

Learner Workbook

Certificate I in Climate Change and Disaster Risk Reduction

Unit 9: CGCR0216

Use traditional knowledge to build community resilience to disasters and climate change



Learner:

Facilitator:

Date:

Before we start...

This Learner Workbook is designed to accompany the Learner Guide for the unit of competency CGCR0216. It provides learner-centred activities and assessment tools to foster learning of key concepts and skills in this unit, which forms part of Certificate I in Climate Change and Disaster Risk Reduction. The competencies developed are in line with the key competencies promoted by VQA to foster greater empowerment and success in the work place. Additionally, a Facilitator Guide for this unit provides further background knowledge and teaching notes for facilitators, trainers and teachers.

This guide was designed to be used by a trained and accredited assessor who is registered to assess this specific unit standard as per the requirements of VQA. Prior to the delivery of the program the facilitator and assessor must familiarize themselves with the content of this Learner Workbook and the accompanying Learner Guide. The assessor, facilitator and learner must plan the assessment process together, in order to offer the learner the maximum support and the opportunity to display his/her competence.

This guide provides step-by-step instructions for the assessment process of:

Title: Use traditional knowledge to build community resilience to disasters and climate change

VQA Code: CGCR0216

VQA Level: 2

Credits: 6

This unit standard is one of the building blocks in the qualification listed below:

Title	Code	VQA Levels	Credits
Certificate 1 in Climate Change and Disaster Risk Reduction	1 & 2	46

Activity 1.1a – Instruction to learner:

Definitions

Write down a definition of each of the following in a way that you will be able to remember in the future. Try to use your own words.

Traditional knowledge: _____

Resilience to disasters and climate change: _____

Activity 1.1b – Instruction to learner:

Short answer questions

1. List six kinds of awareness and information that traditional knowledge (TK) can contribute towards making communities more resilient to the impacts of disasters and climate change:

- a) _____
- b) _____
- c) _____
- d) _____
- e) _____
- f) _____

2. State **two** ways in which traditional knowledge has an important role to play in helping us to prepare for climate change at present and in the future:

a) _____

b) _____

Activity 1.2 – Instruction to learner:

Pair work - questions on resilience

State whether each of the following is a way of making a family or a community more resilient to the impacts of disasters and climate change. Tick YES or NO.

		YES	NO
1	Removing trees on steep slopes		
2	Using traditional knowledge of house design and construction		
3	Agroforestry		
4	Listening to cyclone warnings on the radio		
5	Building a strong water tank next to your house		
6	Building your house close to the sea shore		
7	Attending an awareness talk on the impacts of climate change		
8	Asking a traditional <i>kleva</i> or using other traditional practices to try to stop a cyclone hitting your island		
9	Making an evacuation route to a safe place in case of a tsunami		
10	Learning about traditional techniques of food preservation		
11	Asking an old person about the height of flood levels in the past		
12	Learning about changes in plants and in animal behaviour that indicate that droughts or storms may come in the future.		

Activity 2.1 – Instruction to learner:

Report on class discussion

After discussing the questions with your fellow-learners, write down your own thoughts on the issues raised:

Question	Your ideas
Do you think that elderly people and those who hold traditional knowledge are passing on this knowledge to young people in the same way as was done in the past? Why or why not?	
Do some parents think that traditional knowledge is no longer important in the modern world? What makes them think like this?	
Why are many young people not interested in learning about traditional knowledge today?	
How do the following affect the handing down of traditional knowledge from generation to generation: Urbanization? Education? Influence of Western culture? Religion?	Urbanization Education Influence of Western culture Religion
Should we take steps to encourage young people to learn more about the TK available in their communities? How could this be done?	

Activity 2.2a – Instruction to learner:

Individual analysis and reflection

1. Study the photograph (Fig. 1).

a) Which species are being protected by this sign?

b) Is this an effective way to increase food security? Why or why not?



