

## WISE FISHER-TAUTAI ALOFA

**THEME:** Conduct and promote sustainable management of fisheries resources for continual benefits for Samoans.

*O auala mo le faatumaaina ma le alualua luma o faigafaiva l Samoa*

**MESSAGE:** Become a wise fisher (can be misinterpreted by kids)

*Avea ma Tautai alofa*

- **Fish only what is needed and leave some for tomorrow**

*Fagota nao ia talafeagai ma manaomia ae tuu isi mo le lumanai.*

- **Be fisher friendly/ Be a fish friend**

*Avea ma faifaiva alofa l l'a faauo l l'a*

**Target Group:** 10-12 yrs old

(group of about 10 learners or more)

**Time:** 3hrs

**Locan:**Village

### Learning Objectives

- To understand the impact of over fishing (Activity 1)
- To understand some solutions to overfishing such as management measures (Activity 1)

*La malamalama i aafiaga ole soona fagotaina o ituaiga i'a eseese faapea vaega o loo nonofo ai poo malamalama ai fanau. la iloa ona foia le soona fagotaina o ia ma figota ole gataifale*

- To understand the food chain of the ocean (Activity 2)
- To understand the need to protect aggregating spawning sites (Activity 2)
- To understand how making the right choices about the actions we take can help to protect the fish in our ocean (Activity 3)
- To understand some sustainable fishing methods (Activity 4)
- To understand how to be a guardian of the ocean fisheries (Activity 5)

*La iloa le faatulagaina o meaai a meaola ole sami.*  
*La iloa ona puipui ma malutia vaega faasao ole gataifale*  
*La iloa le faaogaina tatau o metotia o fagotaga.*  
*La iloa ma teu fatu le aoga o le fagotaina tatau o tatou ogasami.*

### ACTIVITY 1:

**To understand the impact of over fishing**

*La malamalama l l aafiag ole soona fagotaina*

**To understand some solutions to overfishing such as management measures**

*La malamalama ile fua faatatau o le soona fagotaina o l'a ma figota*

**(Time 30 minutes)**

### Resources/Materials needed:

- Coloured bottle tops, 2 shells, peanuts (colour these differently to represent different types of fish in the ocean)
- Spoons (10)

- (10) lofi (lapalapa)
- Hoop or skipping rope
- Paints/ colouring pencil/crayon

**Key vocabulary (ensure the learners understand these meanings)**

**Fishery:** A fishery consists of a population or stock of fish or other aquatic species that is exploited by fishers. A fishery, therefore, includes the exploited species, the fishers and the marketers as well as the ecosystems in which all aquatic species are components. A fishery also includes the people, in both fishing communities and government authorities, who manage the fishery.

*Faigafaiva: O se vaega poo auaiga o l'a ma figota ua fagotaina Ma Faaleagaina e le au faifava. E aofia ai soo se ituaiga figota lava o loo tuufaatasia ma feola faatasi e aofia ai foi ma tagata, i soo se vaega ma afioaga o loo auai faapea pulega a le malo o loo latou vaaia ma malupuipua nei meaola.*

**MPA:** Marine Protected Area – an area set aside

1a. Teach the learners the 'Wise fisher' song.

*O lea se feau e mafai ona aumai e lenei pese ua filifilia?*

1b. Ask the learners to sit in a circle and place a pile of peanuts, shells and bottle tops in the middle. Give the learners 5 seconds to take however many peanuts, shells and bottle tops they wish from the pile.

*Tuu ni faaputuga pinati ma figota i le oga totonu ole faalapotopotoga. Ave se 5sekone i tamaiti e faaputu ai lava pinati ma figota i le tele e mananao iai.*

**Key questions:**

- Are there enough peanuts, shells and bottle tops for each learner in the group to take as many as they want?  
*O lava ma totoe pinati ma momono e manaomia mo le tatou taaloga?*
- What was your thinking in taking as many peanuts, shells and bottle tops as you did?  
*O lea se iloa poo lea mafaufau ua mafua ai ona ave uma pinati ma tapuni momono?*
- Who owned the peanuts, shells and bottle tops that you took?  
*O ai e ana pinati ma momono?*

1c. Explain that the game will be played again, this time tell the learners that the peanuts, shells and bottle tops are owned by all the people sitting round in the circle. Put all items back in the middle and play the game as before. *Toe fai le taaloga*

**Key questions:**

- Did knowing that the peanuts, shells and bottle tops were owned by all the people in your group, change the amount that you took?  
*O e iloa o pinati ma momono o outou uma e tatau ona mauaina? E tatau ona tofo uma tatou ma pinati ma momono?*

- Did you feel any pressure to change the amount of peanuts, shells and bottle tops that you took, knowing they were owned by all the people in your group?

