



Food System Pathways Storybook

Ijo Maringi, Solomon Islands



Acknowledgements

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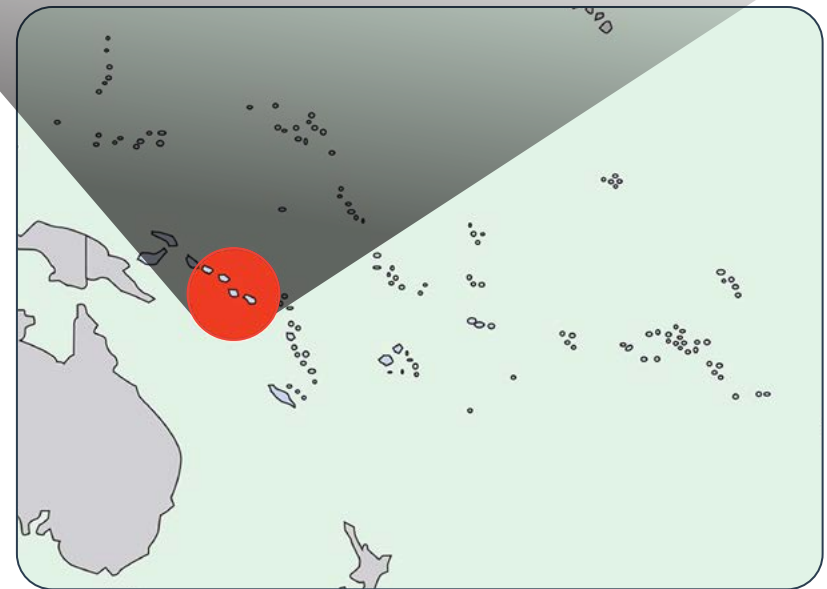
Introduction

Change is happening faster, and the future is uncertain. Climate change, population growth and technology bring risks, but also opportunities. Shocks like COVID-19, natural disasters and conflict are also affecting the world. Communities must be ready.

In April 2023 to March 2026, the Australian Centre for International Agriculture Research funded this project: *Transformation Pathways for Pacific Coastal Food Systems*. A partnership was formed between the Cawthron Institute, WWF-Solomon Islands, University of Technology Sydney, CSIRO and SPC. Gizo Island, in Western Province was selected as a pilot site to build on WWF's ongoing work with the Ijo Maringi Association. The Association agreed to host the project. This Storybook summarises the project's activities.



Ijo Maringi, Gizo Island, Solomon Islands



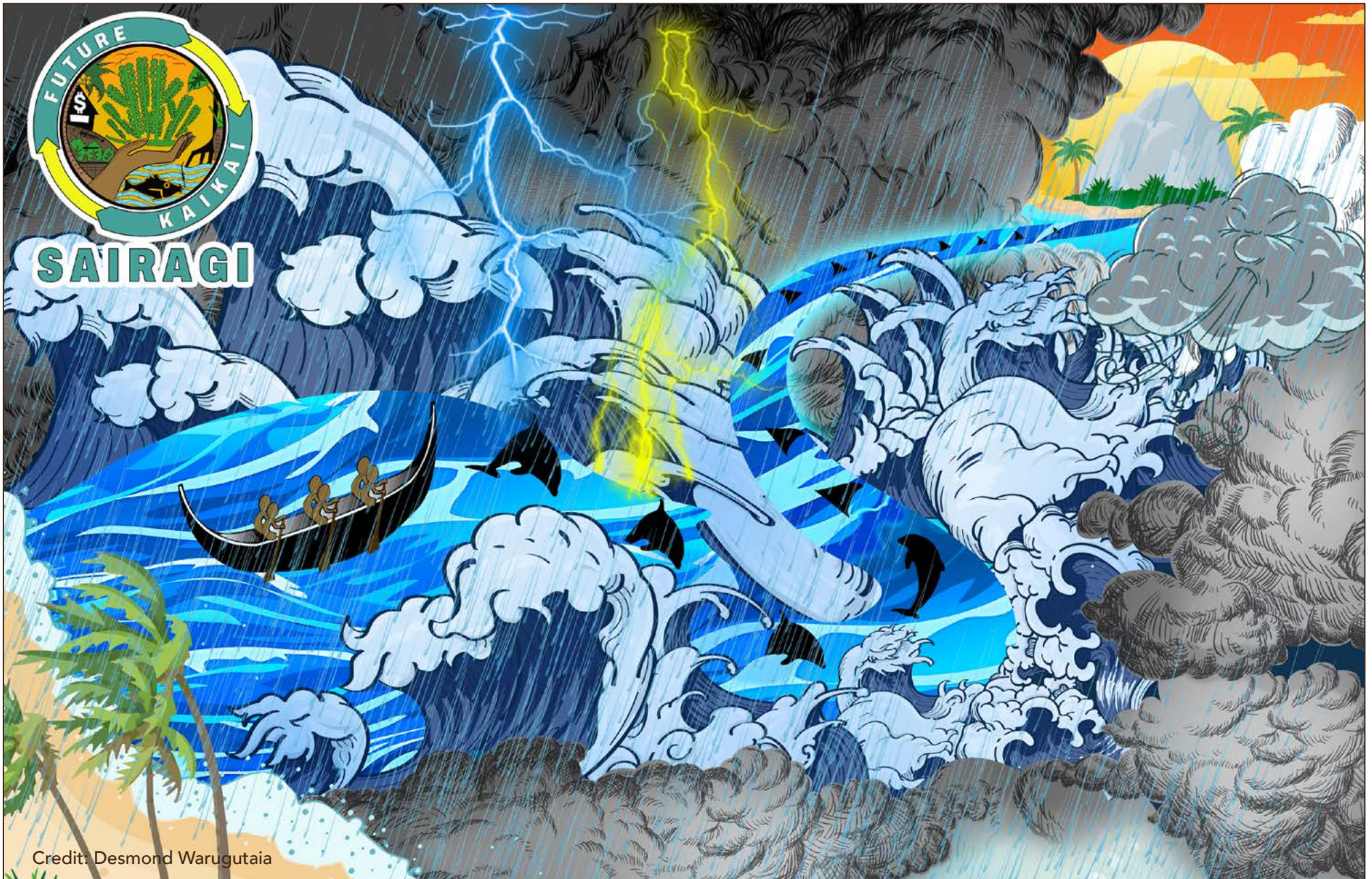
Project aims

- Move coastal food systems towards more climate resilient, prosperous and sustainable futures
- Build community and stakeholders' capacity to make this change
- Develop a community-led planning process and tools



