in the fisheries sector.
Communication and outreach	Long-term	- inform and encourage stakeholder participation	- increased engagement of stakeholders has many long-term benefits -

<b>Management Measure [Governance]</b>	<b>Duration</b>	<b>Direct Effect(s)</b>	<b>Longer-term Effect(s)</b>
Many of the measures specified under fisheries resources and ecosystem	as described above (Management measures for fisheries resources and ecosystem )	- as described above	- as described above
Strengthening legislation	Long-term	- provides a framework for implementing management measures	- increased political will and financial support
Participatory monitoring, control and surveillance (MCS) planning and implementation	Long-term	- can improve voluntary compliance and ownership	- better compliance and enforcement
Inspection and surveillance tools	Long-term	- builds inspection and surveillance capacity	- better compliance and enforcement
MCS partnerships	Long-term	- better coordination among MCS partners (e.g. navy, fisheries inspectors)	- increased political will and better compliance and enforcement
Ongoing monitoring and evaluation of management performance	Long-term	- provides feedback for adaptive management	- better planning and implementation of management measures
Fisheries information systems	Long-term	- improves the quality and accessibility of fisheries data and information	- better informed management decision making
Governance institutional arrangements	Long-term	- better coordination across jurisdictions and agencies	- better planning and implementation of management measures
Training and capacity building	Long-term	- improved fisheries management capacity	- capacity building of people and institutions takes many years

The following tables provide a rough guide as to what management measure could be used to address different fishery issues and their causes.

### Measures to address declining catch and profit

✓ = Measure could be used to directly addressing the cause: ✓\* = Measure could be used to indirectly address the cause

Effect	Declining catch and profit					
	Overfishing		Excess catch of spawners and juveniles		Loss of critical habitat	
Core problem	Overfishing		Excess catch of spawners and juveniles		Loss of critical habitat	
Cause	Unlimited number of fishing boats/gears	Use of destructive gears	Fishing in spawning & nursery areas	Non-selective gears	Destruction of habitat by fishing	Destruction of habitats by other uses
<b>Management measure</b>						
E.1 Total allowable catch (TACs)	✓				✓	
E.2 Individual quotas (IQs & ITQs)	✓				✓	
E.3 Total allowable effort (TAE)	✓				✓	
E.4 Individual effort quotas (IEQs & ITEQs)	✓				✓	
E.5 Territorial user rights for fishing (TURFs)	✓				✓	
E.6 Vessel buybacks	✓				✓	
E.7 Spatial closures/marine protected areas (MPAs)	✓*	✓*	✓		✓	✓
E.8 Fish refugia	✓*	✓*	✓		✓	✓
E.9 Temporal closures	✓*	✓	✓		✓	✓*
E.10 Ecolabelling	✓*	✓	✓*	✓*	✓*	✓*
E.11 Restocking/stock enhancement				✓*		
E.12 Banning destructive gears	✓	✓		✓	✓	
E.13 Gear modifications		✓		✓	✓	
E.14 Minimum legal sizes			✓*	✓		
E.15 Restoration of habitats					✓	✓
E.16 Artificial reefs		✓*	✓*		✓	✓
E.17 Managing non-fishery uses						✓

Note: Many of the measures used to address declining catch and profit are also effective in addressing loss of biodiversity (E1. To E.15., E.17-E.18)

### Measures to address loss of biodiversity

✓ = Measure could be used to directly addressing the cause: ✓\* = Measure could be used to indirectly address the cause

Effect	Loss of biodiversity					
	Loss of habitats and natural resources		Impacts of fishing on ecosystems	Killing endangered, threatened & protected species (EPTs)		
Core problem						
Cause	Destruction of habitats by fishing	Destruction of habitats by other uses	Fishing down the food chain	Non-selective fishing gear	Fishing EPTs habitats	Inadequate handling techniques
<b>Management measure</b>						
E1. – E6. TACs/IQs & ITQs/TAEs/IEQs and ITEQs/TURFs/Vessel buybacks			✓			
E7. Spatial closures/marine protected areas (MPAs)	✓	✓	✓*		✓	
E8. Fish refugia	✓	✓	✓		✓	
E9. Temporal closures	✓*		✓		✓	
E10. Ecolabelling			✓*	✓*	✓*	✓*
E11. Restocking/stock enhancement	✓		✓	✓*		
E12. Banning destructive gears	✓		✓	✓	✓	
E13. Gear modifications			✓	✓	✓	
E15. Restoration of habitats	✓	✓		✓		
E17. Managing non-fishery uses	✓	✓				
E18. Protecting/introducing/culling keystone species			✓		✓	
E19. Modified handling techniques of ETPs						✓