*O lea sou iloa, e manaia pe lelei lea tulaga ole toe sui o le aofaiga o au ia o maua?*

1d. Ask the learners to imagine that the peanuts, shells and bottle tops are actually fish in the ocean. Explain that the decline of fisheries world wide is a significant problem. Explain that where a resource is not owned, nobody has a clear incentive to protect it. This is called the tragedy of the commons.

*Toe fai le taaloga*

Use the following questions to help learners use their experience of the game to understand the tragedy of the commons in ocean fisheries.

**Key questions:**

- Who owns the ocean fishery? How does a fisherman establish ownership to fish?

*O ai e ona ia ? ae faapefea ona ave tagata faifaiva ma pule o i'a ile gataifale ?*

- Suppose the fishermen know that the fish stock is declining. How will they change their behaviour?

*Afai ua iloa e faifaiva ua faaitiitia le aofaiga o ia ma figota ole gataai fale? O le a suia auala io faigafaiva?*

- How could we change the rules of this game to provide incentives for conservation?

*E faapefea ona tatou s suia pe toe fai se faigafou ina ia toe faaleleia i'a ma figota ole gataifale.*

1e. Explain that one way to conserve fish stock is to put restrictions on the fishing gear that can be used. Put all the peanuts, shells and bottle tops back in the middle of the circle. Explain that learners will play the game again but this time give each learner a spoon.

*Faamatala aua e mafai ai ona faasaoina i'a ma figota o le gataifale o le faaogaina tatau o le ituaiga faigafaiva talafeagai. Ma o le a faaogaina sipuni e faatinoina ia taaloga*

**Key question:**

- Did having a spoon to take the peanuts, shells and bottle tops, change the amount you were able to take in the given time?

*Ua iai se suiga o le aofaiga o pinati ma figota ua maua ina ua faaogaina le sipuni i le taimi na tuuina atu?*

1f. Put all the peanuts, shells and bottle tops back in the middle of the circle and play the game again, this time give the learners tongs to use to pick up the items.

*Toe tuu i totonu pinati ma atigi figota ile oga totonu o le lio ma toe fai le taaloga, ma o le taimi lea o le a ave iofi ma toe fai le taaloga.*

**Key questions:**

- Did having tongs to take the peanuts, shells and bottle tops, change the amount of peanuts and shells you were able to take in the given time?

*I le faaogaina o le iofi, e iai se suiga o le aofai o pinati ma figota e maua i le taimi na tuuina atu?*

Discuss the different types of fishing gear that can be used and the positive and negative effects they can each have on fishing.

1g. Explain that another way to conserve fish stock is to create a Marine Protected Area (sometimes called an MPA).

**Key questions:**

- Are there any MPAs in your village?  
*O iai ni MPA i tou nuu?*
- Who owns the MPA? Who can access it?  
*O ai e ona le MPA? Ao ai e mafai ona faatagaina i totonu o le MPA?*

Use a hoop or skipping rope to make a shape in the middle of the circle and explain that this will be the Marine Protected Area. Put all the peanuts, shells and bottle tops back, placing some within the MPA and some outside it.

- Explain the rule that learners can only take a maximum of 2 peanuts, shells and bottle tops from the MPA and that they must not take the items which represent the small fish. Then play the game again.