Fig. 1

Gord and Jinny Kerr, 2004

2. Write down your thoughts about placing a taboo on a certain place or object: :

Question	Your ideas
Who has the right to put taboos on certain places or objects? Can any person put a taboo on his land or should only certain people be allowed to do this?	
What should happen if people take no notice of the taboo?	
Should we respect those taboos that are made in order to protect the environment and to have a sustainable use of natural resources?	

Activity 2.2b – Instruction to learner:

Discussion in pairs - short answer questions

Read pages 20-22 of the Learner Guide, then answer these questions:

1. Why is the Vanuatu Meteorological and Geo-hazards Department interested in collecting TK about weather indicators?

2. Give some examples of “secret” knowledge that is held by certain chiefs and individuals. *(There is no need to give details of the knowledge - just state the **kinds** of knowledge that may be secret.)*

3. What do you consider to be the **two** greatest challenges in obtaining TK about weather indicators and the meaning of certain changes in the environment?

a)

b)

4. Why is the Vanuatu Kaljoral Senta reluctant to share secret knowledge that it may have obtained about weather and climate indicators and traditional ways of adapting to natural disasters?

Activity 2.3 – Instruction to learner:

Report on class discussion - TK held by men and by women

After your class discussions, write down your own thoughts on the issues raised:

Question	Your ideas
On your island, do men have different kinds of TK to women?	
What kinds of TK are held by women?	
What kinds of TK are held by men?	
Do you think that TK should be shared freely between men and women in your community? Why/why not?	

Activity 2.4 – Instruction to learner:

Report on class discussion - overcoming the challenges of gaining access to TK

After your class discussions, write down your own thoughts on the issues raised:

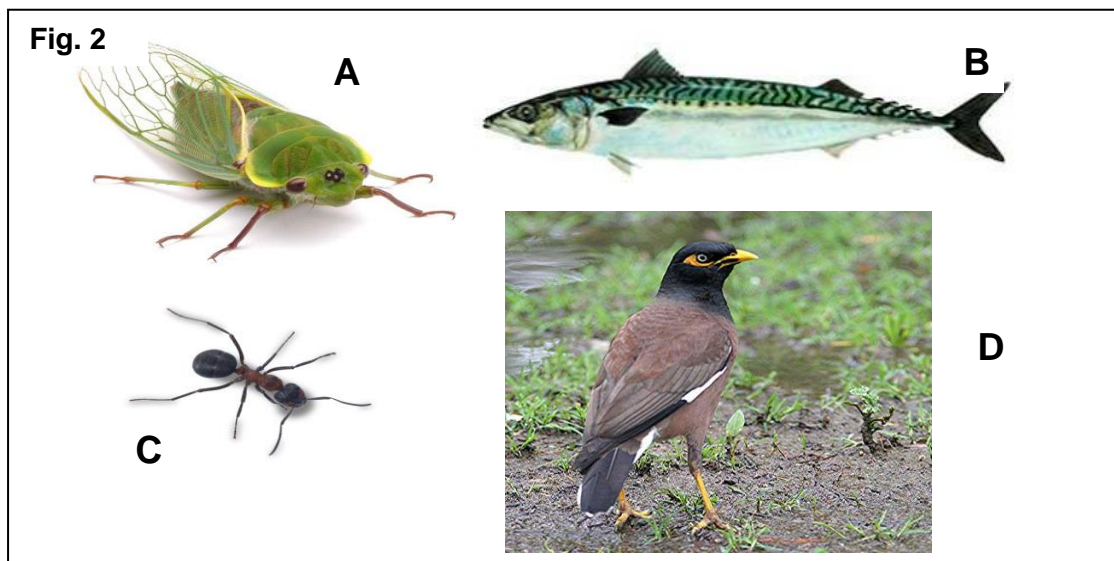
Question	Your ideas
What traditional protocols should be observed if you want to collect TK from your local community?	
What exactly would you say to an owner of secret TK about the environment in order to persuade him to share this information?	
Should a payment be made in exchange for TK about climate change and/or resilience to hazards?	
Why is it important to use the local language in trying to access TK?	
How can women access TK held by men? How can men access TK held by women?	