### Measures to address IUU fishing

✓ = Measure could be used to directly addressing the cause: ✓\* = Measure could be used to indirectly address the cause

Effect	IUU fishing					
	Core problem	Excess fishing capacity	Weak compliance			Weak governance arrangements
Cause			Unlimited No. of boats and gears	Lack of political will & financial support	Top-down MCS	
<b>Management measure</b>						
E1. Total allowable catch (TACs)	✓					
E2. Individual quotas (IQs & ITQs)	✓					
E3. Total allowable effort (TAE)	✓					
E4. Individual effort quotas (IEQs & ITEQs)	✓					
E5. Territorial user rights for fishing (TURFs)	✓				✓*	
E6. Vessel buybacks	✓					
E7. Spatial closures/marine protected areas (MPAs)	✓*					
E.8 Fish refugia	✓*					
E9. Temporal closures	✓*					
E10. Ecolabelling	✓*					
E.12 Banning destructive gears	✓					
G1. Strengthening legislation	✓*		✓	✓*	✓	✓
G2. Participatory MCS planning and implementation			✓	✓	✓*	✓
G3: Inspection and surveillance tools					✓	
G4. MCS Partnerships			✓	✓	✓	✓
G5. Governance institutional arrangements			✓			✓

*Note: Many of the measures used to address declining catch and profit are also effective in IUU*

### Measures to address inadequate fisheries management

✓ = Measure could be used to directly addressing the cause: ✓\* = Measure could be used to indirectly address the cause

Effect	Inadequate fisheries management			
Core problem	Inadequate fisheries data and information		Inadequate fisheries management capacity	
Cause	Lack of management-related data	Inaccessible data and information	Lack of appropriate institutional structure	Lack of human capacity of fisheries staff
<b>Management measure</b>				
G6. Use of indicators and M&E	✓			
G7. Fishery information system (FMIS)	✓	✓		
G8. Management institutions and arrangements			✓	
G9. Training and capacity building for fishery staff and stakeholders	✓*			✓

**Measures to address Low income/poverty**

✓ = Measure could be used to directly addressing the cause: ✓\* = Measure could be used to indirectly address the cause

<b>Effect</b>	<b>Low income/poverty</b>		
<b>Core problem</b>	<b>Low prices of fish products</b>		<b>High operating costs</b>
<b>Cause</b>	<b>Limited market (through middle people)</b>	<b>Low quality of products</b>	<b>High fuel cost/ inefficient energy use</b>
<b>Management measure</b>			
E1. – E6. TACs/IQs & ITQs/TAEs/IEQs and ITEQs/TURFs/Vessel buyback		✓*	
E9. Temporal closures		✓*	
E10. Ecolabelling		✓	
H1. Taxes and subsidies	✓*		✓
H2. Microfinance	✓	✓	✓
H3. Fisheries cooperatives	✓	✓*	✓*
H4. Market access	✓	✓*	
H5. Seafood direct marketing (SDM)	✓	✓*	
H6. Value added production	✓	✓	
H7. Fuel saving for small vessels			✓
H8. Fuel saving for large vessels			✓

### Measures to address poverty/marginalization

✓ = Measure could be used to directly addressing the cause: ✓\* = Measure could be used to indirectly address the cause

Effect	Poverty/marginalization			
	Lack or limited alternatives for sustainable livelihoods		Lack of access to resources	Conflict among sub-sectors
Core problem				
Cause	Lack of skills/ knowhow	Lack of resources/ credit	Being socially or economically marginalized	Competition for access and fishery resources
<b>Management measure</b>				
E1. – E4. TACs/IQs & ITQs/TAEs/IEQs and ITEQs			✓*	✓*
E.5 Territorial user rights for fishing (TURFs)			✓	✓
E7. Spatial closures/marine protected areas/MPAs				
E9. Temporal closures				
E10. Ecolabelling	✓*			✓*
E12. Banning destructive gears				✓*
E15. Restorations of habitats				
E.16 Artificial reefs				✓*
G1: Strengthening legislation				✓
G2: Participatory MCS planning and implementation				✓
G5: Governance institutional arrangements				✓
G7: Fishery information systems (FIS)				✓*
H1. Taxes and subsidies		✓	✓	✓*
H2. Microfinance		✓	✓	
H6. Value-added production	✓			
H9. Human right-based fisheries management	✓	✓	✓	✓
H10. Gender mainstreaming	✓	✓	✓	✓
H11. Communication and outreach	✓	✓	✓*	✓



## Tool 35. Suggestions for improved MCS

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### What is it?

