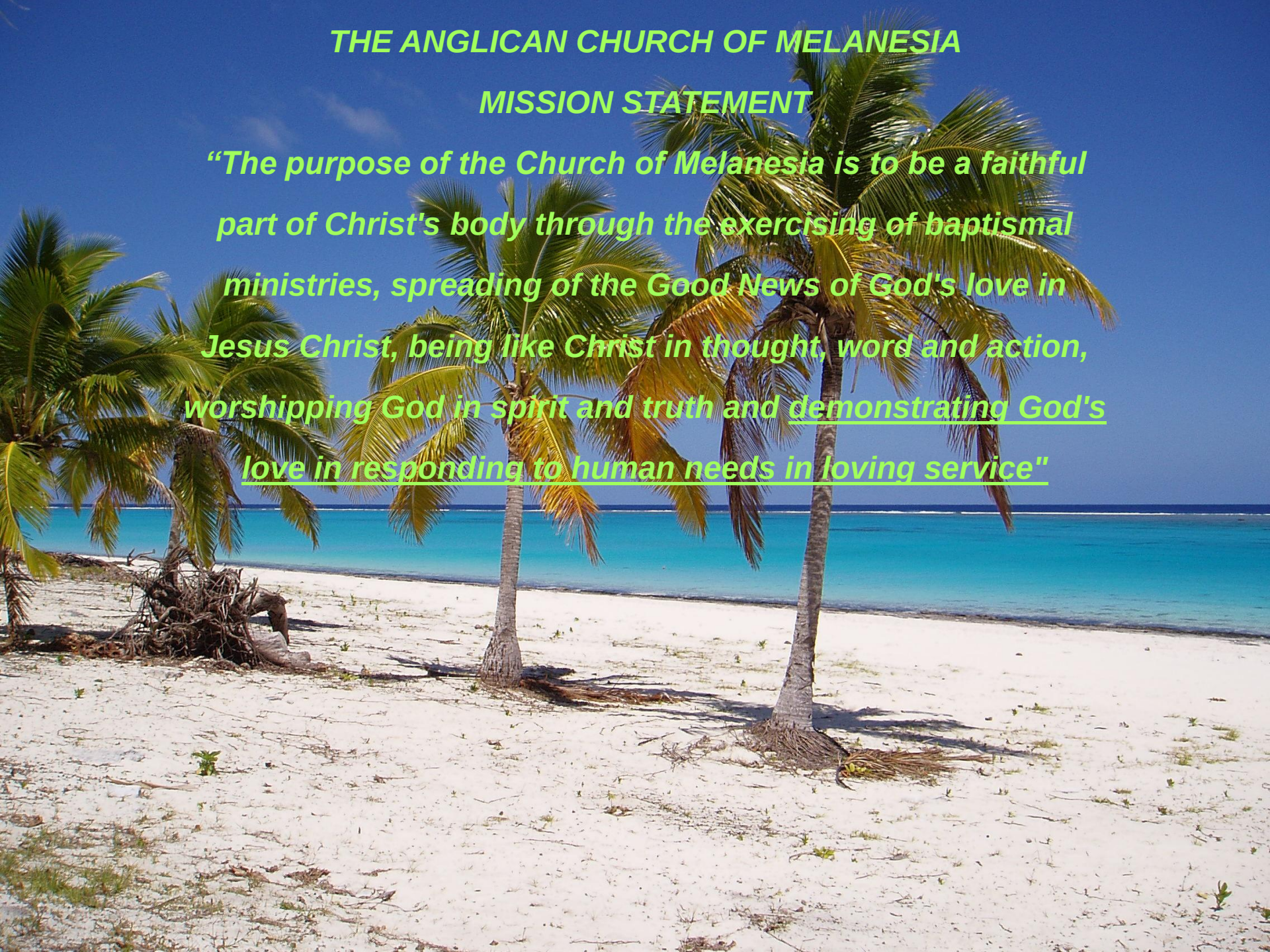
THE ANGLICAN CHURCH OF MELANESIA

Presentation from the Anglican Church of Melanesia(ACOM)

to the Anglican Alliance Pacific Conference , Solomon Islands

5-11 September 2011.



THE ANGLICAN CHURCH OF MELANESIA

MISSION STATEMENT

“The purpose of the Church of Melanesia is to be a faithful part of Christ's body through the exercising of baptismal ministries, spreading of the Good News of God's love in Jesus Christ, being like Christ in thought, word and action, worshipping God in spirit and truth and demonstrating God's love in responding to human needs in loving service"

Climate Change A Challenge to the Anglican Church of Melanesia

AND THE PACIFIC ISLANDS

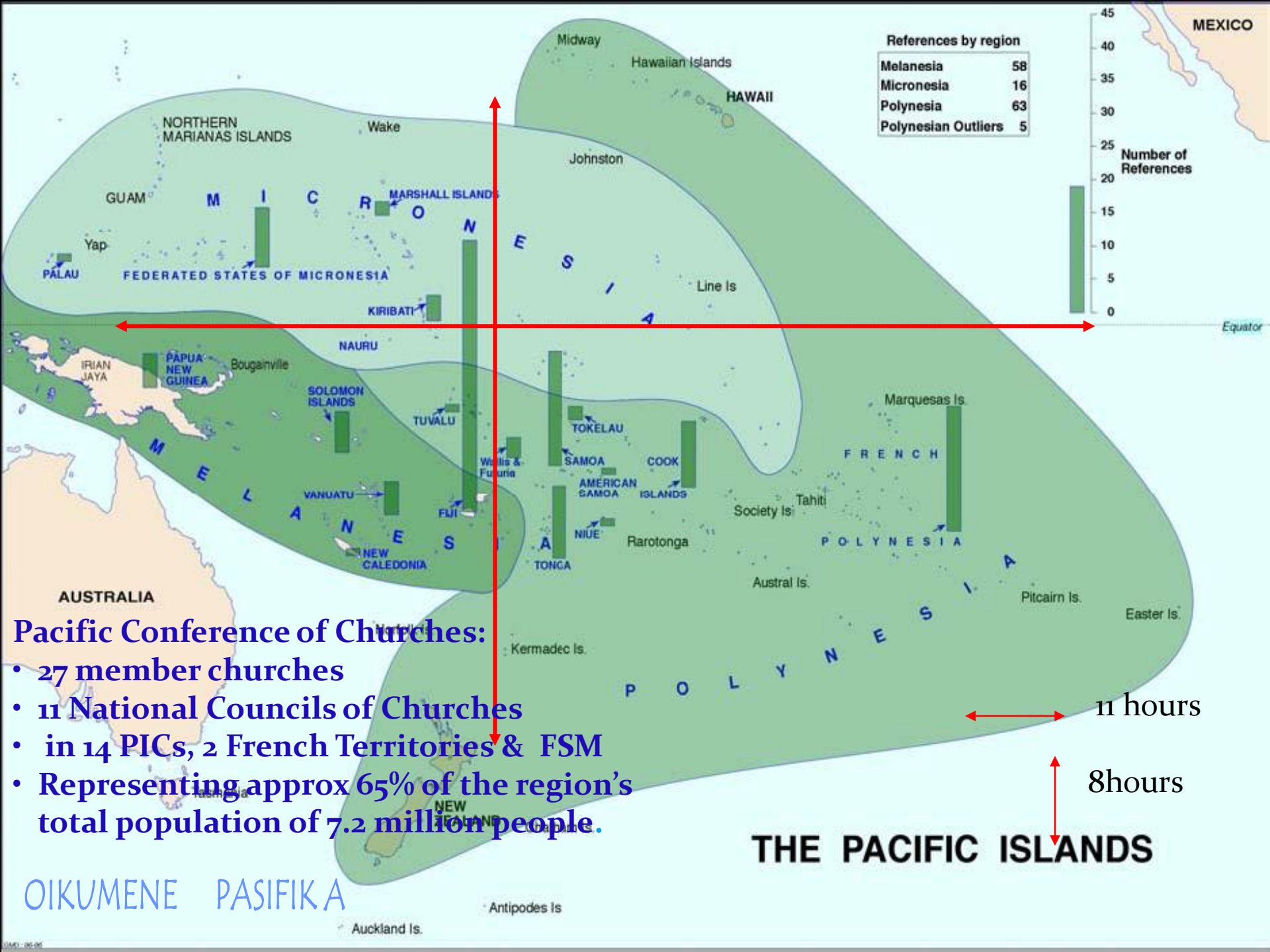
Aim of presentation

To share with you our work with regard to the phenomenon of climate change and its impacts upon atoll communities in the Anglican Church of Melanesia, and the Pacific Islands.