Activity 3.1a – Instruction to learner:

Individual exercise - short answer questions

Read pages 26 and 27 of the Learner Guide, then answer these questions:

1. What are the traditional beliefs in Port Resolution, Tanna, about the weather associated with species A, B, C and D in Fig. 2?



VMGD, 2012

A: _____

B: _____

C: _____

D: _____

2. State some of the traditional weather and climate indicators used in your area:

Traditional indicator	What kind of weather or climate?

Activity 3.1b – Instruction to learner:

Individual exercise - analysis of traditional calendars

Read pages 28 and 29 of the Learner Guide. How do you think that a traditional calendar helped to make communities more resilient to disasters in the past? Give some examples from the calendars for Mota Lava and Tanna.

Activity 3.1c – Instruction to learner:

Group work - field investigation of a traditional food garden

Form groups of 3-4 learners. Then go and visit a traditional food garden in your area. Find out the following information, and record your findings here:

What crops are being grown in this garden?	
What traditional techniques are being used?	
What modern techniques are being used?	
How long is the average length of fallow?	

Activity 3.1d – Instruction to learner:

Pair work - questions on traditional cultivation techniques

Read again pages 30-34 of your Learner Guide, then discuss and answer these questions:

1. Give **five** reasons why making gardens in the traditional manner was such a good way of maintaining food security:

a) _____

b) _____

c) _____

d) _____

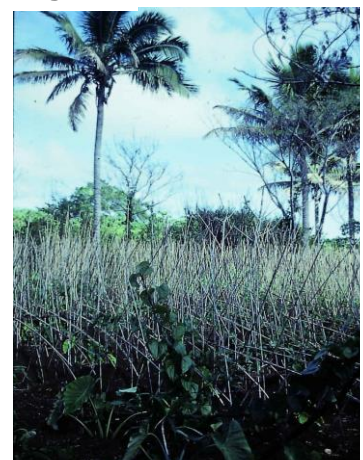
e) _____

2. Today, many people in coastal areas of Vanuatu find it hard to make gardens in the traditional way, using the bush fallow system. Why is this?

3. What traditional technique for growing yams is shown in this photograph (Fig. 3)?

Can this technique be used all over Vanuatu today?

Fig. 3



Pierce, C., 1986

4. Look at the photograph (Fig. 4). What are the advantages of using this traditional technique for growing taro?

5. Could this technique (Fig. 4) be used all over Vanuatu today? Yes /No
Why or why not? Is it useful for adapting to climate change?

[illegible]

Fig. 4



Pierce, C., 1987

Activity 3.1e – Instruction to learner:

Individual work - description of traditional fishing techniques

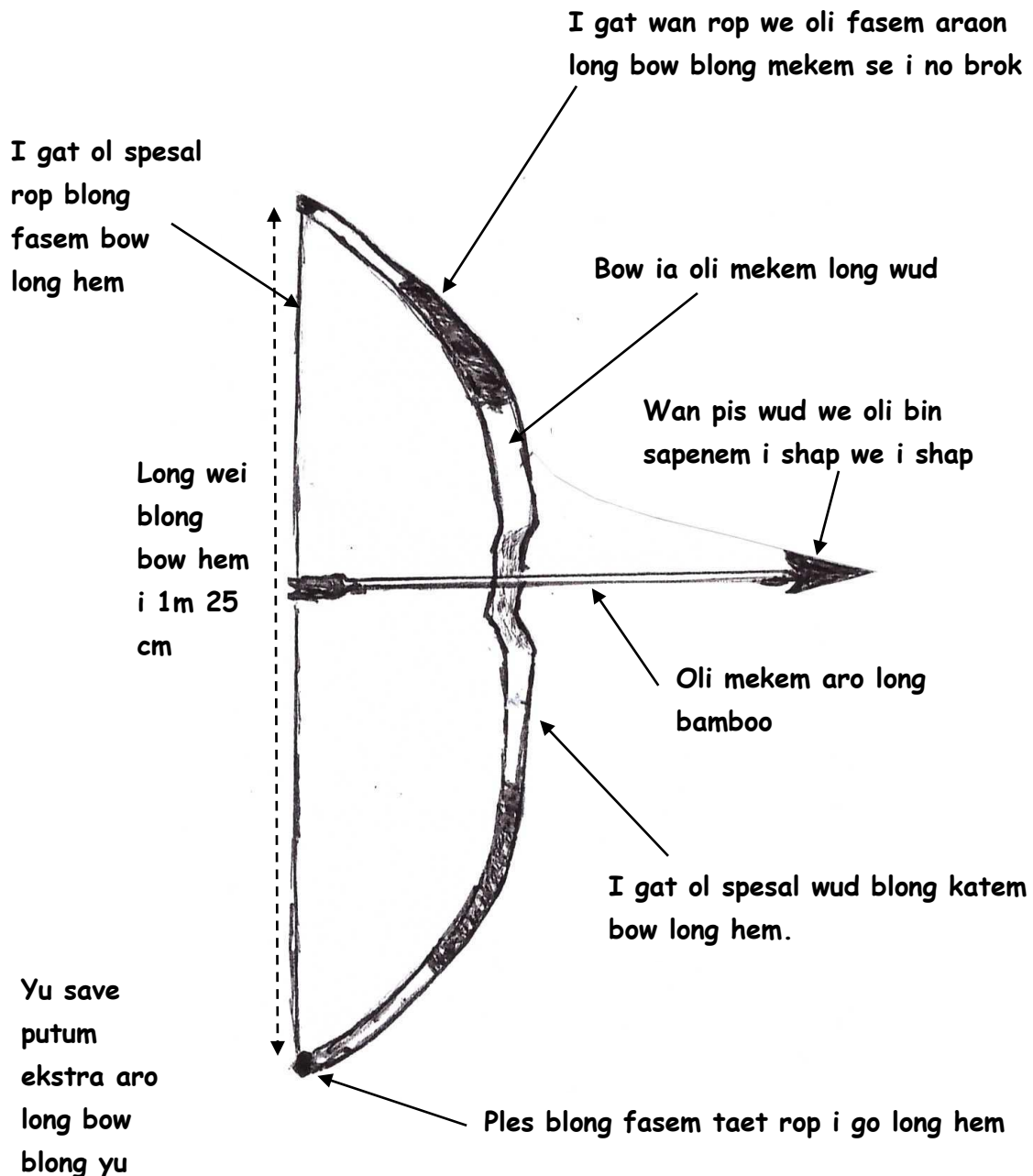
In the boxes on this page and the next page, describe and draw some of the traditional fishing techniques that are still being used on your island at the present time. An example of a drawing is provided on page 14.

[illegible]

(Space for drawing and describing some of the traditional fishing techniques used on your island)

Fig. 5: Example of a traditional fishing technique used in the Torres islands

The fisherman stands on the reef and uses a bow and arrow to kill the fish.