A list of suggested MCS activities. Adapted from Minter, A. 2008. Compliance and enforcement for coastal fisheries management in Fiji. Suva, Fiji. IUCN Regional Office for Oceania.

### How to use these suggestions

Refer to these suggestions to give you ideas for possible management actions for MCS.



### When to use

In Step 3.3 when agreeing management actions and compliance for selected objectives.

#### A. Recommendations for the improved administration of fisheries legislation

- Implement statutory permit scheme.
- Develop and implement a community-based warning and permit or license non-renewal system for repeat offenders.
- Include a plain language summary of restrictions with all licenses issued.
- Accurately map restricted areas on licenses.
- Develop an information sheet for communities detailing issues that could be considered when deciding whether to establish a restricted area.
- Increase the number of certified fish wardens receiving adequate training.
- Establish internal governance structures for fisheries management within communities.
- Develop a comprehensive training program for fish wardens.
- Develop a compliance and enforcement handbook and enforcement kits for fish wardens.
- Develop and distribute enforcement kits to all fish wardens.
- and implement a "Train the Trainers" program for staff at the Department of Fisheries.
- Convene a high level forum between police, the Department of Fisheries and other bodies to discuss and clarify roles and responsibilities in enforcement of fisheries law.
- Distribute the Fisheries Act/legislation and its associated regulations to every coastal police post..
- Develop and implement a joint training program for fish wardens and police.
- Develop and distribute a fisheries enforcement manual for police.
- Develop a black list of convicted offenders.
- Develop and deliver Magistrates training for fisheries offences and penalties.

#### B. Recommendations for the adoption of policy or subsidiary legislation

- Adopt guidelines clarifying the meaning of "trade or business" for licenses.
- Initiate a consultation process for formalizing the role of customary fishery areas committees through the creation of regulations.
- Create regulations to clarify and streamline the restricted area gazetting process.
- Initiate a consultation process to consider the creation of by-laws to address compliance issues.

#### C. Recommendations for legislative amendment

- Initiate a consultation process regarding the removal of permit exceptions.
- Introduce a legal requirement for fish wardens to be paid.
- Increase penalties in the Fisheries Act/legislation.



## Tool 36. Alternative livelihoods management actions

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### What is it?

This tool lists some EXAMPLES of when alternative livelihoods have been selected as a management action in the EAFM planning process. There is very little information/very few evaluations of alternative livelihoods stories as examples of fishery management/EAFM management actions. Refer to [Tool n.34](#) for management actions.

### How to use these examples

The EAFM team may need to consider the possibility of supporting alternative livelihoods. In this case it can help to look through the following examples to see the types of alternative livelihoods possible and the related challenges.

#### Type of alternative livelihoods

There are four types of alternative livelihood options. The challenge is often to define the distinction between them.

- A non-fishing/non-extractive livelihood that is based around the resource (eco-tourism, boat repairs).
- Extractive non-fishing (seaweed culture, some forms of aquaculture, salt making, handicrafts related to use of coastal forest).
- Extractive alternative fishing (fish processing, shell collection/handicrafts, aquaculture fed on fish or using wild fish seed supply)
- True non-fishing/non-extractive alternatives (clothes making, bike repairs, home gardens, etc.).

#### 1. Lessons learnt from the Philippines

Use of alternative livelihoods to reduce fishing pressure in the Philippines

(from Blanco, A & Vincent. 2006. Putting livelihoods in context. Project Seahorse. University of British Columbia.) Context: The Biodiversity Conservation Network (BCN) sponsored a number of efforts, including marine initiatives, to promote enterprises which were both profitable and had a positive effect on the environment in the Asia-Pacific region from 1992 to 1999. The BCN experience indicates that three to five years was too short a time to ensure the financial viability of the enterprises. (BCN website)

- Other income earning options can be found that are viable in economic, social and ecological terms. Most new income earning opportunities are not economically viable, especially once the catalyst's costs are included.
- As other income earning options become available, people will find them more attractive than fishing. Fishers may add livelihoods without reducing fishing.
- As fishers adopt other livelihoods, fewer people will fish. Many people have no employment and might well fill any gap left by fishers leaving fishing.
- As the number of fishers declines, so too will the fishing pressure. If fewer people fish (supply goes down) but demand remains high, then price will go up. If price goes up the remaining fishers fish harder, or those who left the fishery return, or new people join the fishery.



## Tool 36. Alternative livelihoods management actions

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### 2. Experience from the Pacific Islands

(Gillet, R. *et al.* 2007. Livelihood diversification as a marine resource management tool in the Pacific Islands: lessons learned).

Context: four main types of alternative livelihoods promoted in Pacific.