*Toe faamatala se isi auala e faaoga e mafai ona atagia ai le iai o le nofoaga faasaoina e ala lea i le faaogaina o se manoa poo se vaega e lapotopoto ma tuu ile ogatotonu o se faataamiloga o tamaiti aoga, faailoa iai o le vaega lea ua faailoa ai le nofoaga faasao. Toe tuu lea i totonu o pinati ma atigi figota o nisi i totonu o le lio lapotopoto ma nisi i fafo o le li'o. Faamatala tulafono ma faailoa i tamaiti e nao le 2 pinati ma nai figota o le a mafai ona fagotaina. E tatau ona fua lelei le tele o le i'a faatagaina. Toe fai le taaloga.*

**Key questions:**

- Did having the restriction of the MPA, change where you chose to fish?  
*O le iai o tulafono o le nofoaga faasaoina e ono suia ai le aofaiga o i'a e fagotaina?*
- Why do you think that observing restrictions placed on an MPA is important?  
*O lea sou iloa, o le faia o tulafono o le nofoaga faasao e lelei pe leaga ao lea sona taua?*

**ACTIVITY 2:****To understand the food chain of the ocean****Malamalama ile faasologa faaleatura o meaai o meaola o le sami****To understand the need to protect aggregating spawning sites****La malamalama ile taua ole puipuia ole nofoaga faasao****(Time: 1 hour)****Resources/Materials needed:**

- Cardboard shapes of small fish
- Cardboard shapes of top predators
- Cardboard shape of a human
- Cardboard picture of plankton/ krill/ algae
- String
- 3 sets of coloured bands to distinguish groups (about 5 of each colour)

**Key vocabulary (ensure the learners understand these meanings)**

**Ecosystem:** A biological community of interacting plants and animals (including humans) and the non-living components of the environment.

**Food web:** In the sea, as on land, plant material is eaten by herbivorous animals which themselves are eaten by other, usually larger, animals. This flow of material from plants to herbivores to carnivores is often depicted in a diagram called a food web that shows the feeding connections (what eats what?) in an ecological community

2a. Ask the learners to stand in a circle.

- **Key question: Can you name any small fish you might find in the ocean?**  
*E mafai ona tau mai ese tamaititi se igoa o se ia laititi ole sami?*
- Take suggestions from the learners (such as parrot fish, surgeon fish, mullet, small groupers, jelly fish) and then hand out the cardboard shapes of small fish to the learners.

**2b. Key question: What do you think these small fish eat?**

*Olea la sou iloa o a meaai e ai e ia Laiti ia?*

- Take suggestions from the learners (such as plankton, plants, small crustaceans, algae) and hand out the picture of these types of foods to another of the learners

2c. Explain that the ocean habitat contains creatures of hugely varying sizes from tiny plankton and krill to ocean giants such as sharks and whales. Explain that the small fish are prey for bigger ocean creatures.

*Faamatala I tamaiti o nei taimai ia ninii o meaai poo vaega ia o loo aai ai la lapopoa*

- **Key question: Can you describe or name any predators of the small fish?**  
*E mafai la ona e tauina mai ia te au se fili poo se ia e mafai ona aina nei ia?*

Take suggestions from the learners (such as snappers, sharks, turtles, eels) and then hand out the pictures of these predators to other learners in the circle. Explain that these creatures are some of the ocean's top predators.

2d. Explain that this series is called a food web. Demonstrate what this means by passing string from the learners holding the plankton picture, to each of the learners holding small fish pictures, to each of the learners holding top predator pictures. Explain how the string has created a web where all the creatures in the ocean are connected.

2e. Show a cardboard shape of a human.

- **Key question: Where in this food chain would you place humans?**

*O fea la o lenei faasologa e tatau ona iai le Tagata ola?*

Take suggestions and discuss how humans are also predators of both the smaller fish and sometimes the larger creatures too.

*Faamata e ono ave le tagata ma fili poo vaega e faaleagaina/tape nei tamai ia?*

Demonstrate the damage that humans can cause to the food web through overfishing by taking out some of the small fish pictures and asking these learners to drop the string. Explain how the food web starts to fall apart.

- **Key question: If there are not many fish left in the ocean, what will happen to the top predators?**

Explain that the top predators will not have enough food and they will move to other areas or die.

Take the top predator pictures away from some of the learners and ask them to drop the string. Explain that the food web is collapsing further. Discuss the importance of all parts of the food web, in order for the ocean ecosystem to thrive.

2f. If you have time, allow about 15 minutes to play this game which illustrates the importance of all parts of the food web in another way.

With a group of around 10, divide the group in roughly these proportions:

- Tell two learners that they will be top predators (such as snappers, sharks, turtles, eels, humans)
- Tell three learners that they will be the smaller fish (such as parrot fish, surgeon fish, mullet, small groupers, jelly fish)
- Tell five learners that they will be the smallest plankton, krill and algae

Provide each group with a way of distinguishing them, such as a coloured band.