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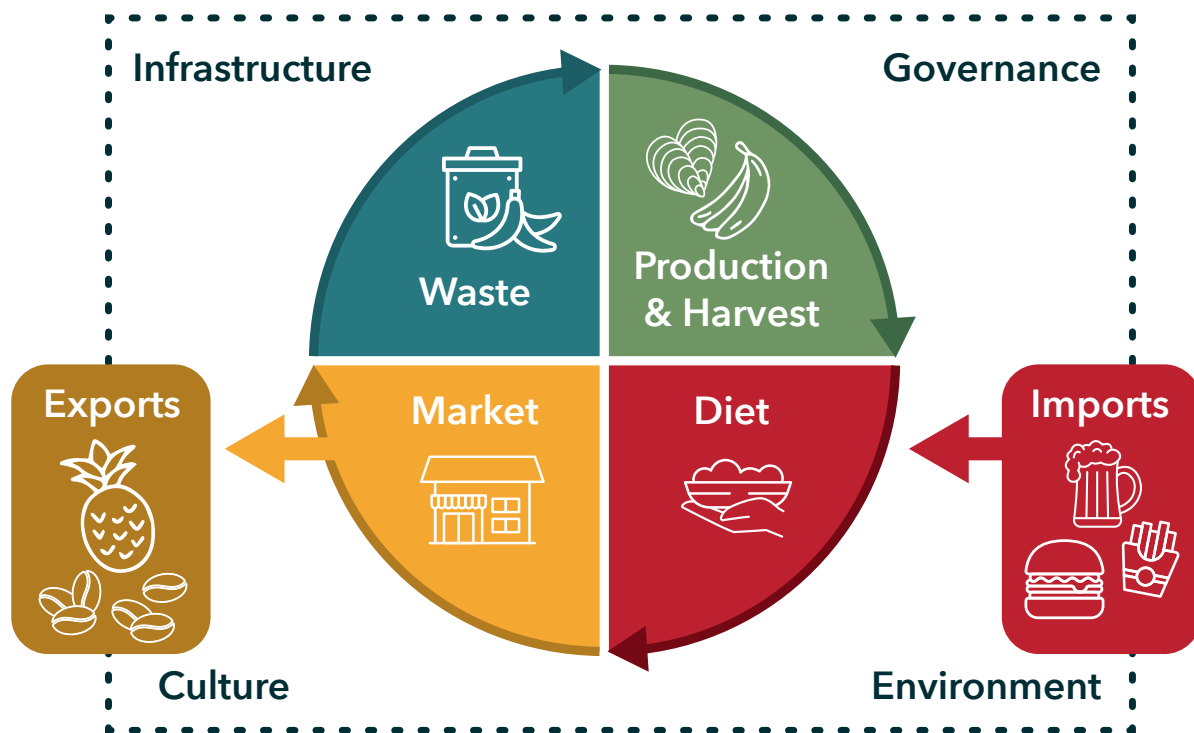
In Solomon Islands the dolphin is one of our totem animals. It is wise, and can lead our tomoko canoes to safety through a storm. In this artwork, Desmond Warugutaia from Sairagi Village has used this story to explain adaptation pathways. The dolphins lead us through future storms and uncertainty to reach our community vision, which is the island on the horizon. Like the community, the crew of the tomoko must work together and plan ahead, making decisions that keep the canoe in the calm water, and out of the rough seas.



Credit: Desmond Warugutaia

What is a food system?

Food systems are critical to communities' nutrition, livelihoods and well-being. A food system can be defined as: "all the elements (environment, people, inputs, processes, infrastructure, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the output of these activities, including socioeconomic and environmental outcomes".



For this project, Desmond Warugutaia created the "Future Kaikai" logo to illustrate an island food system in Solomon Islands.



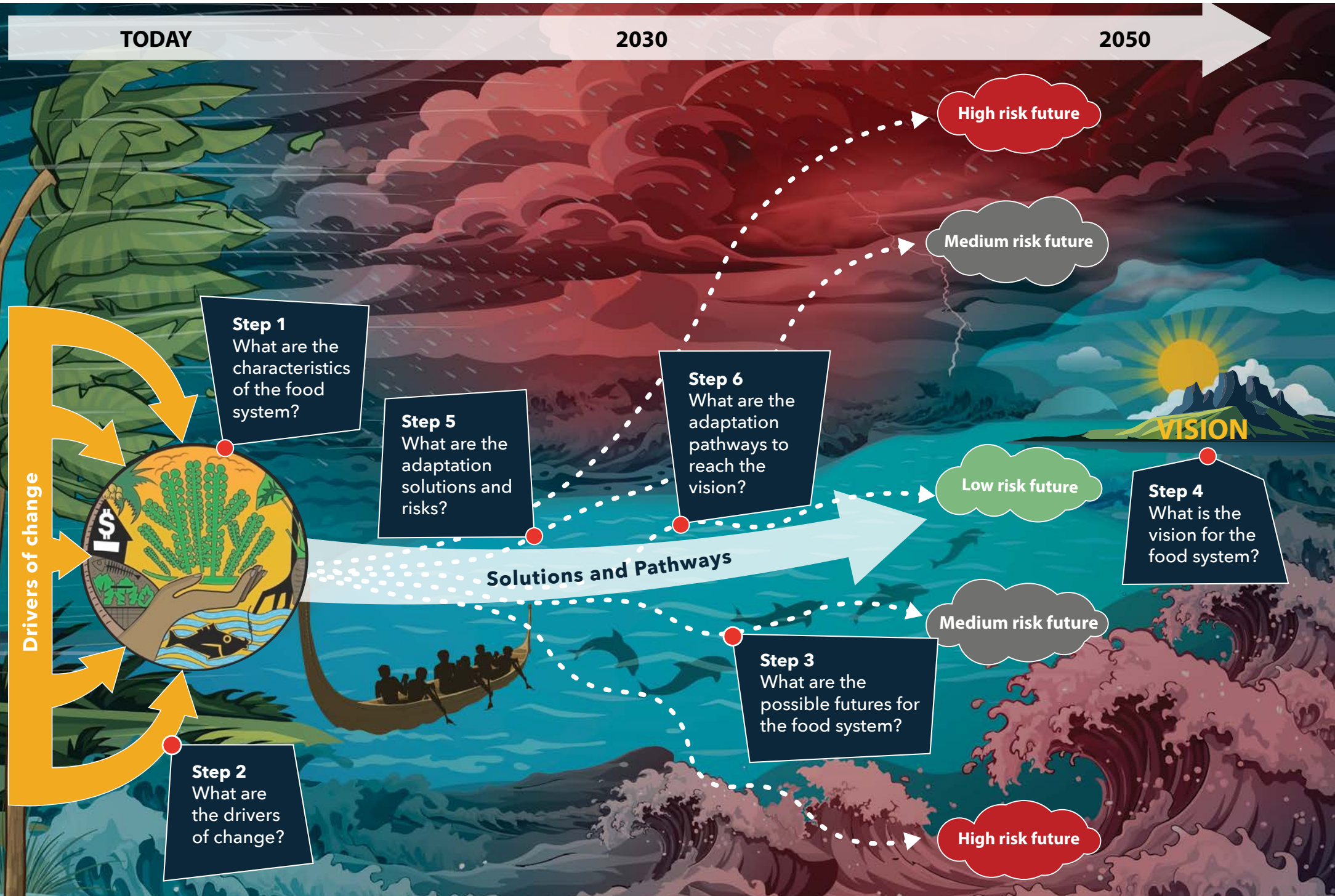
Planning food system adaptation

In April 2023 to July 2024 the project focussed on planning. Activities were based on six learning steps. These were designed to help participants understand their food system, anticipate future uncertainty, risk and opportunities, and agree adaptation pathways to transform their food.

Key learnings are summarised from each activity.