Livelihood diversification has been promoted as a tool for marine resource management in the Pacific Islands for at least 30 years. Over this period there have been two main types of attempts: (1) promotion of an alternative that in itself is supposed to result in less inshore fishing; and (2) as a mitigation measure – something used when another management intervention, such as a ban on fishing, produces a temporary hardship in the form of less seafood or less income from fishing.

Four main types of alternative activities have been promoted in the region to reduce fishing pressure as alternatives to inshore fishing. These categories are:

- *Aquaculture*: There is a long heritage in the region of promoting the culture of marine organisms, often partly justified by the fact that such activity will reduce the amount of inshore fishing. The Samoa Fisheries Division Annual Report (Fisheries Division, 2000) states “Objectively, aquaculture and mariculture have been observed to be one of the options in alleviating pressure on over-exploited inshore reef and lagoon fisheries”. In reviewing aquaculture in the region, Tanaka (1999) asserts “In many countries national fishing regulations are coming into force to stop over-fishing ... Without, however, offering alternative sources of income generation to villagers such co-management would not be maintained in the longterm. Aquaculture development in the coastal areas seems the best alternative for this purpose”.
- *Fish aggregation devices*: The placement of anchored rafts (FADs) in offshore areas to improve tuna fishing, as well as other attempts to promote small-scale tuna fishing, have often been justified by the fact that they may relieve fishing pressure from nearby inshore areas. The rationale is given in an FAD manual for the region: “In many coastal areas, growing populations and the need to increase fishing production have led to overfishing of inshore and reef resources. If fishermen who normally fish inshore are able to catch more fish and earn better incomes by changing to FAD-based tuna fishing, the fishing on inshore resources will be reduced”. (Anderson & Gates, 1996).
- *Deep reef slope fishing*: The promotion of fishing for snappers and other large bottomfish on outer reef slopes and seamounts has been undertaken in many Pacific Island countries in the context of transferring fishing effort further offshore to more lightly exploited resources. A major focus of development agencies like SPC was to encourage Pacific Island enterprises to move away from reef and lagoon fishing, with its limited commercial development potential, to unexploited fisheries such as deepwater snapper (Adams & Chapman, 2004).
- *Alternatives outside the fishing sector*: Activities that have been actively promoted to reduce inshore fishing pressure have included tourism (especially eco- tourism), livestock raising, surfing, handicraft production and adding value to harvested seafood. Huber and McGregor (2002) state that in relation to establishing MPAs, ecotourism is the most common alternative activity.



## Tool 36. Alternative livelihoods management actions

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### LESSONS LEARNT:

In the use of livelihood diversification for resource management in the Pacific Islands region, past experience points to some important overall conclusions. These include:

- Agencies promoting livelihood diversification that focus on performing the role of “honest broker” between communities and commercial interests seem to be the most successful.
- Businesses are generally better than fisheries departments or NGOs at identifying/ developing opportunities, but often have difficulty in spreading benefits and in community relations, hence the need for somebody to smooth the interface between business and community.
- It seems to be more effective for an agency to identify and work with an empathetic business person than to attempt to drag communities into the complexities of the business world.
- The rare livelihood diversification initiative that is successful requires a long time to achieve profitability and the eventual profits are usually modest rather than spectacular.
- Although most subsidies are intended to only catalyze a livelihood diversification activity, their withdrawal most often leads to the demise of the concerned activity. The effective subsidy exit strategy is rare.
- Expectations of the target community often grow to unrealistic levels, leading to disenchantment when benefits are not attained.
- Boats and boatbuilding activities for livelihood diversification often “backfire” and result in even greater inshore fishing pressure.
- In reviewing past failed livelihood diversification initiatives, there appears to have been a lack of consideration given to other management measures to reach the desired objective.
- Perhaps the most important lesson learned about livelihood diversification in the Pacific Islands is that its performance has not been to the level where it can be considered an effective resource management tool. In many cases, livelihood diversification could even be a distraction that deters communities from gaining an awareness of the need for, and benefits of, more effective forms of marine resource management.

### Reasons for failure of livelihood alternatives:

- Activity ceased with termination of subsidy – in Samoa attempts to encourage fishing outside the reef by introducing medium-sized, low-cost boats were initially successful (King & Faasili 1998), but when the subsidy for vessel purchase expired, other groups did not pursue the activity. (E. Ropeti, personal communication.)
- Overly optimistic donor with multiple goals – an NGO promoted deep reef slope fishing for livelihood diversification in a relatively remote part of the Solomon Islands, one of the less-developed Pacific Island countries. In the documentation associated with that intervention it was expected that the activity would (1) be a successful business; (2) have a positive effect on the coastal resource management situation; (3) be gender sensitive; (4) feature participation from three ethnically and culturally different communities; and (5) produce equitable benefits in those communities (Gillett, 1999). The intervention, however, was not successful in any of the five categories (M. Lam, personal communication).