Tell the group of smaller fish and plankton to line up at one end of the game playing area. Tell the group of top predators to line up at the opposite end of the game playing area. Explain that when you shout "Go/Alu", the learners must all run forward and try to cross to the other side of the game playing area.

- The top predators must try to catch the smaller fish

- The smaller fish must try to catch the plankton before they are caught by the top predators
- The plankton need to race to the other side without being caught by the smaller fish

Explain that if the smaller fish or plankton are caught, they must sit down where they are.

Play the game a few times.

**Key questions:**

- **What happens to the smaller fish if there is no plankton for them to eat?**  
*O lea le mea ole a tupu pea faapea ole a leai se palanitone/ poo meaola ninii?*
- **What happens to the top predators if there are no smaller fish to eat?**  
*O lea le mea o le a tupu l ia tetele poo malie pea leai ni l'a laiti?*
- **What would happen if humans took too many of the smaller fish?**  
*O lea le mea ole a tupu pea faapea ole a soona fagota l'a?*

Discuss the lack of food for other top predators.

2g. Bring the learners back into a circle and explain that they will play the game again but this time with different rules. Split the group so that roughly four learners are the top predators and the remainder are the smaller fish. Explain that this time, they will pretend that the smaller fish have gathered in this area for spawning. Explain that carrying lots of eggs, makes the smaller fish move more slowly.

Tell the smaller fish to line up at one of the game paying area and the top predators to stand in the middle. This time, the smaller fish can only walk- not run- when they try to cross to the other side without being caught by the top predators.

Play the game a few times.

**Key questions:**

- **Why was it easier to catch the smaller fish this time?**  
*Aisea ua faigofie ai ona tapue ia laiti?*

Discuss how there were more of them and they were moving more slowly than before.

- **What do you think will happen to the population of smaller fish in this area if the ones carrying eggs have been caught?**  
*O lea le mea ole a tupu pe a maua nai l'a o loo tele o latou manava ae pu'e ma fagotaina?*

Discuss how the fish population will reduce because baby fish will not be born.

- **What do you think fisherman could do to help ensure that the fish population does not decrease in size?**  
*Olea la se mea e tatau ona fai e tagata ina ia faaititia le tele ole leai o se l'a?*

Discuss how fisherman should avoid fishing in areas they know to be aggregating spawning sites. Discuss how fisherman can be careful with what fishing methods they use so that they only catch what they need (and not larger creatures they may not need or damage corals and plants).

### Comments

O lea le mea o lea tupu pea faapea e faaleagaina le amu?

### Optional activity to above:

Once assigned the students with marine species and have explained the importance of the various layers of the food chain. Align the food chain labels on the grass in a line and far from each other. Make the students race to the food chain layer that is suitable to their marine species they have.

After check in a group whether each student is standing in the right layer and why. If anyone is standing in the wrong layer ask the group why the student is in the wrong layer. Can get the students with wrong layer to do some jumping jacks.

Try removing certain layer from the food chain and ask the group what will happen. Introduce a fisherman and ask the group what will happen if the fisherman fished all fish in a certain layer of the food chain.

### Suggested Chant

Imitate a boxing exercise where educator called out the 1<sup>st</sup> to third layer of a food chain and the students say the name of the layers which are 'primary producers and etc'. Then finish chat with 'GOOOO FOOD CHAIN'

Chant:

What is the first layer of food chain? Primary Producers!  
What is the second layer of food chain? Consumers!  
Goooooo Food Chain!

### ACTIVITY 3: To understand how making the right choices about the actions we take can help to protect the fish in our ocean

(Time 30 minutes)

#### Resources/Materials needed:

- Action Cards
- Number Cards (for game play order).
- Hoops to mark out the playing grid. Maximum of 12
- A poster or a little present to the learner or pair who wins
- Note: organise the learners so that they are grouped in a maximum of 5 teams

3a. Explain that we will play a game that is based on the board game 'Snakes and Ladders'. The learners will be the playing pieces and the grid of numbers is our common reefs and seas. The aim of the game is to reach the 'finish', where there are still FISH FOR THE FUTURE, by making wise choices and becoming a friend of the MPA.