Learning steps in the planning process



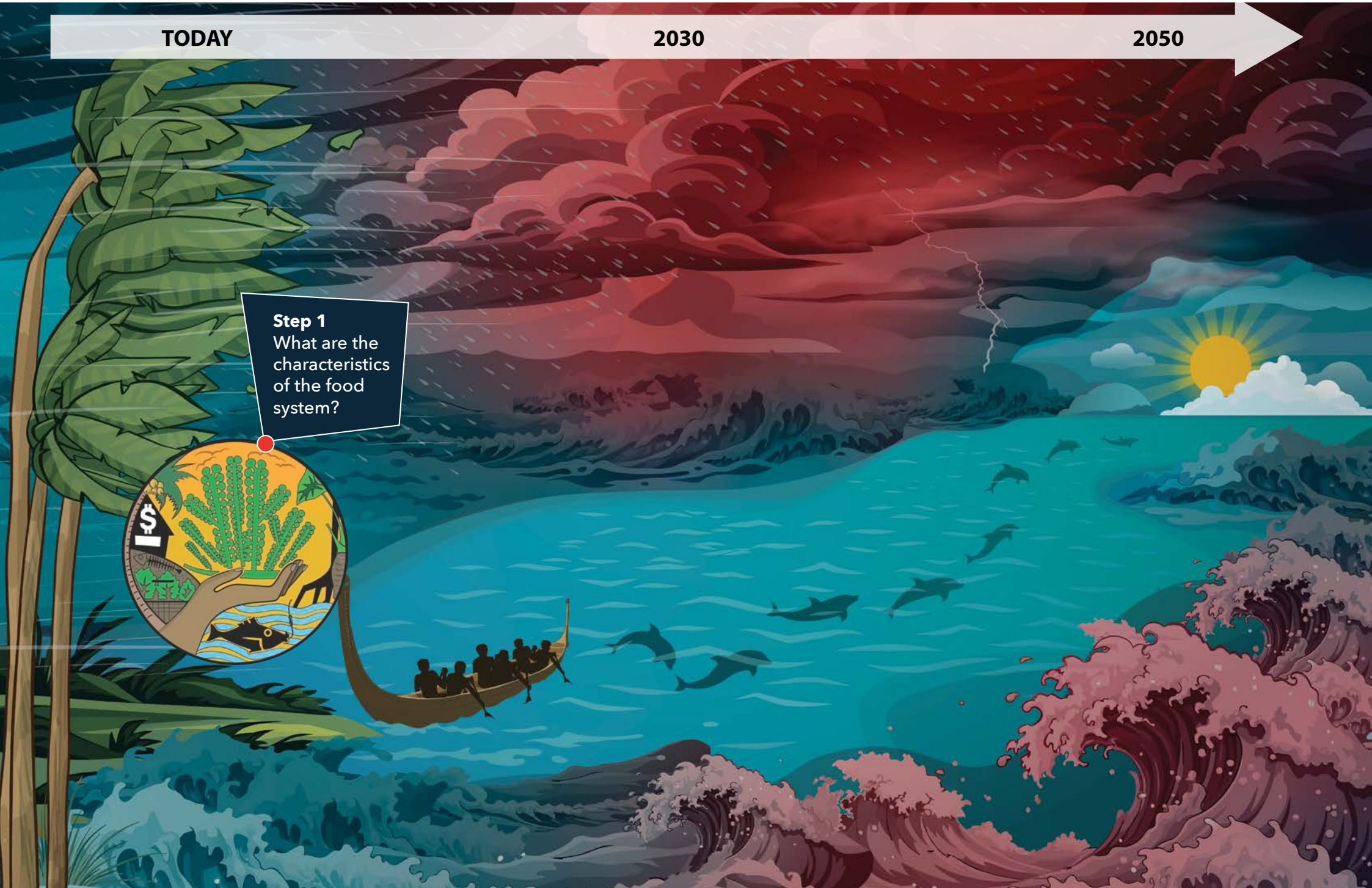
Step 1 What are the characteristics of the food system?

TODAY

2030

2050

Step 1
What are the
characteristics
of the food
system?



In Step 1, six activities were carried out to:

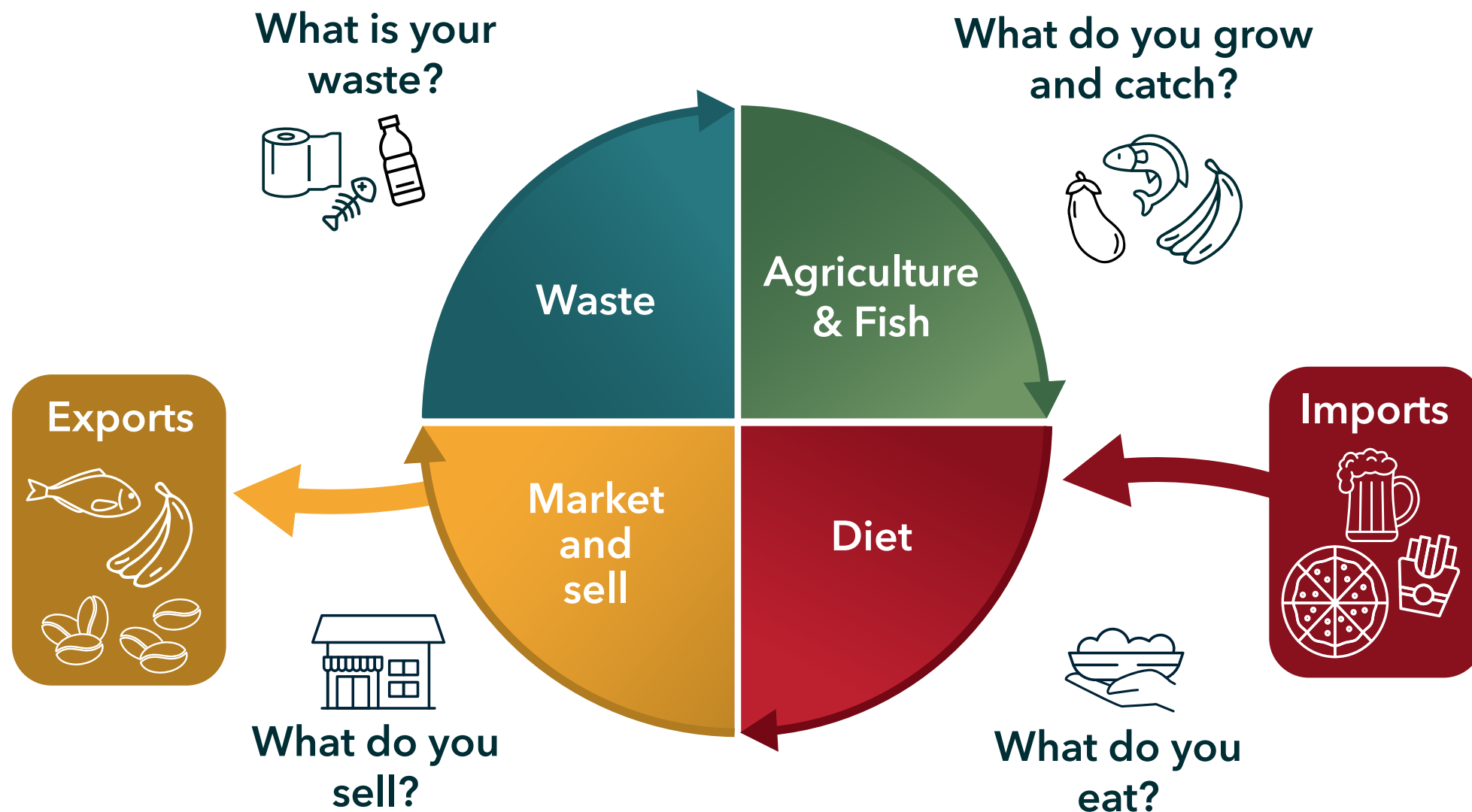
- Understand the Ijo Maringi food system
- Consider past shocks and changes
- Identify the most important foods
- Identify food system problems and solutions

The activities were:

1. Food System Wheel
2. Historical Timeline
3. Governance Analysis
4. Causal Loop Analysis
5. ADWIM (Assets-Drivers-Wellbeing-Impact-Model)
6. Diet survey