## Tool 36. Alternative livelihoods management actions

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- Involvement of communities in the complexities of marketing – one of the stated objectives of a project aimed at producing dried tuna jerky in Tuvalu was to relieve pressure on overexploited reef and lagoon resources. A component of the project involved sending tuna jerky to overseas markets. No sustained export of this product has occurred due to the fact that individuals or associations on outer islands do not have the requisite entrepreneurial attitudes, business skills or ability to cope with the complex export arrangements (FFA, 2005).
- No relief of fishing pressure from the activity - in Palau the culture of a wide variety of organisms has been promoted over the years, including giant clams, milkfish, sponges, seaweeds, pearls, and oysters. One of the justifications is that aquaculture was to relieve pressure on inshore reef resources (Chapman, 2004). A survey in 1999 stated that the residents of six coastal communities in Palau perceived little, if any, reduction in coastal fishing because of the aquaculture (World Bank, 2000).
- Activity producing opposite effect - the Fiji Fisheries Department Annual report for 2002 (Fisheries Department, 2003) states that the provision of subsidized boats and fishing gear for tuna fishing around FADs was intended to “promote offshore fishing, relieving pressure on inshore fisheries”. In 2003, this scheme “assisted 31 small-scale tuna fishers through providing fishing gears, safe affordable and recommended outboard engines and punts, under the small-scale subsidy scheme of a total sum of F\$332,999” (Fisheries Department, 2004). A study of inshore spearfishing in Fiji (Gillett & Moy, 2006) gives information on the success of that scheme: “Commercial spearfishing is depleting fishery resources in areas which may be quite important for village food supplies” and that, at the most important commercial spearfishing landing site in Fiji, “almost all the fibreglass skiffs presently involved in spearfishing were originally obtained through the small-scale tuna fishing subsidy scheme of the Fisheries Department”.
- Successful, but not promoted as a management measure – the small “Mystery Island” off the coast of Aneityum in Vanuatu receives occasional calls by cruise ships. Tourist expenditures have resulted in less inshore marine harvesting and have provided an incentive to establish a marine protected area, (H. Govan, personal communication). Although a favourable marine resource management situation has resulted, the Mystery Island project was not intended for resource management purposes and therefore cannot be considered a successful management tool.
- Other types of difficulties encountered in the use of livelihood diversification for marine resource management include naïve attitudes towards marketing (“produce something wonderful and it will be purchased”); communities receiving business advice from individuals/agencies that do not have the requisite experience; and beneficiaries’ soaring expectations of the benefits that may result from the activity in question.
- In reviewing the above, many of the difficulties fall into two categories:
  1. Overly simplistic views of how individuals and communities react to opportunities and constraints. There is the assumption that extra cash or food will reduce fishing pressure, but in reality, what motivates and discourages individuals and communities is far more complex.
  2. The difficulties faced by traditional Pacific island communities in operating commercial businesses. Crocombe (2001) reviews indigenous business development in the Pacific Islands over the last century. He concludes that the business failure rate is very high and the proportion of all business in the region handled by indigenous people is shrinking, observations that do not bode well for the usual targets of livelihood diversification: Pacific islanders inexperienced in business, often in isolated communities.



## Tool 36. Alternative livelihoods management actions

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### Elements of success

It is relatively easy to cite examples of livelihood diversification failure. A more challenging, but potentially more productive exercise, is to identify success in livelihood diversification initiatives and the associated positive elements. Several apparently successful examples have not been subjected to close examination and have not yet been in place for long enough to withstand the test of time. Nevertheless, the ones that have been identified during this study are:

- About three years ago in Fiji a major coral-exporting entrepreneur began leasing reefs from coastal communities for the growing of "live rock". Communities receive payment and there is the evidence of less inshore fishing in those communities (W. Aalbersberg and E. Lovell, personal communication).
- Seaweed culture appears to be commercially successful in places in Kiribati and the Solomon Islands and there is some indication that seaweed farmers fish less, including fishing in inshore areas (G. Preston, personal communication).
- The government of French Polynesia has installed a series of fish aggregation devices, and one of the stated objectives of the programme is to encourage the "*poti marara*" vessels to fish away from inshore areas – which appears to be occurring at present (T. Luciani, personal communication).