Outline

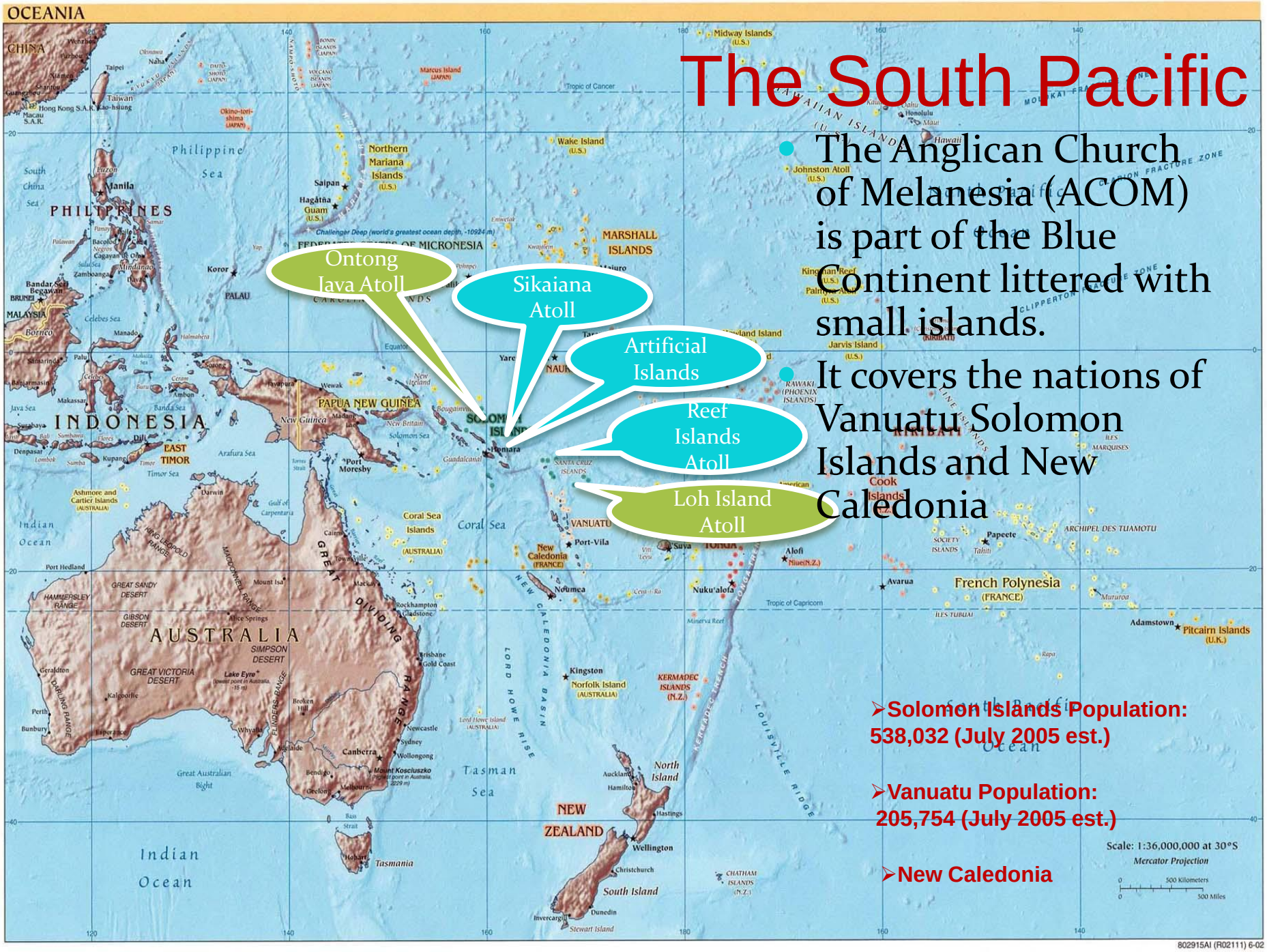
- ***Background***
- ***Issues Affecting Atoll Communities***
- ***Adapting to Climate Change Effects***
  - ***Ontong Java Atoll Food and Water Security Project***
- ***Conclusion***

BACKGROUND



Pacific Conference of Churches:

- **27 member churches**
- **11 National Councils of Churches**
- **in 14 PICs, 2 French Territories & FSM**
- **Representing approx 65% of the region's total population of 7.2 million people.**