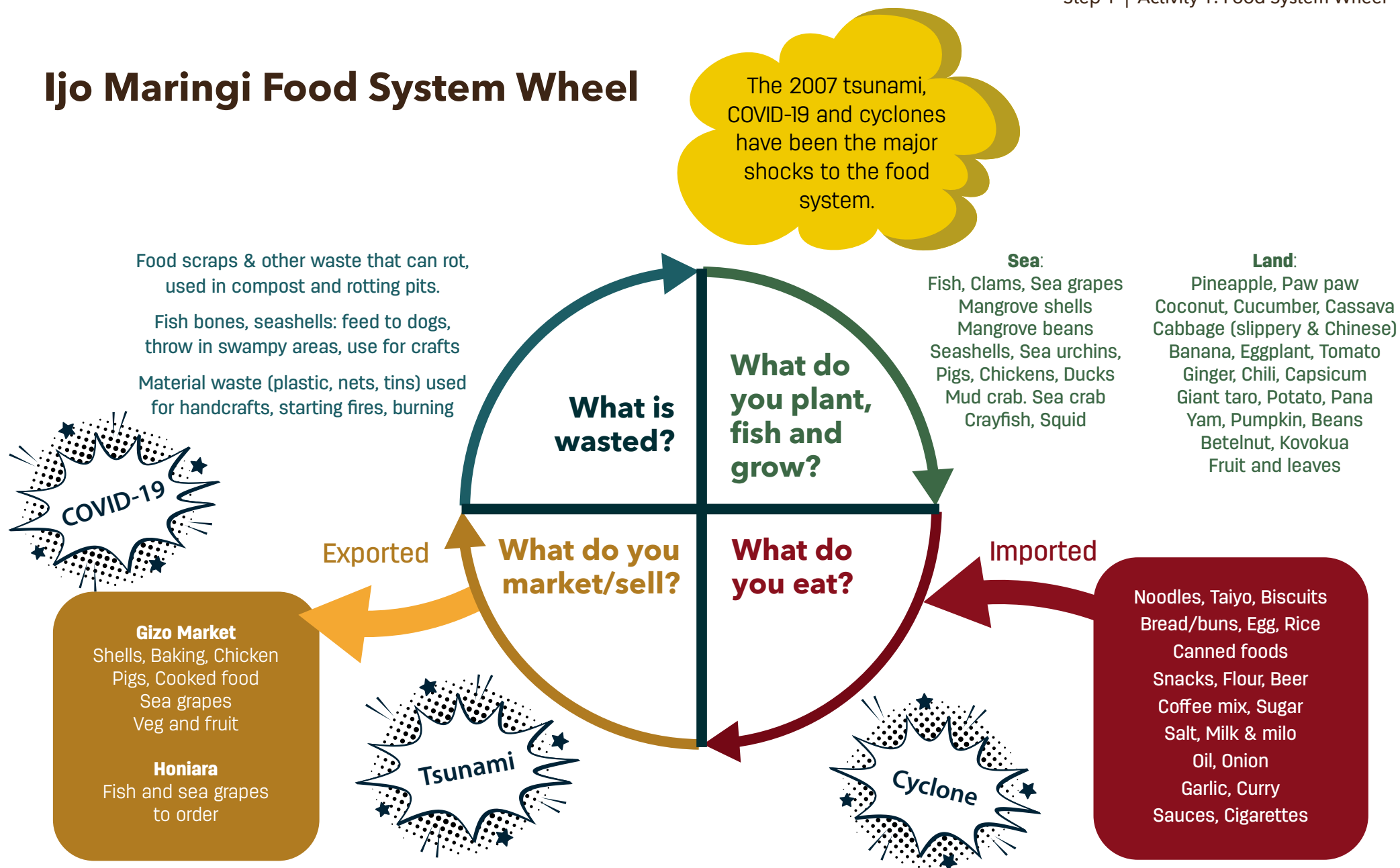


Activity 1: Food System Wheel



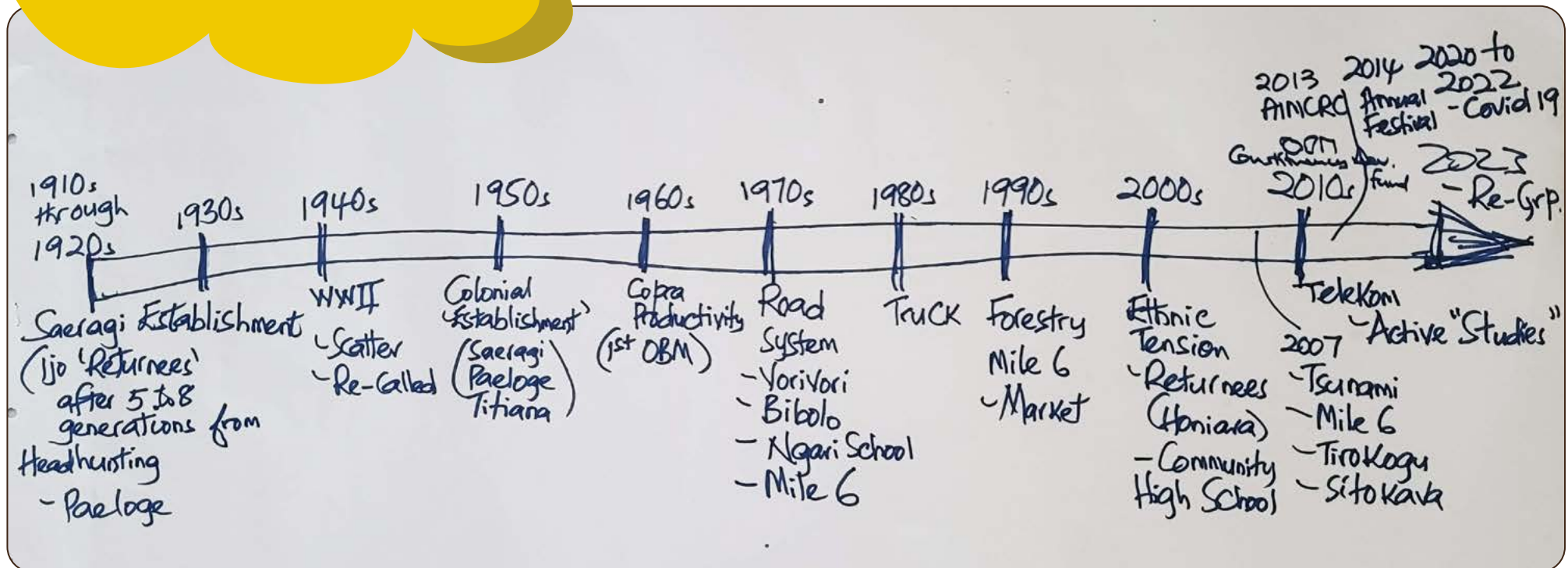
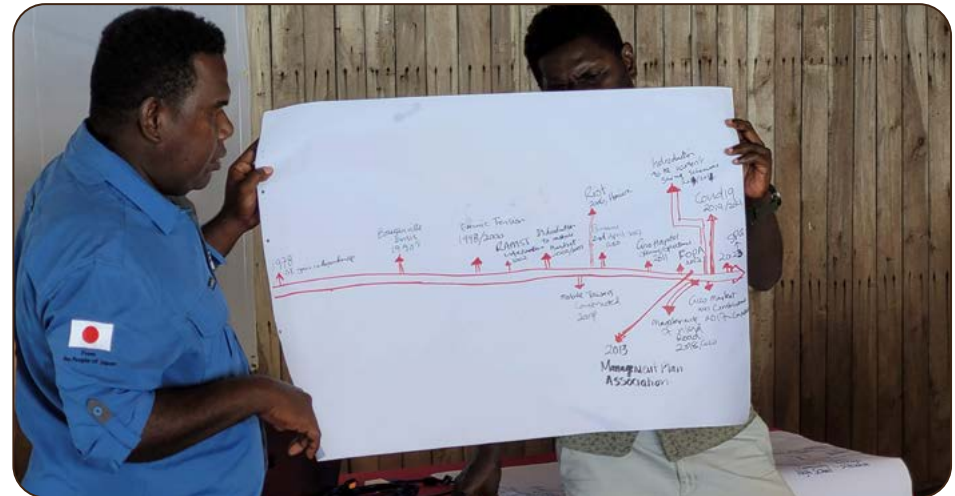