The first two examples above reinforce ideas received from individuals familiar with the use of livelihood diversification for terrestrial biodiversity conservation in the region. One of these is that the business model employed should involve a tight relationship with an empathic business partner, rather than communities attempting to undertake marketing on their own. The first example demonstrates the advantage of communities obtaining passive benefits from their marine assets, rather than emersion in the complex business world. The third example is reliant on an inherent subsidy. In the above examples there is also the suggestion that the activity promoted in "successful" livelihood diversification tends to produce modest, rather than spectacular, amounts of alternative income or food.



## Tool 37. Communications strategy

### What is it?

A communications strategy details how the EAFM intends to communicate EAFM-related progress and developments to the diverse stakeholders. It identifies categories and groups of stakeholders, and provides guidance on the types of working relationships with these different stakeholders.

### How to develop a communications strategy

This can be a short document outlining how the EAFM team will communicate with all the diverse stakeholders before, during and after the EAFM process. Possible headings include: communication objectives, strategy, messages, activities, personnel, media and tools. The strategy needs to clearly identify categories, groups, and even individuals within the stakeholder audience (see BOBLME Project example A below). It is also a good idea to outline the types of working relationships the EAFM team has with each client/stakeholder in a relationship strategy (see BOBLME Project example B below). Take as your starting point the outputs generated with other tools e.g. [\(Tool n.13\)](#) or social network analysis [\(Tool n.19\)](#).

### When to use

You develop a communications strategy in Step 4.1, as part of implementation. The collaborative nature of EAFM means that you need to include all the diverse stakeholders identified earlier in the process. The strategy will link to the implementation workplan.

#### BOBLME example A: Stakeholder audience

Senior policy makers	<ul style="list-style-type: none"><li>• Ministers and government officers</li><li>• Members of the Project Steering Committee</li></ul>
Scientific and technical stakeholders	<ul style="list-style-type: none"><li>• Research institutes (national and international)</li></ul>
International donors and stakeholders	<ul style="list-style-type: none"><li>• GEF, Sweden, Norway, FAO, NOAA</li></ul>
Regional coastal marine industries	<ul style="list-style-type: none"><li>• Fishing, environment, tourism, mining</li></ul>
Regional coastal bodies	<ul style="list-style-type: none"><li>• Regional government representatives, and representative associations</li></ul>
Media (as a conduit to other audiences)	<ul style="list-style-type: none"><li>• Radio, TV</li></ul>
Collaborating organizations	<ul style="list-style-type: none"><li>• UNDP, UNEP, SEAFDEC, MFF, IOTC</li></ul>
Coastal communities	<ul style="list-style-type: none"><li>• Community representatives and groups</li></ul>
Other organizations (and potential collaborators)	<ul style="list-style-type: none"><li>• Regional bodies</li></ul>



## Tool 37. Communications strategy

### BOBLME example B Relationship strategy

The table below outlines the proposed nature and extent of the BOBLME Project's relationships in 2010.

Client	Working relationship
National Coordinators and Project Steering Committee Members	<ul style="list-style-type: none"> <li>• Ongoing working relationship</li> </ul>
Ministers, Joint Secretaries, Director Generals, etc.	<ul style="list-style-type: none"> <li>• Newsletter, personal communications with the FAO-R and meetings with the Regional Coordinator as opportunities</li> </ul>
GEF, SIDA, NORAD, FAO, NOAA, World Bank	<ul style="list-style-type: none"> <li>• The FAO-donor liaison officers will manage the day to day interactions</li> <li>• Donors are invited to the PSC meeting</li> </ul>
FAO	<ul style="list-style-type: none"> <li>• Regular technical consultations with FAO staff and collaborative activities that would derive mutual benefits</li> </ul>
ASEAN, BIMSTEC, SAARC, SACEP	<ul style="list-style-type: none"> <li>• BOBLME would provide targeted advisory information as appropriate, and collaborate on a technical level (e.g. with working groups)</li> </ul>
APFIC	<ul style="list-style-type: none"> <li>• Provision of advice</li> <li>• Collaboration with regional initiatives</li> </ul>
SEAFDEC	<ul style="list-style-type: none"> <li>• Provision of advice</li> <li>• Collaboration with regional initiatives</li> </ul>
UNEP	<ul style="list-style-type: none"> <li>• Regular contact and collaboration when beneficial with regional seas bodies: COBSEA, SASP</li> </ul>
BOBP-IGO	<ul style="list-style-type: none"> <li>• Regular contact</li> <li>• Likely technical collaboration in the areas of stock assessments for hilsa and Indian mackerel and development of NPOA-sharks</li> </ul>
MFF, IOSEA	<ul style="list-style-type: none"> <li>• Regular contact. CTA participation in MFF Steering Committee</li> <li>• Likely technical collaboration</li> </ul>
IOTC	<ul style="list-style-type: none"> <li>• Participation of the IOTC Data Manager at BOBLME Fisheries Statistics WG. BOBLME to assist the development of NPOA-</li> </ul>
UNEP – Global plan of Action; AECEN; GETF	<ul style="list-style-type: none"> <li>• Participation of GPA, AECEN and GETF at the BOBLME WS on pollution. Likely technical collaboration</li> </ul>
NOAA, IOGOOS, SEAGOOS, IOC	<ul style="list-style-type: none"> <li>• Participation of these bodies at BOBLME WS on oceanography and climate change. Likely technical collaboration BOBLME participation in IOGOOS/IOC</li> </ul>
IUCN, ICSF, WorldFish	<ul style="list-style-type: none"> <li>• Likely technical collaboration</li> </ul>
IW Learn	<ul style="list-style-type: none"> <li>• Communications, capacity building</li> </ul>
LMEs	<ul style="list-style-type: none"> <li>• Newsletter, regular contact through email lists.</li> </ul>