Explain the rules of the game (for small group):



- Each student finds a partner and randomly selects a card with a number on it – this is the order of their turn; ask them to line up in order by the START
- Team 1 picks an action card and reads it aloud. The learners in that team discuss the answer to their question and come to an agreement about whether the action on the card is helpful or harmful to the reef. When they give their answer, encourage learners to explain why they decide that.
- If the answer was one that is helpful to the reef, the learners move forward the number of spaces printed below the action on their card. If the action was harmful to the reef then they should move backwards the given number of spaces.
- If the team are struggling to reach a unanimous decision on their answer then give learners time to each explain their view point and come to a consensus by discussing it with the rest of the group.
- The first team to the finish is the best friend and guardian of the MPA ☺ and have ensured there will be FISH FOR THE FUTURE

3b. Allow the game to play out until several (or all) teams finish or time runs out.

3c. Gather learners in a circle again and discuss what they have learnt from playing the game.

**Key questions:**

- **We have to ask the kids at the time of the game ..right on the spot? (rephrase)**  
*E tatatu ona faatoa fesili lava i taimi ile taimi e faatinoina ai le taloga*
- **What activities have a negative impact on the reef and the fish and other animals that live there?**  
*O a ni vaega le lelei o loo tatou maua mai i le tatou taaloga lea?*
- **You got randomly dealt cards in the game. Did you like it when you got destructive/harmful cards? Do you usually have a choice over your own actions?**  
*E lelei le toe foi i tua pe lelei le leaga o se galuega tatou te faia i ia ma le puipuia o le gataifale? o iai se gaioiga lelei e tatau ona tatou faia?*
- **Who do you think is responsible for making sure there are still fish in Samoa in the future?**  
*O lea la se iloa i le tatou galuega lea sa faatinoina i le aso? Faamata o iai pea nisi ia o totoe mo tatou i le lumanai*

Ask the learners to make a commitment together to become friends of the MPA and ensure there will be FISH IN THEIR FUTURE.

*O ai la e manao e aveia o ia ma faataitaiiga lelei mo le nofoaga faasao*

#### **ACTIVITY 4: To understand some sustainable fishing methods. (Time: 30 minutes)**

**Resources/Materials needed:**

- Screen to show film on
- Film: **which one?**
- Story e.g. Tafaoga a le Malie m ana Uo: from SPREP)

**Key vocabulary (ensure the learners understand these meanings)**

**Sustainable:** something is available both now and in the future

4a. Discuss what fishing methods the learners are currently familiar with.

**Key questions:**

- **What fishing equipment have you seen or heard about?**  
*O lea le ituaiga mea fagota o loo faogaina e tagata nei?*
- **What areas are used for fishing?**  
*O a vaega o loo faogaina e nei tagata mo a latou faigafaiva?*
- **What times (day/ night/ seasons) does fishing happen?**  
*O lea le taimi lea o loo faogaina mo fagotaga?*

4b. Show a film, highlighting which fishing methods are sustainable and those which are damaging. Discuss messages in the film and draw out lessons from each of the previous activities. E.g.

- Damage caused by overfishing and therefore the need to observe fishing restrictions and MPAs
- Need to not fish in aggregating spawning areas
- Need to use equipment that will not damage corals and take only the fish you need to catch (not the other creatures)

#### **ACTIVITY 5: To understand how to be a guardian of the ocean fisheries.**

**(Time 15 minutes)**

**Resources/Materials needed:**

- Paper fish shapes
- Pens
- String

5a. Explain that you would like all the learners to become guardians of the ocean fisheries. This means helping to protect the fish population in order that there are always fish available for us and ocean creatures to eat.

Ask the learners to reflect on the messages from each of the activities.

- **Key questions: Can you tell the person sat next to you, one way to protect the number of fish in the ocean?**  
*Fai l le tagata na e l ou autafa l se auala e mafai ai ona e puipuia le gataifale?*

5b. Give each learner a paper fish shape and ask them to write a short pledge on it to explain what they could do to help prevent over fishing in their district.

5c. Gather the paper fish and thread them onto string to hang around the fale during the week as a visual reminder of the learner's pledges.

<b>Assessment/ Evaluation:</b>	
<b>Enrichment:</b>	<b>Cultural Context References:</b>
<b>Implications for Future Learning:</b>	
<b>Related MESC Formal Curriculum Learning Objectives:</b>	