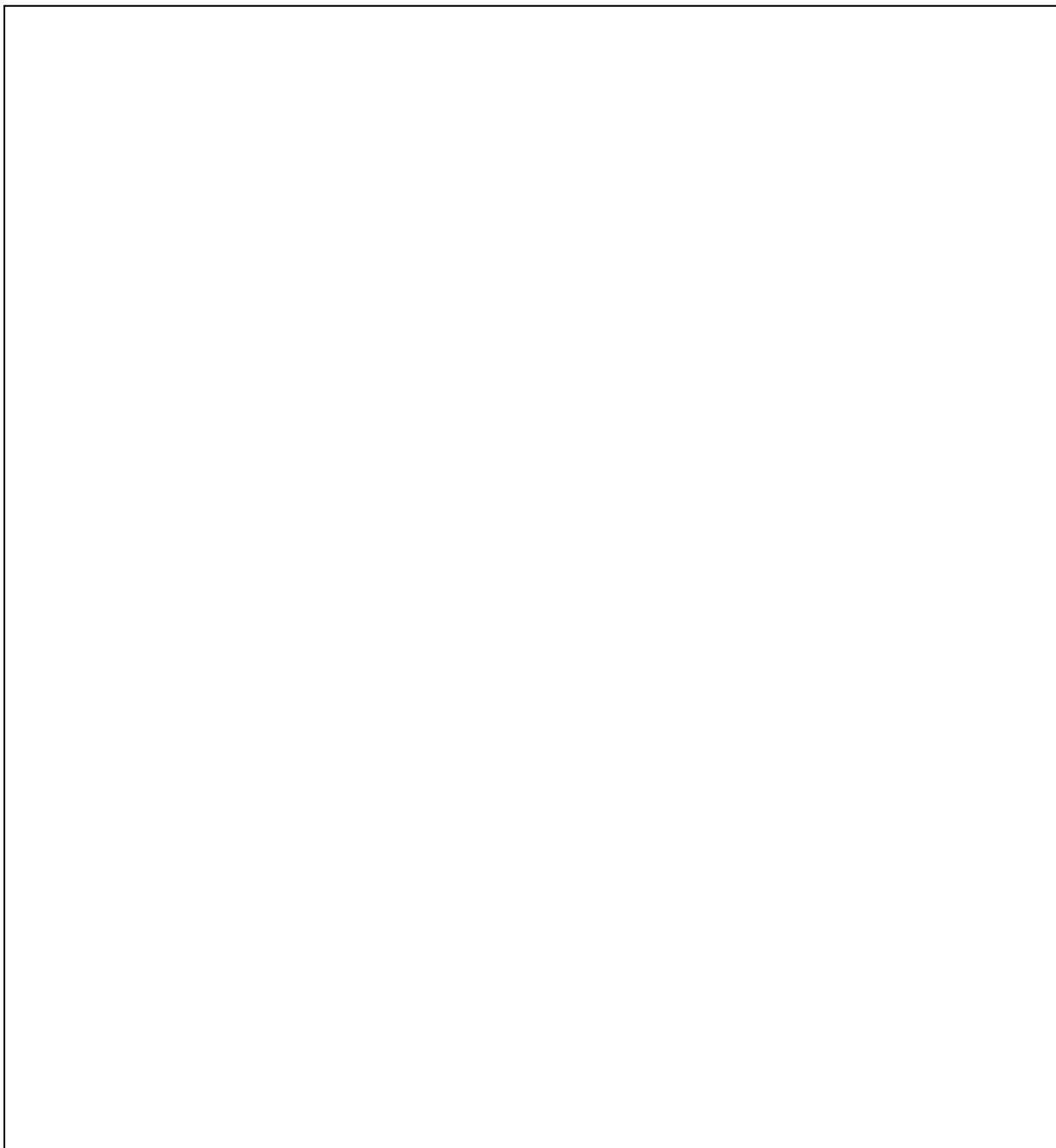


Johnathan Brown, Fisher Young RTC, 2015

Activity 3.1f – Instruction to learner:

Individual work - description of traditional methods of food preservation

In this box, describe some of the traditional methods of food preservation being used on your island today. If possible, you can also draw pictures of these techniques.



Activity 3.1g – Instruction to learner:

Individual work - drawing a picture of a traditional building

Read pages 37 and 38 of your Learner Guide. Then draw a picture or pictures on a large sheet of paper to show traditional buildings on your island. Label the features of the building that make it resilient to hydro-meteorological and/or geological hazards. Then pin your picture on the wall.

You can do a rough sketch of your building(s) first, in this box.



Activity 3.1h – Instruction to learner:

Discussion in small groups

Form small groups of 3-4 learners, and discuss this question: “What are some of the ways in which traditional community support systems make a community more resilient to hazards and climate change?” Report your ideas to the whole class.