## Tool 38. How to write a policy brief

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### What is it?

The purpose of a policy brief is to provide the people who make policy with timely recommendations for EAFM-related policy change, backed with concise and relevant supporting information and evidence. Policy briefs are useful tools at specific points in time. To have maximum effect, they need to be produced and disseminated to coincide with the national/international ministerial meetings at which influential decision-makers formulate new policy or change existing policy.

The more you become familiar with the policy environment surrounding fisheries and environment, and related sectors, the more you will learn when best to disseminate your policy briefs to maximize impact. Develop your knowledge of the political environment so as to know when best to submit policy briefs.

### Think about:

- Who develops the brief (EAFM team, other stakeholders) and how? What are the time restrictions and deadlines?
- Timing: find out when national/local government meets to plan new or authorize existing legislation. Be aware of electoral campaigns you can make use of. Be constantly on the lookout for windows of opportunity.
- Language to use: you must use official language to be understood by policy makers (though not too technical). Refer to laws/decrees, etc. with their full titles. Use the official language of national government (in countries with more than one national language, ensure you have policy briefs for each key language).
- Length: preferably one side of A4; maximum two sides of A4.
- Layout: 1. The problem. 2. EAFM arguments. 3. Developmental implications.



### How to prepare a policy brief

Ideally a policy brief should be written in full sentences and typed neatly. *It should be directed at a single well-identified category client.* Policy briefs containing recommendations directed to several clients, even if each recommendation is clearly targeted, are less likely to induce the desired response from any one client.

The policy brief should consist of the following three sections with a clear, logical connection between them.

1. Statement of the problem: One to two sentences. Explain why the policy brief has been written.
2. The EAFM argument: This should not include details.
3. The developmental implications which need to be understood and taken up by development agencies, policy developers and decision-makers. These include ecological, socio-economic and governance implications, as well as related policy implications. In this section make clear:
  - **what action** must be taken by **which institution/agency**. If specific responsibilities are not proposed, it must be clear who will act on the recommendations.
  - **Recommendations** must include specific, realistic actions that decision-makers and policy developers can take.
  - The **policy implications** should be laid out as specifically as possible for those who need to take the relevant decisions. This means, for political legislators, that changes in laws should be referenced to clauses in the current laws and regulations, with proposed amended wording or a cross-reference to a document in which the amended wording is laid out in detail.



## Tool 38. How to write a policy brief

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The format of the policy brief should be as follows:

- The policy brief should have a distinctive color of paper or marginal strip, so as to be noticeable in a stack of papers.
- Logos of participating organizations could decorate the marginal strip and so help to encourage a sense of ownership.
- Your organization and project logo should appear on the front side, together with any acknowledgement or disclaimer clauses.
- Include the month and year of publication.
- Briefs on two sides of A4 should have a “please turn over” at the bottom right hand corner of the first page.
- Include a contact name, address, telephone and fax number, e-mail address, website.

### Remember:

The idea is to provide the decision-makers, at whatever level, with the minimum amount of work and thinking, and to prepare the ground for them as thoroughly as possible. If you do not provide this degree of help to decision-makers, it is unlikely that activities which appear logical to you and your EAFM team will actually be undertaken by those who have the necessary authority.

### When to use

Once you have analyzed your EAFM stakeholders in Startup B (using the stakeholder engagement matrix), and/or you have developed your communication strategy in Step 4.1 you may find that to gather support for EAFM you need to work on lobbying/advocacy with government officials, ministers, donors or funding agencies.