Ijo Maringi Food System Wheel



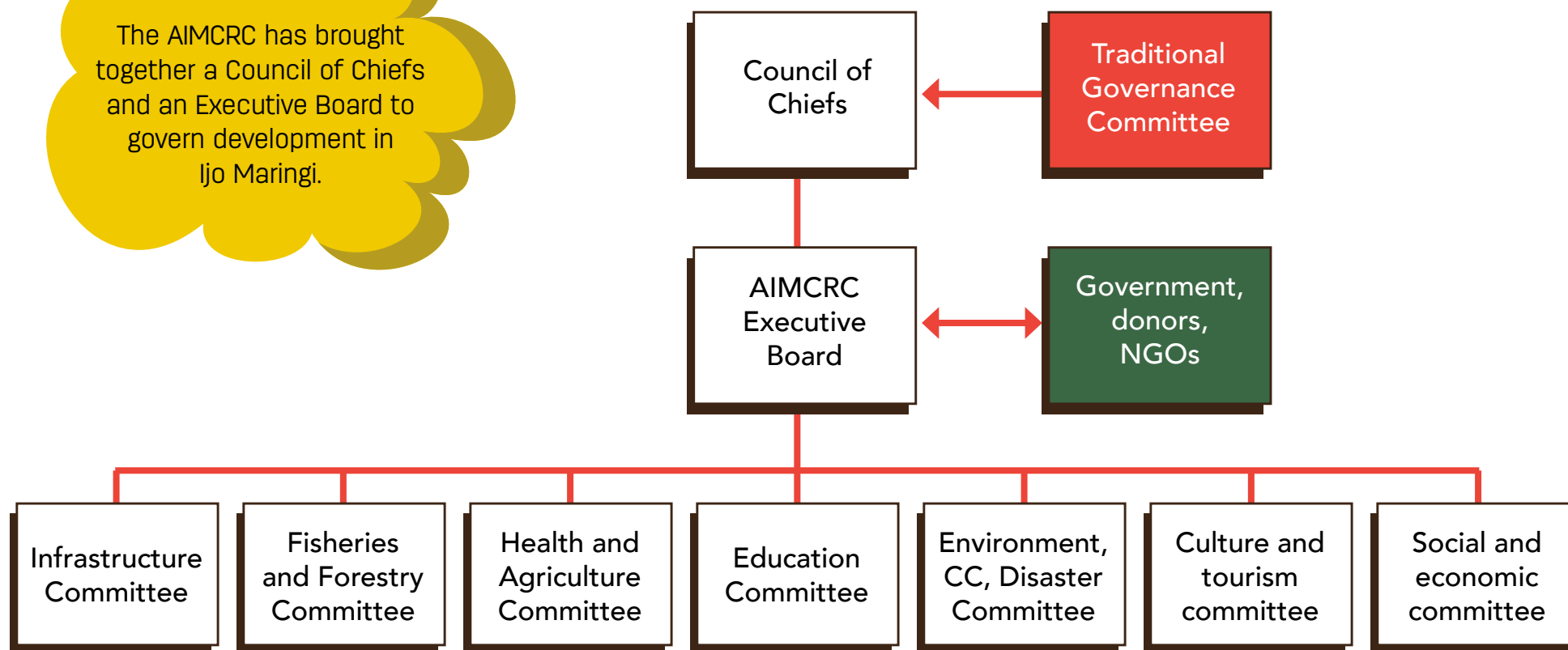
Activity 2: Historical Timeline

Road and transport access to the Gizo market since 1980 have been major changes. Establishment of the Association Ijo Maringi Community Ridges to Reef Conservation (AIMCRC) in 2013 changed community governance.



Activity 3: Governance Analysis

The AIMCRC has brought together a Council of Chiefs and an Executive Board to govern development in Ijo Maringi.



Activity 4: Causal Loop Analysis



Causal Loop Analysis was used to examine four major problems affecting the food system: soil infertility; shortage of coconut; over-fishing, and over-harvesting of seagrapes. Participants identified solutions to tackle the underlying causes of the problems, and key decision-makers.

Ijo Maringi food system problem	Solutions to tackle underlying causes	Key decision-makers
Soil infertility	1. Form a community association to address over-cultivation 2. Crop rotation	• Provincial members • Ministry of Agriculture and Livestock • National member • Aid donors • WWF
Shortage of coconut	1. Introduce community rules on harvesting 2. Understand customers' culture 3. Bring together churches and community leaders	• Provincial government • Ministry of Agriculture and Livestock • NGOs
Over-fishing	1. Introduce rules 2. Raise awareness 3. Improve management	• AIMCRC management committees • Ministry of Fisheries • Council of Chiefs
Over-harvesting of seagrapes	1. Replanting 2. Incentives 3. Management plans 4. Rules and regulations	• Women and men • Rangers • Ministry of Fisheries

Activity 5: ADWIM

(Assets-Drivers-Wellbeing-Impact-Model)

Participants listed, mapped and valued their foods in terms of income, health, food security and culture.



1.



2.

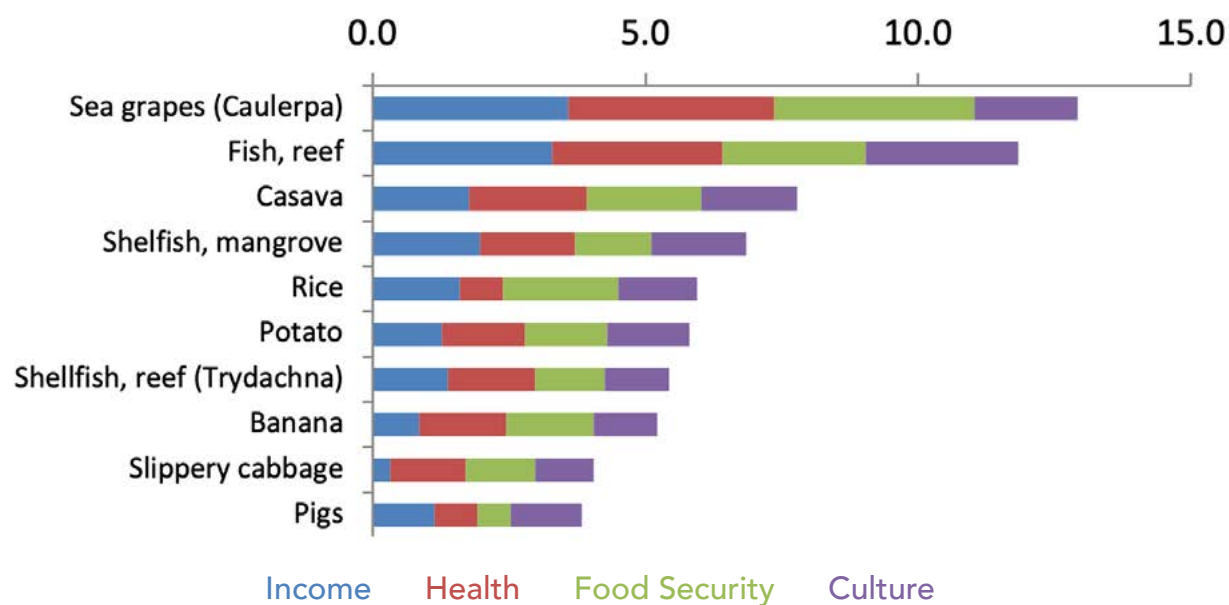


3.