Activity 3.2 – Instruction to learner:

Group work - creating a traditional calendar for the local community

Form small groups of 3-4 learners. Then each group should create a traditional calendar that can be used by one of the communities living close by. Follow these steps:

1. Discuss in your group how to devise an annual calendar that is based on natural hazards that might occur in your area during the year. The calendar can be organized by months, and each month or season should have a language name.
2. You may want to check your calendar with owners of TK in the local community, then make any necessary amendments to your work.
3. Now start preparing your calendar. Be sure to name the months, show the hazards that may come, and indicate what happens with the crops and in the environment during each month.
4. It is helpful if there is a drawing that goes with the information shown for each month. Use colour and make your drawings look attractive.
5. Your final calendar should be drawn on a large piece of paper and pinned on the wall. You will use this calendar when you meet with the local community in activity 5.2.

Activity 4.1 – Instruction to learner:

Group work - demonstration of some traditional techniques

Form five groups, with three or four learners in each one. Each group should choose one of the following traditional techniques:

1. Reading natural indicators of weather, climate, earthquakes and volcanic eruptions - changes in plants, animal and insect behavior, etc.
2. Food preservation
3. Building design and construction
4. Cultivation and fishing
5. Protection from erosion on slopes
6. Establishment of traditional taboos and conservation areas

Each group should now try and find a local “expert” from the village who is willing to give advice on the techniques that the group has chosen. The group works with this expert to learn how to demonstrate this technique to others.

Then each group should prepare to present and demonstrate this technique to the whole class. Use should be made of large wall charts, as well as actual materials. It may be necessary to go out into the field to do the demonstration.

(Space for writing notes on the traditional technique(s) that your group will demonstrate.

Activity 5.1 – Instruction to learner:

Pair work - conducting a survey of TK in a local community

Form pairs. With the help of your facilitator, each pair should arrange to interview at least five people in a local community who may have traditional knowledge regarding indicators of weather, climate, earthquakes and volcanic activity, and/or about traditional ways of adapting to natural hazards.

Here is a suggested questionnaire that you can use. You can also design your own!

QUESTIONNAIRE ON TK IN A LOCAL COMMUNITY		
Name of interviewers:		Name of community:
Name of person being interviewed:		M/F Age: years
Status in the village (e.g. chief, owner of TK, teacher, elder)		
1. What signs do plants give about weather and climate?		
Name of plant	Sign	What it means
2. What signs do animals, insects and fish give about weather and climate?		
Name	Sign	What it means
3. What signs do clouds and winds give about weather and climate?		
Cloud or wind?	Sign	What it means
4. Do you know of any other natural signs that help us to predict the weather?		
Sign	What it means	
5. What signs in nature tell you that there is going to be an earthquake/volcanic eruption?		
Sign	What it means	
6. Do you know of any traditional ways of preparing for hazards like cyclones, storms, floods, droughts, tsunamis, very hot days, earthquakes and volcanic eruptions? (Write the answer on the other side of this paper!)		

After all pairs have completed their interviews, all the data can be put together. Your class will be able to make a list of all the traditional signs that are given, as well as the traditional ways of preparing for disasters. Your facilitator will help your class to summarize the information in a table that can be displayed on the classroom wall.

Activity 5.2 – Instruction to learner:

Pair or group work - consultation with owners of TK and a local community

Either in pairs or in small groups, and following the guidance of your facilitator, you will now return to the community in which you carried out your survey.

Your aim is to meet with owners of TK and to consult with them regarding the traditional techniques that might be introduced more widely into the community in order to make it more resilient to hazards and climate change. If the owners agree to share their knowledge, then you may be able to help them do this. Perhaps a meeting with the whole community can be called in which some of the techniques can be shared - either by your group or by the TK owners, or by both!. Perhaps this sharing will need to be done in another way.