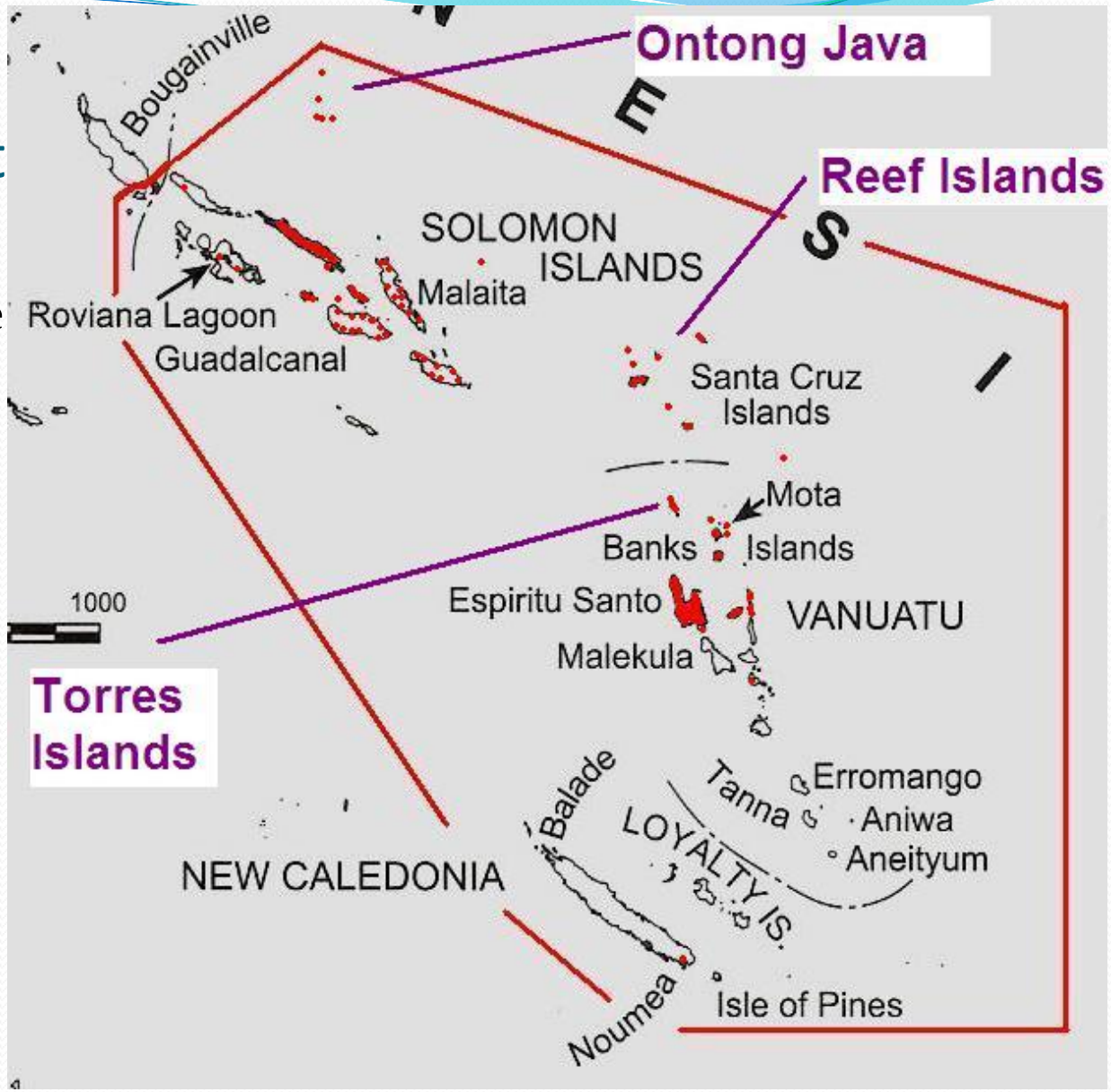

OCEANIA
The South Pacific
The Anglican Church of Melanesia (ACOM) is part of the Blue Continent littered with small islands.
It covers the nations of Vanuatu Solomon Islands and New Caledonia
Ontong Java Atoll
Sikaiana Atoll
Artificial Islands
Reef Islands Atoll
Loh Island Atoll
Solomon Islands Population: 538,032 (July 2005 est.)
Vanuatu Population: 205,754 (July 2005 est.)
New Caledonia
Scale: 1:36,000,000 at 30°S
Mercator Projection
802915AI (R02111) 6-02

Areas of Immediate Impact

Main Anglican areas are shown in red.

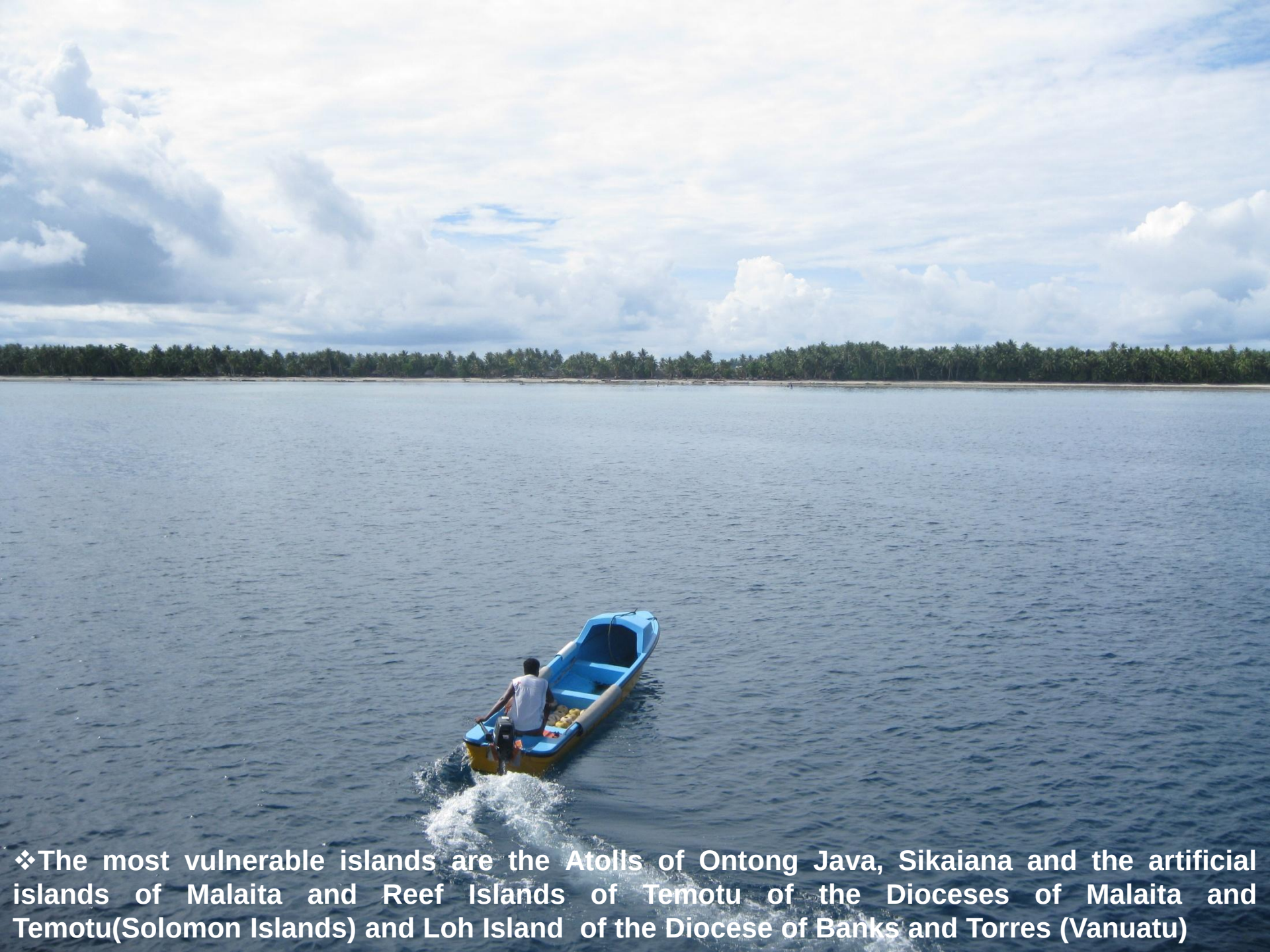
Ontong Java, the Torres Islands, and the Reef Islands are the most immediately affected area, but other parts of the Solomon Islands and

Vanuatu are also threatened.



❖**The Church's growing concern for the environmental issues makes it part of its mission towards God’s people and Creation**

❖Community calls for attention has prompted the ACOM to respond to the people of Ontong Java in the face of encroaching impacts of climate change



❖The most vulnerable islands are the Atolls of Ontong Java, Sikaiana and the artificial islands of Malaita and Reef Islands of Temotu of the Dioceses of Malaita and Temotu(Solomon Islands) and Loh Island of the Diocese of Banks and Torres (Vanuatu)

Exponential effects

- "*We are basically looking now at a future climate that's beyond anything we've considered seriously in climate model simulations,*" Christopher Field, founding director of the Carnegie Institution's Department of Global Ecology at Stanford University, said at the annual meeting of the American Association for the Advancement of Science (Feb 15th 2009).
- "*Unexpectedly large amounts of carbon dioxide are being released into the atmosphere as the result of "feedback loops" that are speeding up natural processes*".

ISSUES

1.Deteriorating coastal environments

a cemetery being eroded away.