The ADWIM tool showed that out of 86 different foods, seagrasses, reef fish and casava contributed the most to well-being

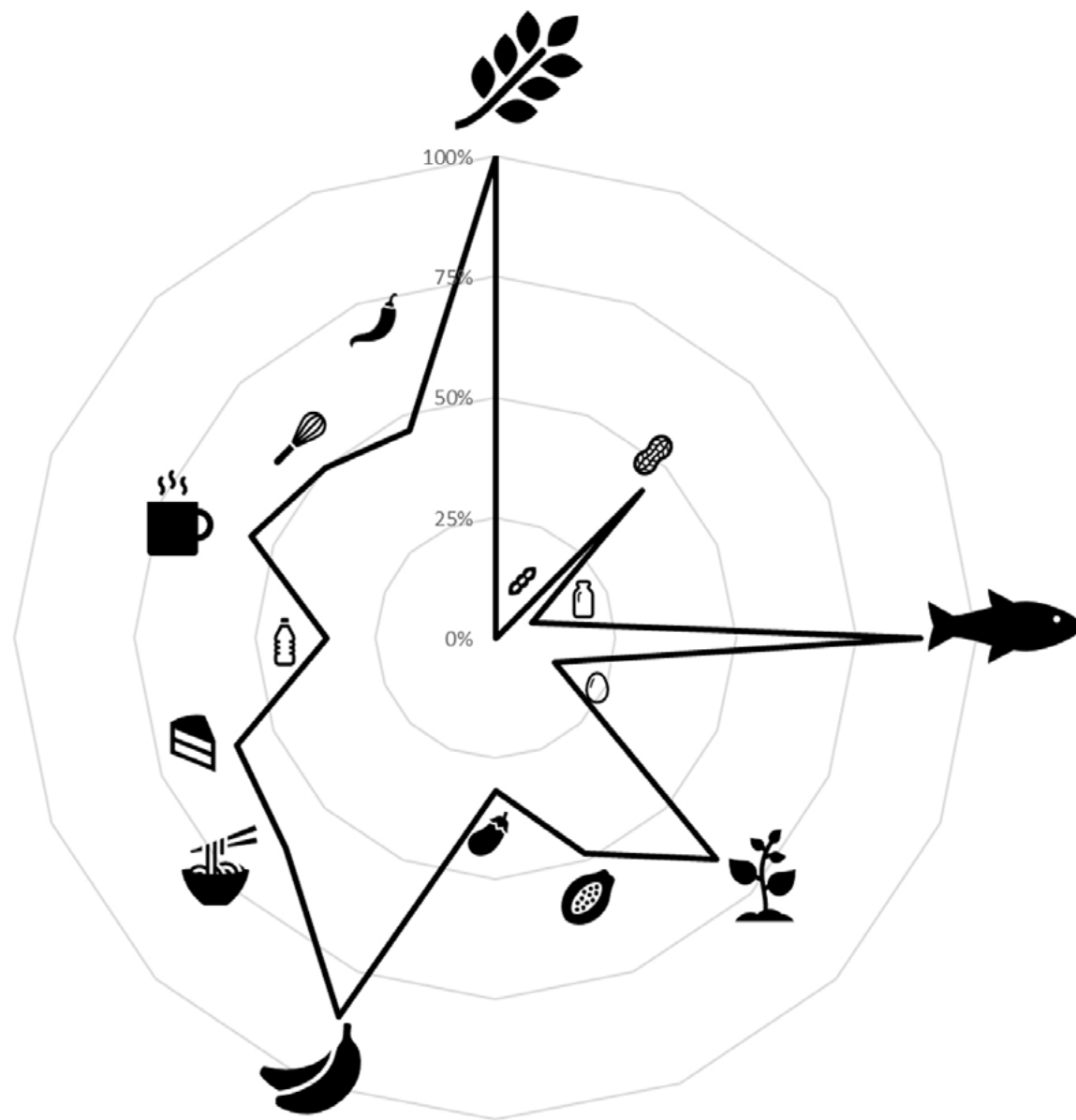
Well-being importance %



Activity 6: Diet survey

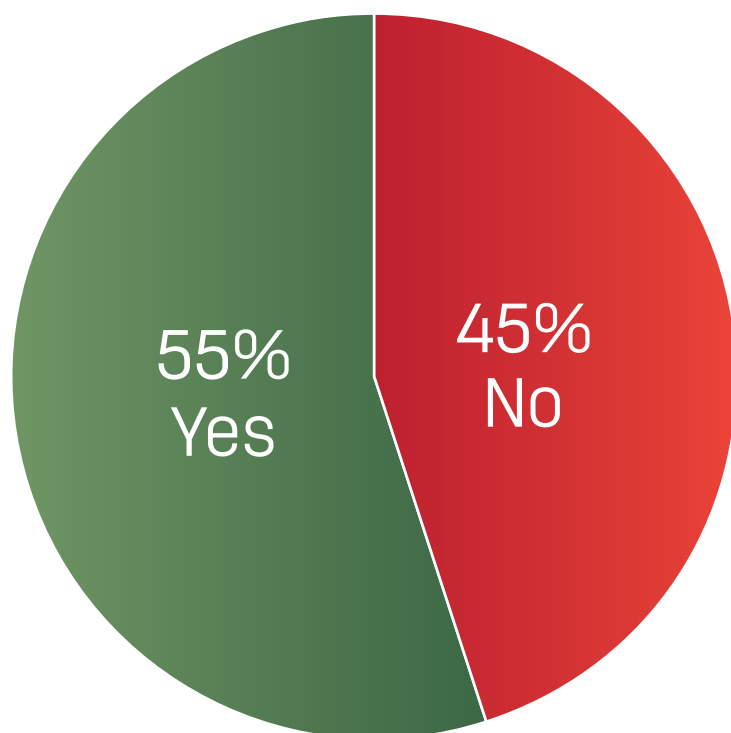
(24-hour diet re-call)

60 people were surveyed about what they had eaten in the past 24 hours. All had eaten grains like rice and bread. Almost all had eaten fish and fruit. About 60% had eaten leafy green vegetables.

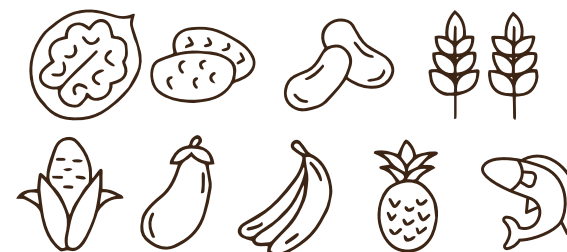


5 or more healthy food groups?

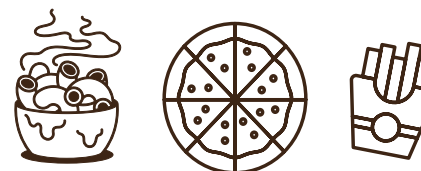
More than half of people
had eaten more than five
healthy food groups.