Whichever method is chosen, the goal is to make the community to become more aware of at least one or two traditional measures that will make them more resilient to the impacts of future hazards and climate change. These measures may relate to the observation of weather indicators, or to the design of buildings, or to food preservation techniques, or to traditional methods of cultivation and fishing that could be introduced, or to the establishment of traditional taboos or conservation areas, or to other aspects of TK.

If the community and the TK owners agree, you may be able to help in this. If the community and the TK owners do not wish to proceed with such an awareness programme, then your group must respect their wishes.

Your experiences when trying to carry out this consultation and awareness will be very useful to future learners. Please be ready to learn about the best way to proceed and to pass on your learning to others.

On the next page, please keep a record of what happened. Write down the steps that were taken to promote greater awareness of TK, as well as the help that your pair or group were able to provide to help people implement one or more of the measures.

(Space for writing notes on steps taken to promote the use of traditional knowledge in a local community in order to help it become more resilient to hazards and climate change).

ASSESSMENT OF LEARNING

You will be given a short test to find out your learning from this Unit. Here are some of the questions that you might be asked. Before the test, carefully go through these questions and think about how you might answer them.

1. What is meant by “traditional knowledge” in Vanuatu, and why is important in preparing for climate change?
2. State **five** aspects of traditional knowledge that were useful in helping a community to prepare for disasters in the past?
3. What is meant by “community resilience” to disasters and climate change?
4. Describe **three** challenges in accessing traditional knowledge (TK)
5. Give an example of a traditional taboo that helps to conserve natural resources, and explain why this may make a community more resilient to disasters /climate change.
6. Do men and women hold different types of traditional knowledge? Give some examples.
7. What would you say to an owner of valuable secret knowledge about weather patterns to persuade him to share his knowledge with the wider community?
8. Give **three** examples of traditional signs of forthcoming cyclones, droughts and earthquakes that can be read from changes in plants and in animal behavior.
9. How do traditional calendars help a community to have better food security?
10. Give **five** advantages of traditional food gardens that use the bush fallow system.
11. Describe **three** techniques of traditional cultivation that make communities more resilient to the impacts of disasters.
12. Describe and draw **one** useful traditional fishing technique that can be used today.
13. How do traditional building designs minimize damage from natural hazards?
14. What were some of the traditional ways of avoiding soil erosion?
15. Are traditional community support systems important in preparing for climate change?

Illustrations

Fig. number	Source
Cover	Secretariat of the Pacific Community (SPC) and Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) CCCPIR, 2013, <i>A taboo leaf indicator found on Emau island, North Efate, indicating that the reef is closed to all fishing.</i>
1.	Gord and Ginny Kerr, 2004, <i>Ambrym island: Ranvetlam village</i> , accessed on 14 February 2015 at http://www.ascensionatsea.com/Vanuatu/Vanuatu_Ambrym.htm
2.	Vanuatu Meteorology and Geo-hazards Department (VMGD) / National Disaster Management Office (NDMO), Department of Agriculture and Rural Development (DARD)/Vanuatu Kaljoral Senta (VKS) / Secretariat of the Pacific Community (SPC) and Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) CCCPIR, 2012, <i>Initial Field Test of TK Climate Indicators, Tanna island, Nov. 10-17 2012</i> (power point presentation).
3.	Pierce, C., 1986, <i>Traditional technique for growing yams.</i>
4.	Pierce, C., 1987, <i>Traditional technique for growing water taro.</i>
5.	Brown, J., Fisher Young Rural Training Centre, 2015, <i>Traditional fishing technique in the Torres islands.</i>

Assessment Feedback Form

Comments/Remarks	
Feedback to learner on assessment and / or overall recommendations and action plan for competence:	
Feedback from learner to assessor:	
Assessment judgment You have been found: <input type="radio"/> Competent <input type="radio"/> Not yet competent in this unit standard	Action to follow: <input type="radio"/> Assessor report to VIT <input type="radio"/> Learner results and attendance certification issued
Learner's signature:	Date:
Assessor's signature:	Date:
Moderator' signature:	Date:

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