CAUSE

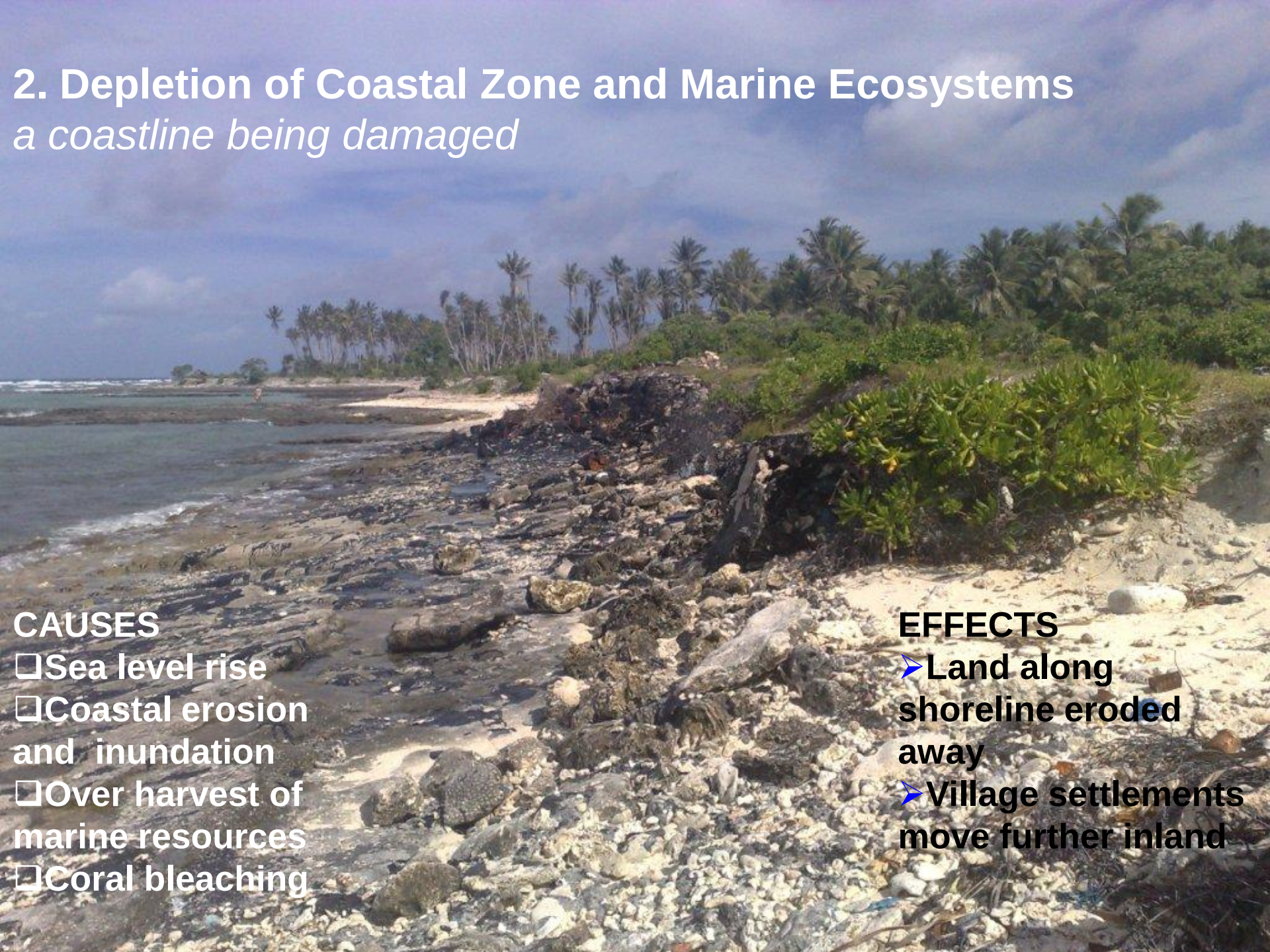
- ❑Sea level rise
- ❑Coastal inundation and erosion

EFFECT

- ➢Salt water intrusion
- ➢Contaminated wells
- ➢Disruption of settlements
- ➢Low food production .

2. Depletion of Coastal Zone and Marine Ecosystems

a coastline being damaged



CAUSES

- ❑Sea level rise
- ❑Coastal erosion and inundation
- ❑Over harvest of marine resources
- ❑Coral bleaching

EFFECTS

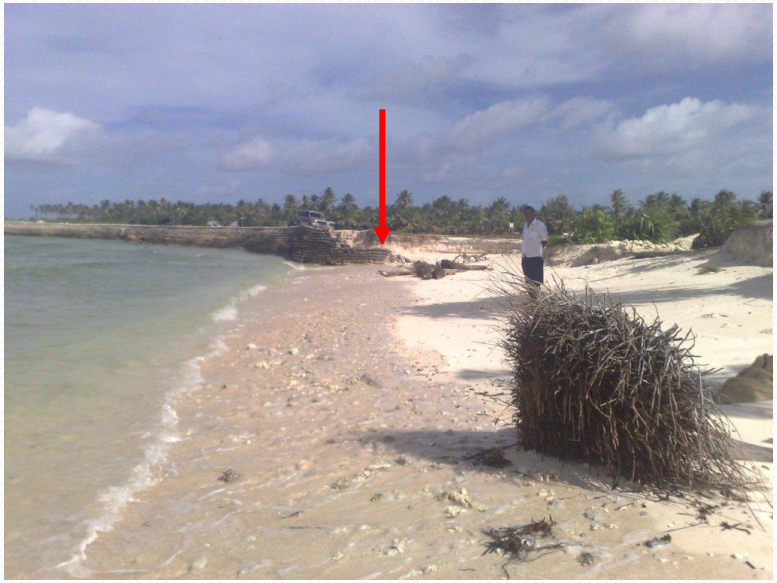
- ➢Land along shoreline eroded away
- ➢Village settlements move further inland

2004 - 2008

Photos by Dr Fei Tevi (PCC)

2004 - 2008

Photos by Dr Fei Tevi (PCC)



3. Destruction of Artificial Islands

Lagoon Islands of Malaita
(from Internet)

4. Eroded Human Settlements

Houses collapsing on Ontong Java as water levels rise causing sea erosion

CAUSES

- **sea level rise and intense storm surges affect two Ontong java communities.**

EFFECTS

- **Parts of villages eroded away**
- **People finding space for building houses**
- **People favour *relocation***