**Healthy food
groups**



**Unhealthy food
groups**



Step 2 What are the drivers of change?

TODAY

2030

2050

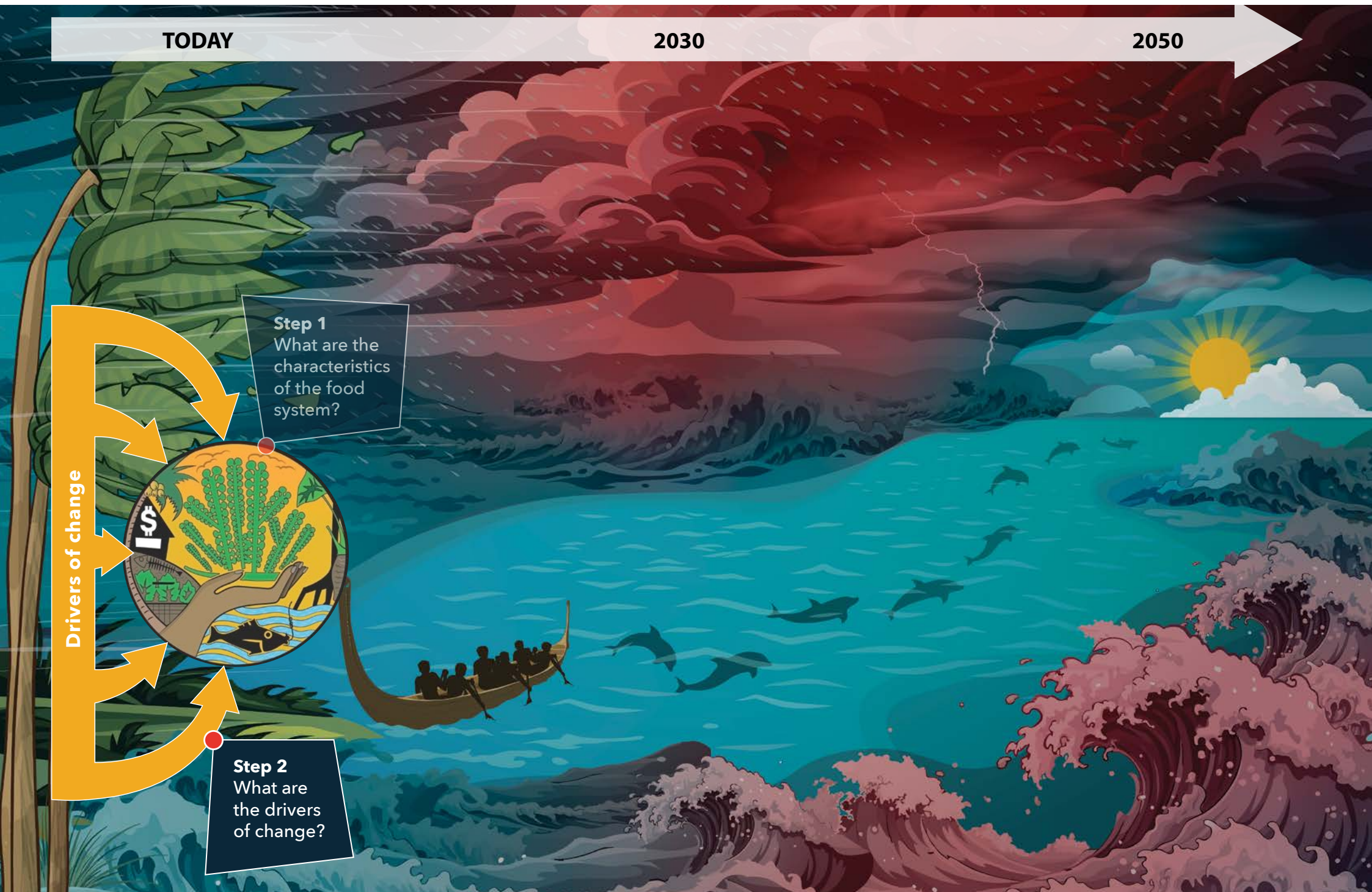
Step 1

What are the characteristics of the food system?

Drivers of change

Step 2

What are the drivers of change?



Activity 7: Food System Drivers

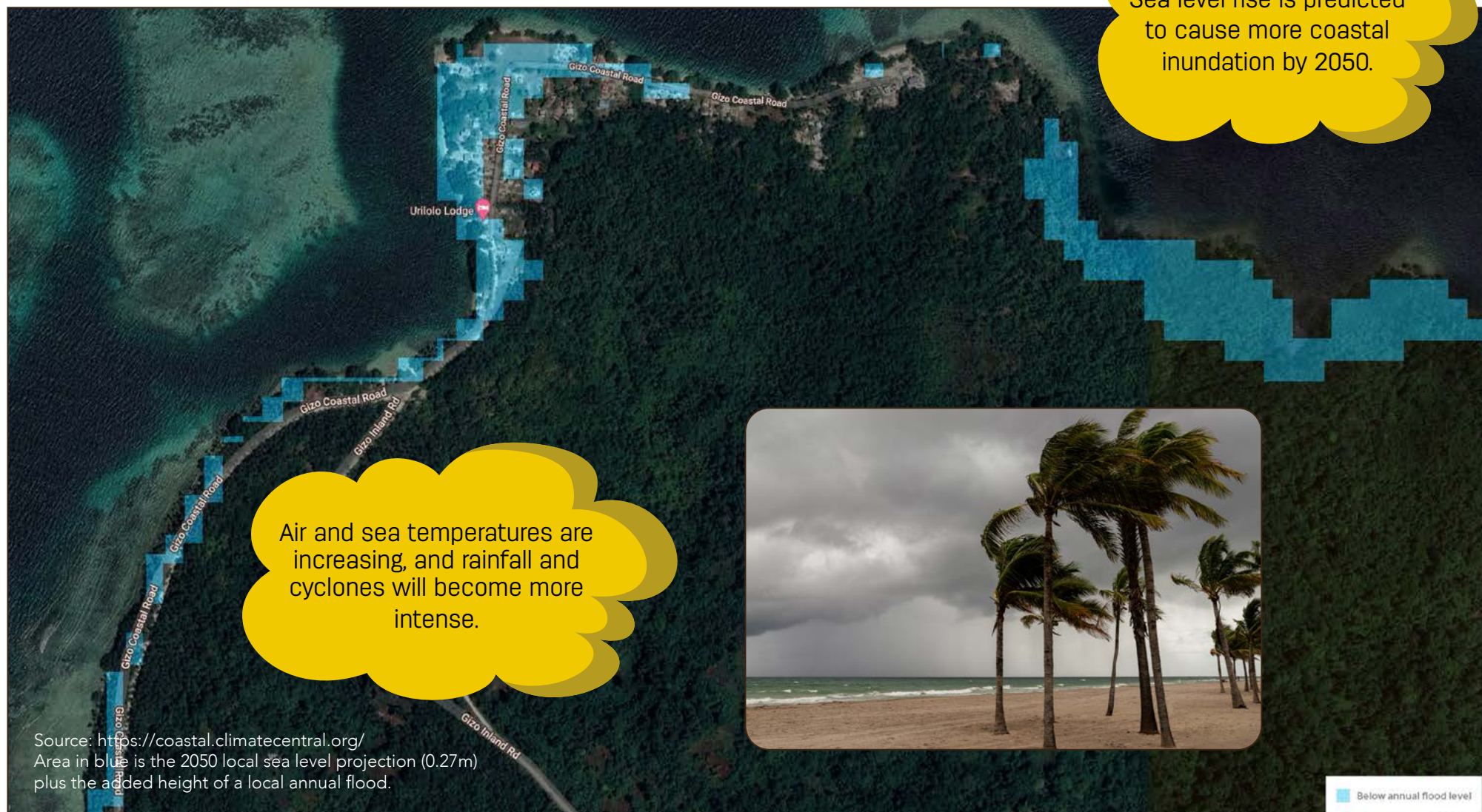
This activity was carried out to:

- Draw on Step 1 and other information to understand the drivers of the Ijo Maringi food system
- Decide which drivers are most important

A driver of change is any natural or human factor that causes a change in the food system. Examples include climate change, fuel prices and population growth.