#### Advantages

- ☺ Provides clear documentation about research findings to external audiences
- ☺ Contributes to decision-making process, e.g. as a way of delivering your recommendations on policy to people in position of influence
- ☺ Help to reduce distortion/misinterpretation of EAFM

#### Disadvantages

- ☹ They can be ignored or misinterpreted
- ☹ They can become out of date quickly
- ☹ Written word is not accessible to all groups
- ☹ Good timing is essential!

### What is it?

Participatory monitoring and evaluation (PM&E) is the process of integrating public/community participation in the collection, analysis and interpretation of data regarding changes or trends in the natural environment that occur in a particular ecosystem.

The purpose is to develop and monitor suitable indicators based on locally collected data to provide a practical and cost effective method to measure progress towards meeting the operational objectives of EAFM. A secondary purpose is to foster participation and ownership which support co-management in EAFM.

The relationship between conservation, fishery management and community is central to these concepts because for conservation and fishery management efforts to be successful and sustainable there has to be involvement and ownership at the local or community level. PM&E can focus on the biotic and abiotic parameters of the environment, identify and determine causal relationships and attempts to determine impacts, as well as the outcomes of management interventions. This information is important in guiding adaptive management. PM&E enables stakeholders (community) to recognize the negative ecological effects of their activities at an early stage and to adapt their actions. These processes require early and continuous consultation with members of the community who have a stake in their natural resources and are interested in monitoring and management or conservation efforts.

It can also be a useful tool for environmental outreach as well as a means to connect scientists with experienced field personnel. In the case of coastal managers, information and data gathered via PM&E initiatives sometimes fail to be integrated into mainstream decision-making processes since they are often developed separately from the management and policy-making processes rather than emerging from within. EAFM can promote the inclusion of this information since it is not limited to management but applies to policy, legal frameworks and planning.

### How to carry out participatory M&E

#### **1. Agree the purpose for monitoring**

Review the benefits and purposes of monitoring, so that stakeholders can decide for themselves whether monitoring will help them.

#### **2. Review objectives and activities**

Review the objectives and management actions established in Steps 3.1 and 3.3, as well as the indicators and benchmarks to assess these established in 3.2. If these are all agreed using a participatory approach, then the indicators would have been jointly decided as per steps 3 and 4 below.

#### **3. Develop monitoring questions**

After reviewing the above, discuss the information needed to help know if management actions are working. Focus on questions: "what do we want to know?" and "what do we monitor that will tell us this?"

The facilitator can write or draw on large sheets of paper or blackboard, the monitoring questions generated around each objective and activity. There should be agreement by the group on each monitoring question. If many questions are generated they can be ranked in order of importance.

#### **4. Establish direct and indirect indicators**

For each monitoring question, determine direct/indirect indicators that will answer the monitoring questions.



### 5. Decide which information gathering tools are needed

The most appropriate tool will depend on the question being asked, the size of the group and the profile of the group. One tool can gather information that answers many monitoring questions. Using a number of tools to ask the same question ensures accuracy through validation. Visual tools often enable more people to participate.

### 6. Decide who will do the monitoring

Monitoring may require people with specific skills such as bookkeeping or mathematics. It will also require a certain amount of labor (time) from stakeholders. Those with the skills and the time can be identified. There may have to be compensation for the task of monitoring. It might be part of the job of a paid person or of community members.

### 7. Analyze and feedback results

It is important that information that is monitored and analyzed at specifically agreed times/frequency throughout the EAFM process should be made visible and easily accessible. This needs to be fed back via agreed mechanisms/channels for management decisions. This continuous process of adapting and improving forms the basis of adaptive management. From a capacity development perspective, PM&E can strengthen a co-management approach.

The negotiation that leads to agreement on how progress should be measured and the findings acted upon is a challenging process because different stakeholders are required to examine their assumptions about what constitutes progress. Engaging and encouraging community participation in monitoring ensures such ownership at the local level.

It should be noted that PM&E does not necessarily, and in fact rarely, involves only the community. Appropriate expertise is critical during the implementation phase and periodically during the operational or monitoring phase to ensure that monitoring suits both the community's and management's needs for information.

#### When to use

PM&E can be used during Steps 5.1 and 5.2 of the EAFM process, which are the monitoring and evaluation phases. If you are working in a participatory way, the foundations for effective PM&E are laid in Steps 3.1–3.3 when objectives, indicators, benchmarks and management actions are agreed.

#### Resources needed:

Similar to those used in all the participatory tools in this toolbox.

#### Advantages

- ☺ Diverse methods cater for all stakeholders
- ☺ Creates ownership
- ☺ Fosters empowerment
- ☺ Builds capacity

#### Disadvantages

- ☹ May need to invest in some training
- ☹ Can be more time consuming as need to allow for negotiation and debate



## Navigating the Essential EAFM training package