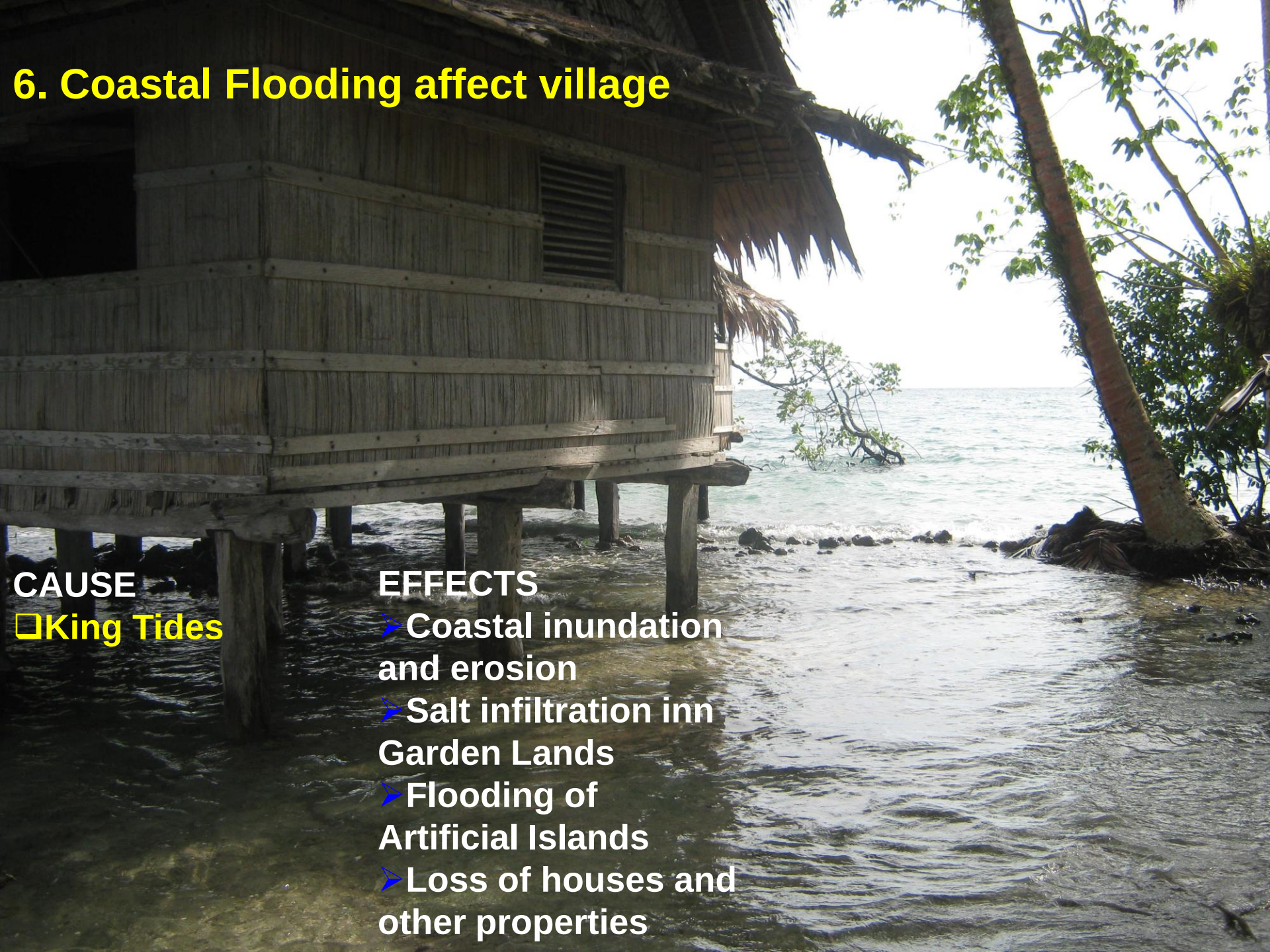
5. Flooded human settlements

CAUSE
King Tides

EFFECT
Flooded settlements
Displacement

❖**Several reports such as The Ontong Java High Swells Assessment Report(2008), The Solomon Islands NAPA Report (2008), ACOM Food Security Report (2010), The Vulnerability and Adaptation Assessment (2011), and other report of earlier periods, have all implicated the adverse effects of the impacts of climate change**

6. Coastal Flooding affect village



CAUSE

- **King Tides**

EFFECTS

- **Coastal inundation and erosion**
- **Salt infiltration inn Garden Lands**
- **Flooding of Artificial Islands**
- **Loss of houses and other properties**

7. Flooding of Rivers

CAUSE

- ❑ **Cyclones**
- ❑ **Heavy rainfall**

EFFECTS

- ➢ **Loss of lives**
- ➢ **Loss of properties**
- ➢ **Loss of crops**

8. Cyclone Damages often claim lives and properties

a damaged church building in Tikopia

CAUSES

- ❑ Increased frequency of cyclones
- ❑ Increased intensity of cyclones

EFFECTS

- ➢ Loss of lives
- ➢ Loss of properties

9. Contaminated water for People, Livestock and Agriculture

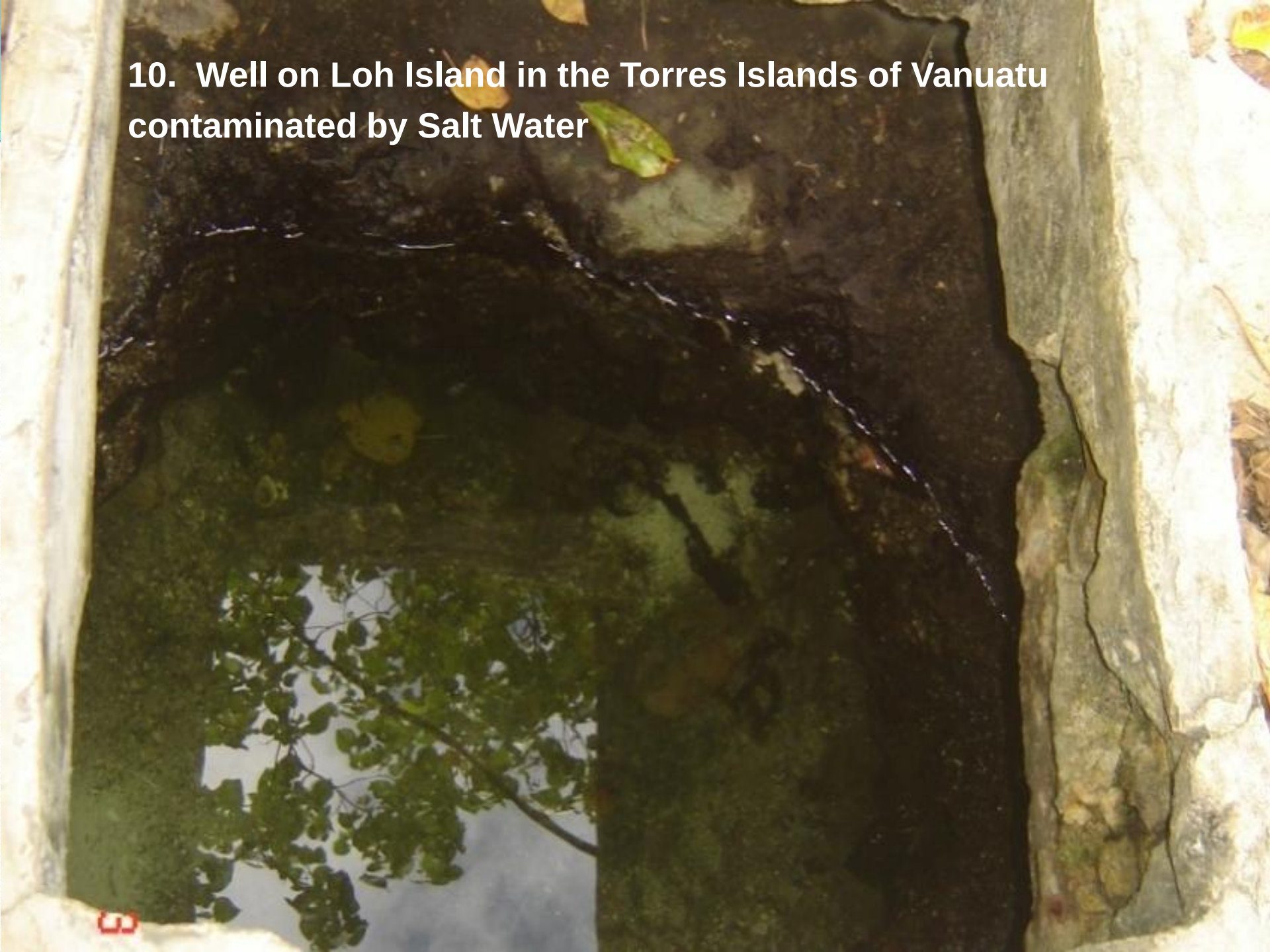
a well in Ontong java contaminated with salt

CAUSES

- **Salt water intrusion caused by sea level rise, storm surges, and coastal inundation**

EFFECTS

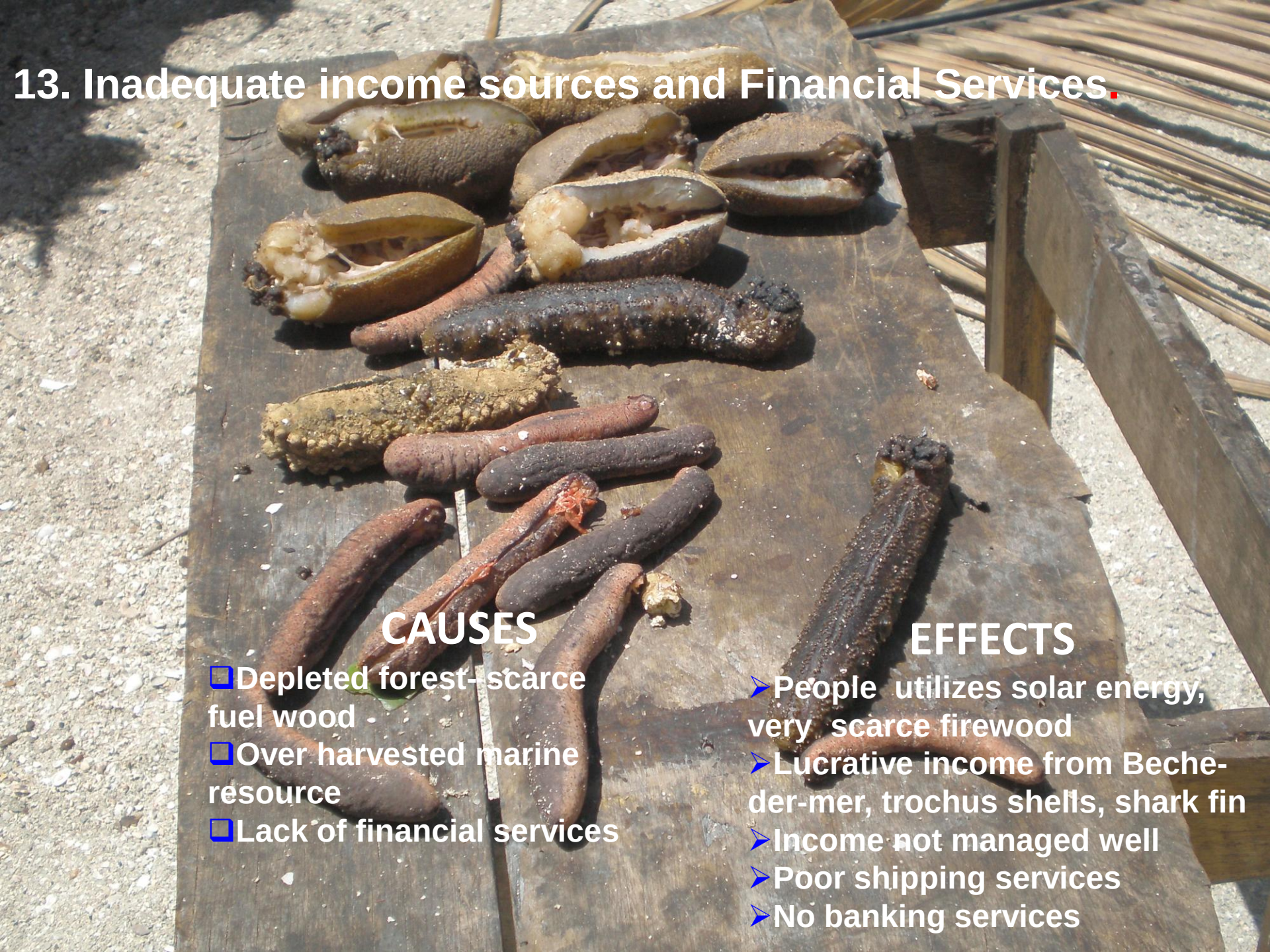
- **Water wells contaminated with salt**
- **Swamp taro creeks affected by sal**
- **Swamps lack mulching materials,**
- **Soil has become infertile,**
- **Swamp taro crops not healthy**
- **Not enough water for people, livestock and agriculture**



10. Well on Loh Island in the Torres Islands of Vanuatu contaminated by Salt Water


11. Loh Island, Torres Group
VANUATU
Coconut plantation destroyed.
CAUSE
Sea level rise.
EFFECT
Coconut plantation killed.
3 20:59

13. Inadequate income sources and Financial Services.



CAUSES

- Depleted forest- scarce fuel wood
- Over harvested marine resource
- Lack of financial services

EFFECTS

- People utilizes solar energy, very scarce firewood
- Lucrative income from Beche-der-mer, trochus shells, shark fin
- Income not managed well
- Poor shipping services
- No banking services

- **Health risks -** such as an increase in vector and water borne diseases caused by warmer temperatures.

slide - Pcc

12. Low agriculture production

Salt water infiltration affect plant growth

CAUSES

- Salt water intrusion
- Coastal erosion
- Lack of planting materials
- Incidence of pests and diseases
- Nutrient deficiency.

EFFECTS

- Rotting of swamp taro
- Infertile soil
- Decrease crop yields
- Contaminated water in wells
- Lack of water for agriculture
- Insecure food security

ADDRESSING FOOD SECURITY

FOOD SECURITY ASSESSMENT (2010)

Problem

Root Causes	Core problem	Effects
❑ Salt water Intrusion and infertile soil ❑ low agriculture production ❑ Inadequate income sources ❑ Difficult to save income ❑ Unreliable shipping/communication ❑ High cost of food	FOOD INSECURITY	❑ Food shortage ❑ Vulnerable to nutritional diseases ❑ Migrating ❑ Import food ❑ Immature harvesting of swamp taro crops ❑ Water wells contaminated with salt **Hungry**

Solution

Strategies	Core Solution	Outcome
❑ **Promote agro** forestry gardening ❑ Select salt tolerant crops ❑ Develop appropriate gardening technologies ❑ Access to good source of planting materials ❑ Acquire literacy on finance and management ❑ Improve shipping and communication ❑ Reduced food costs ❑ Good source of fish ❑ Provide water catchment and storage	FOOD SECURITY	❑ Improved agriculture systems ❑ Increased crop yields and total production ❑ Sufficient water ❑ People are healthy **Not Hungry**


Ontong Java Atoll
Food and Water Security Project
Funded by
ACOM, Episcopal Relief and Development
(ERD)
AND PARTNERS

Negotiation

- Consultations were made with the House of Chiefs
- They gave approval to negotiate with individual landowners for the agriculture demonstration plots.

They agreed so 4 plots were secured:

- Plot 1 Keaha Land 60mx60m (0.36 ha)
- Plot 2 Saako Land 60mx70m (0.42ha)
- Plot 3 Lungukai'a Land 40mx55m (0.22ha)
- Plot 4 Vaerikongou Land 40mx60m (0.24ha)

Preparation

- The House of Chiefs moved that the community provide labour for clearing. Four community groups were assigned to work.
- Land cleared and windrowed
- Plots were designed for Atoll Permaculture
- Structures were designed according to specific needs of crops

Lead Farmers

- Four Lead Farmers were recruited and trained on:
  - Effects of climate change
  - Effects of salt water intrusion
  - Salt resistant crops
  - Need to diversify crops
  - Need to improve water catchment and harvesting
  - Legume plants
  - Green manuring
  - Composting and mulching
  - New appropriate technologies
  - Agro forestry
  - Atoll Permaculture

Nursery Established

- Nursery established to raise seedlings for Luaniua and Pelau.

Planting Materials

- Planting materials are collected from Temotu Diocese and raised in the nursery in Honiara before shipping them to Ontong Java


The Mission Secretary, Rev. Patteson Worek, helping out in the Nursery

Crop seedlings being shipped to Ontong Java by the Church's flag ship M v. Southern Cross.

Off loading seedlings at Ontong Java

The community helping to unload the seedlings

Crop Plantings and Progress

- **Currently plantings is carried out at Luaniua.**
  - **16 species of crops are identified and are being incorporated in the Atoll Permaculture design. Some are good salt tolerant while others need raised beds and heavy mulching. They include tree, root, fruit and vegetable crops.**

- **Several legume trees and vines are being tried:**
  - **Lusina (*Lucaena leucocephala)*-successful**
  - **Gliricidia (Gliricidia sepium)- not good.**
  - **Siratro- not good**
  - **Centro (*Centrosema pubescence*) -not good**

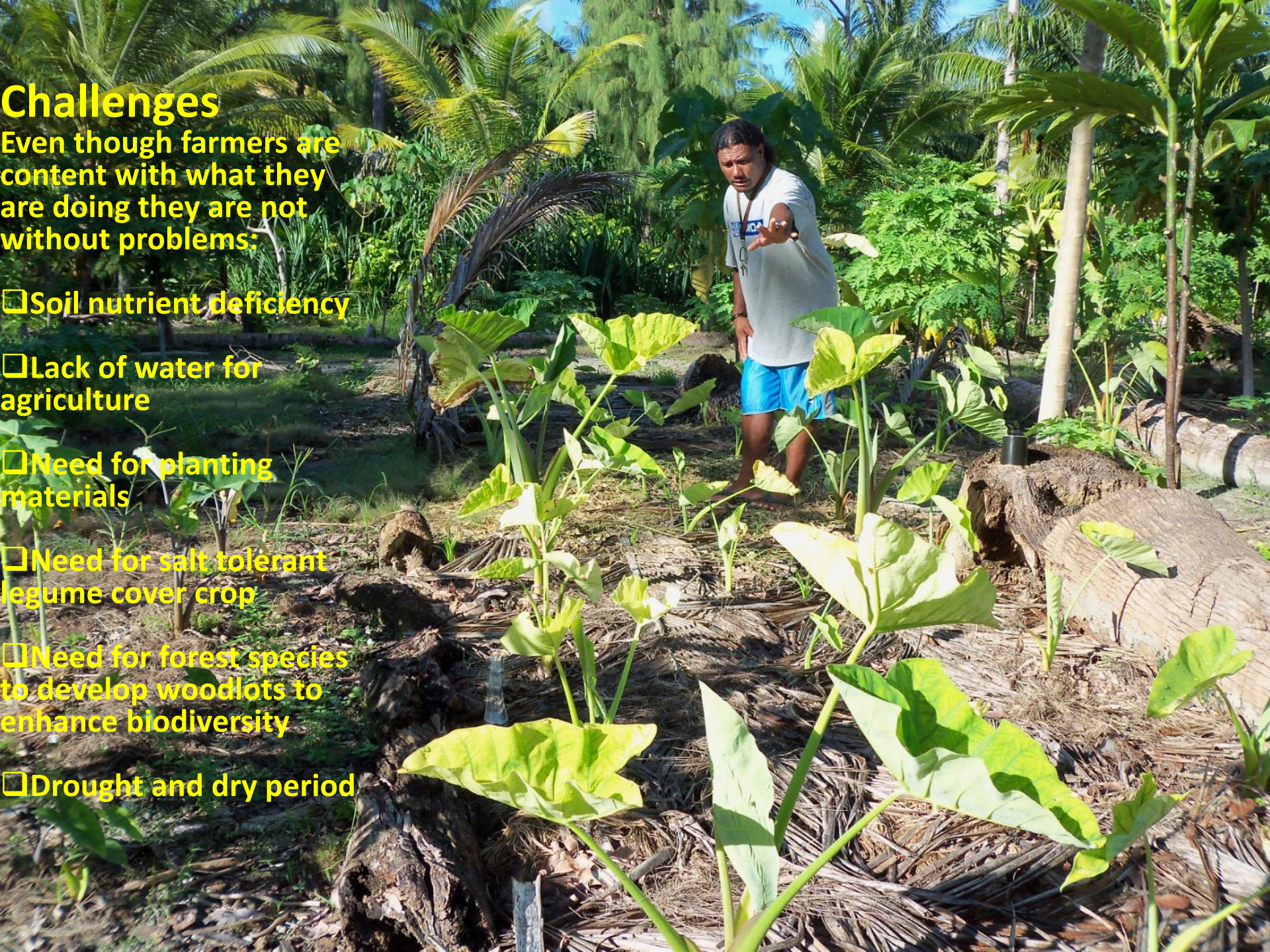
Newly planted taro plants which can grow in salinated soil


Healthy taro plants in one of the plots,
notice heavy mulching in the raised bed.


Taro suckers
germinating
around mother
plants


A healthy stand of stem taro in one of the plots. A salt tolerant taro variety quite suited to the sandy conditions. There is still a lot of space to fill in.


A farmer quite satisfied with his healthy crop of stem taro. It should be ready in eight months. When he harvests he would have plenty of planting seeds and suckers.

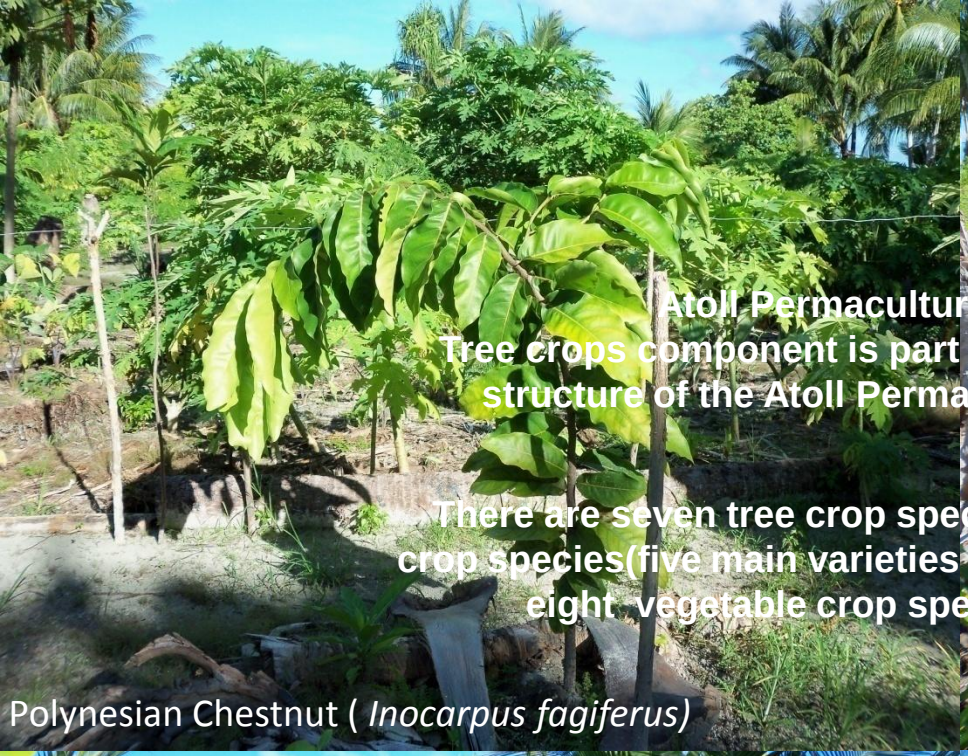


Challenges

Even though farmers are content with what they are doing they are not without problems:

- Soil nutrient deficiency
- Lack of water for agriculture
- Need for planting materials
- Need for salt tolerant legume cover crop
- Need for forest species to develop woodlots to enhance biodiversity
- Drought and dry period

A lead farmer is happy that his taro and yams have survived this years long dry period



Atoll Permaculture

Tree crops component is part of the tree structure of the Atoll Permaculture.

There are seven tree crop species, five root crop species(five main varieties of taro), and eight vegetable crop species.

Polynesian Chestnut (*Inocarpus fagiferus)*

Local Avocado *(Burkela obovata)*

Breadfruit *(Artocarpus altilis)*

Alite nut *(Terminalia catapa 0.*

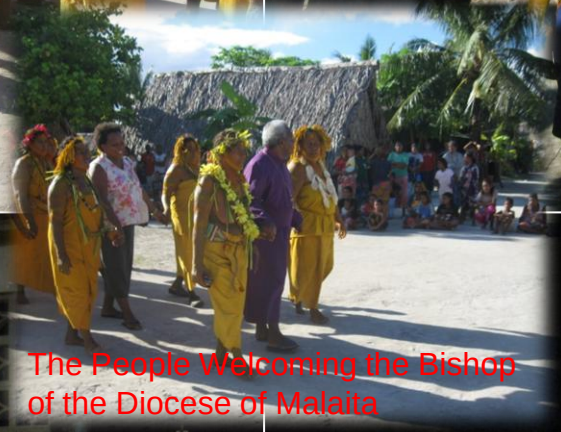
Some tangible benefits are being realized

Lusina *(Lucaena leucocephala)*

Banana *(Musa sapientum)*

Pumpkin *(Cucurbita pepo)*

Pawpaw (*Carica papaya*)



The People Welcoming the Bishop of the Diocese of Malaita


WAY FORWARD

Short term strategies

- ❖Advocation and education on climate change variability and their impacts on the people, livelihood, and the environment.
- ❖Improve water harvesting by supplying water tanks for the communities to address water issue. Coordinated in manner like 3 families per 1000 gallon tank.
- ❖Build on the existing foundation set up by Anglican Church of Melanesia climate change Food and Water Security Project
- ❖Disaster risk reduction planning
- ❖Disaster response planning
- ❖Disaster relief supplies

Medium Term strategies

- ❖Training of Communities on C B D R Reduction
  - ➢C. B .D. R. R. Training
  - ➢Increasing Food Production
- ❖Increase Food Production
  - ➢Develop new sustainable farming systems
  - ➢Use salt tolerant crops
- ❖Capacity building for agriculture and economic development
  - ➢Agriculture training
  - ➢Financial literacy training

Long Term strategies

- ❖Start work on long term planning and implementation
  - ➢Education and Training
  - ➢'Satellite Farming Centres'
  - ➢Relocation
- ❖CONTINUED DIALOGUE WITH OTHERS
- Planting trees especially mangroves to reclaim lost lands, prevent erosion, nourish the land.
- Use of approppriate technology e.g solar

Policy Advocacy & Leadership. PCC STRATEGIES

- Resolutions of the 9th Assembly of the Pacific Conference of Churches
- Alignment with position with the Association of Small Island States (AOSIS)
- Alignment of position with the Pacific Islands Forum Action Plan on Climate Change (PIFACC)
- Appeal to Anglican Alliance to advocate on CC issues and impacts.

Community Engagement (PCC RESOLUTIONS)

- Promotion of Green Churches….Diocese of Polynesia
- Action Plans on Climate Change of the various Churches (KPC, UCPNG….)
- Resettling communities (CCPNG, UCSI, PCV….)
- Addressing coastal erosion (MCF&R, EPM, FWCT, TNCC, UCSI, KPC, EKT, UCCMI…
- Cooperation with national gov'ts. (CICC, KPC, PCV etc…)
- Christian Conservation (MCF&R (Viwa)
- Replanting scheme for mangroves (KPC)
- Carbon footprint scheme (KPC)

Current model in crisis

- CC effects highlight the inconsistencies of current economic models
  - Scarcity of resources and limited availability
  - Unabated consumerism and exploitation of natural resources
  - Hard driven competition for scarcity of resources and "sustained" growth
  - Individualistic outlook on life
- Looking for Science and technology solutions to maintain a lifestyle

ADDED VALUE OF THE ANGLICAN CONTRIBUTION

- Focus on adaptation and mitigation efforts of Anglican community in the Pacific
  - COM communities in Solomon Islands, Vanuatu and New Caledonia
  - Diocese of Polynesia efforts in Samoa, Tonga and Fiji
- Support for resettlement dialogue process
- Support for Pacific churches disaster management concept.
  - Concept design: collaboration effort CWS USA & PCC
  - Potential wider reach
- Prophetic nature of the church to find a new way of life

Towards a development & sustainable model….

- What type of economic and development model will enable us to be good stewards of God's creation??
  - McKibbon: earth economy
  - Sally McFague: ecological economics
  - Island of Hope: spirituality and the environment
    - Theology of vanua & the seas
    - Holistic approach to life and community
- Bishop Winston Halapua: Waves of God's Embrace: theomoana theology: quote p.94.

OUR CALL TO THE ANGLICAN ALLIANCE

- Let us embrace our

Mutual Vulnerability

- Let us embrace our

Accountability to Each Other

- Make real our commitment to

the poor and the vulnerable of our communities

ADAPTED FROM PCC.

Questions

Question 1

What are the other components of a social and development model that suit our approach to life as Christians, a group of believers?

Question 2

How can we best address the issue of climate change from our perspective as Christians?

Question 3

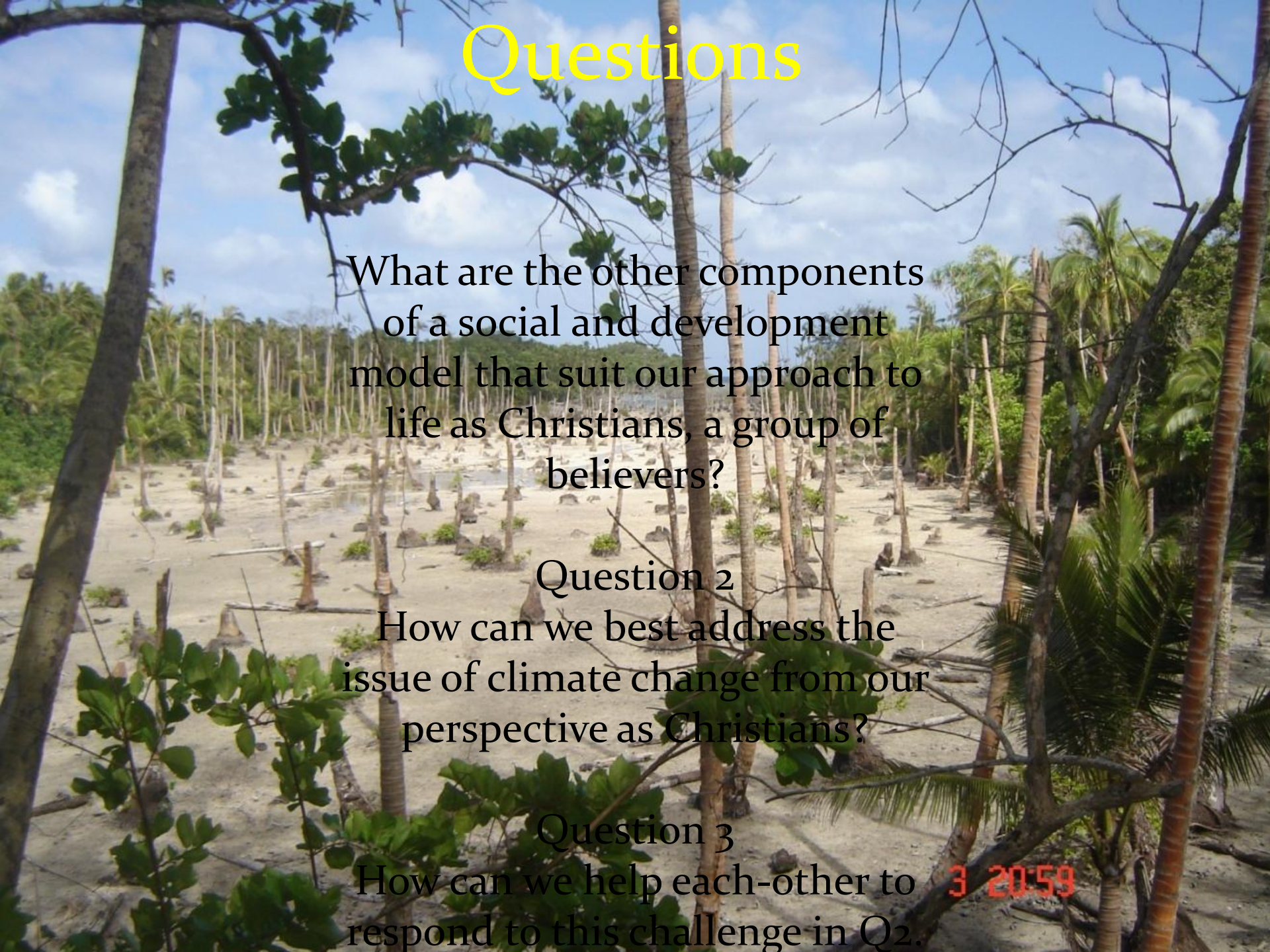
How can we help each-other to respond to this challenge in Q2.

Questions

What are the other components of a social and development model that suit our approach to life as Christians, a group of believers?

Question 2
How can we best address the issue of climate change from our perspective as Christians?

Question 3
How can we help each-other to respond to this challenge in Q2.



ACKNOWLEDGEMENTS

- Pacific Conference of Churches
- Asia Pacific Climate Change Group
- Episcopal Relief Agency, Anglican Mission Board Australia and partners
- Climate Change Committee ACOM

REV. PATTESON WOREK
MR GEORGE KIRIAU
MR JASPER BONIE
REV JOHN COLERIDGE SOVAN

THANK YOU AND GOD BLESS US ALL