Climate Change



Population



Between 2000 and 2050 the population on Gizo Island will double to more than 8,000 people. In the same period, the national population will treble to 1.2 million.



Most impacted foods in 2050

The ADWIM tool identified the foods that will be most impacted by climate change and population growth. The important foods at most risk by 2050 are:

Reef fish Pigs
Chickens Reef shellfish

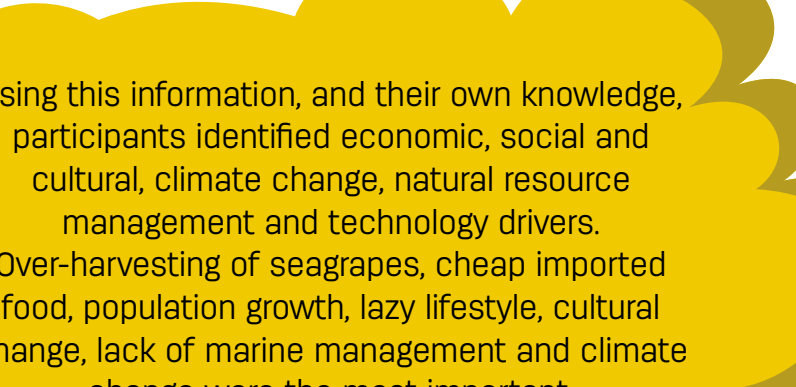
Food item (land)	Wellbeing importance	Key risks	Food item (marine)	Wellbeing importance	Key risks
 pig	income health food security culture	  	 coral	income culture	  
 betel nut		 	 shellfish, reef e.g. giant clam	health income food security culture	  
 chinese cabbage		 	 Reef fish (e.g. snapper)		  
 chicken		 	 freshwater mussels		  
 pumpkin		 	 freshwater prawns		  

Least impacted foods in 2050

The ADWIM tool also showed that several important foods will be less impacted. These provide future opportunities, especially:

Seagrapes Cassava
Mangrove shellfish
Slippery cabbage
Coconuts

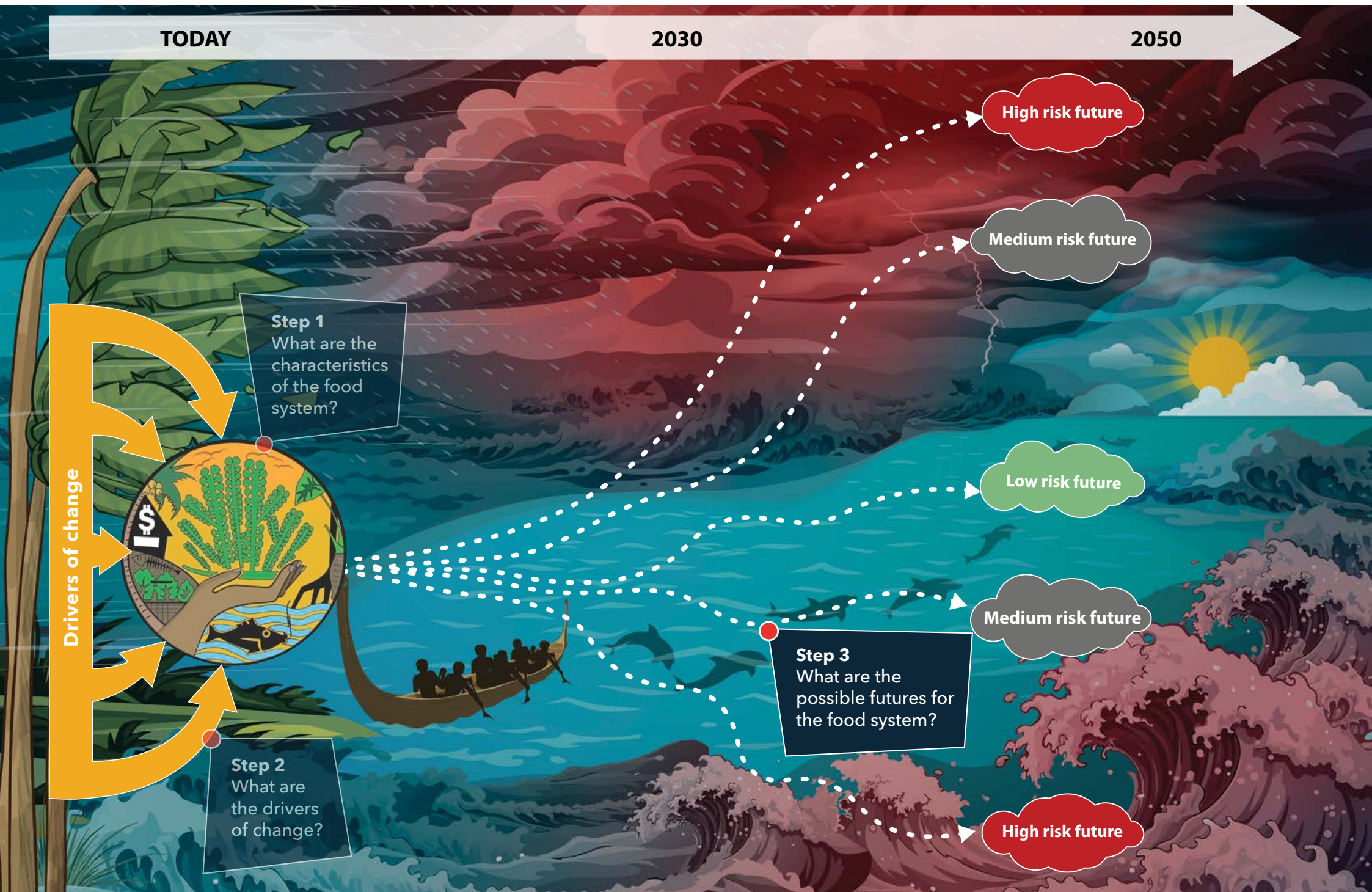
Food item (land and freshwater)	Wellbeing importance	Key risk	Why least impacted?	Food item (marine)	Wellbeing importance	Key risks	Why least impacted?
 cassava	income health food security culture			 sea grapes	income health food security culture		
 coconut				 mangrove fruit/tree			
 slippery cabbage				 shellfish, mangrove			
 sweet potato				 sea cucumber			
 tilapia				 mangrove shellfish			

A large, yellow, cloud-shaped bubble with a soft, irregular border. Inside the bubble, there is black text. The bubble is set against a white background.

Using this information, and their own knowledge, participants identified economic, social and cultural, climate change, natural resource management and technology drivers. Over-harvesting of seagrapes, cheap imported food, population growth, lazy lifestyle, cultural change, lack of marine management and climate change were the most important.



Step 3 What are the possible futures for the food system?



Activity 8: Future Scenarios

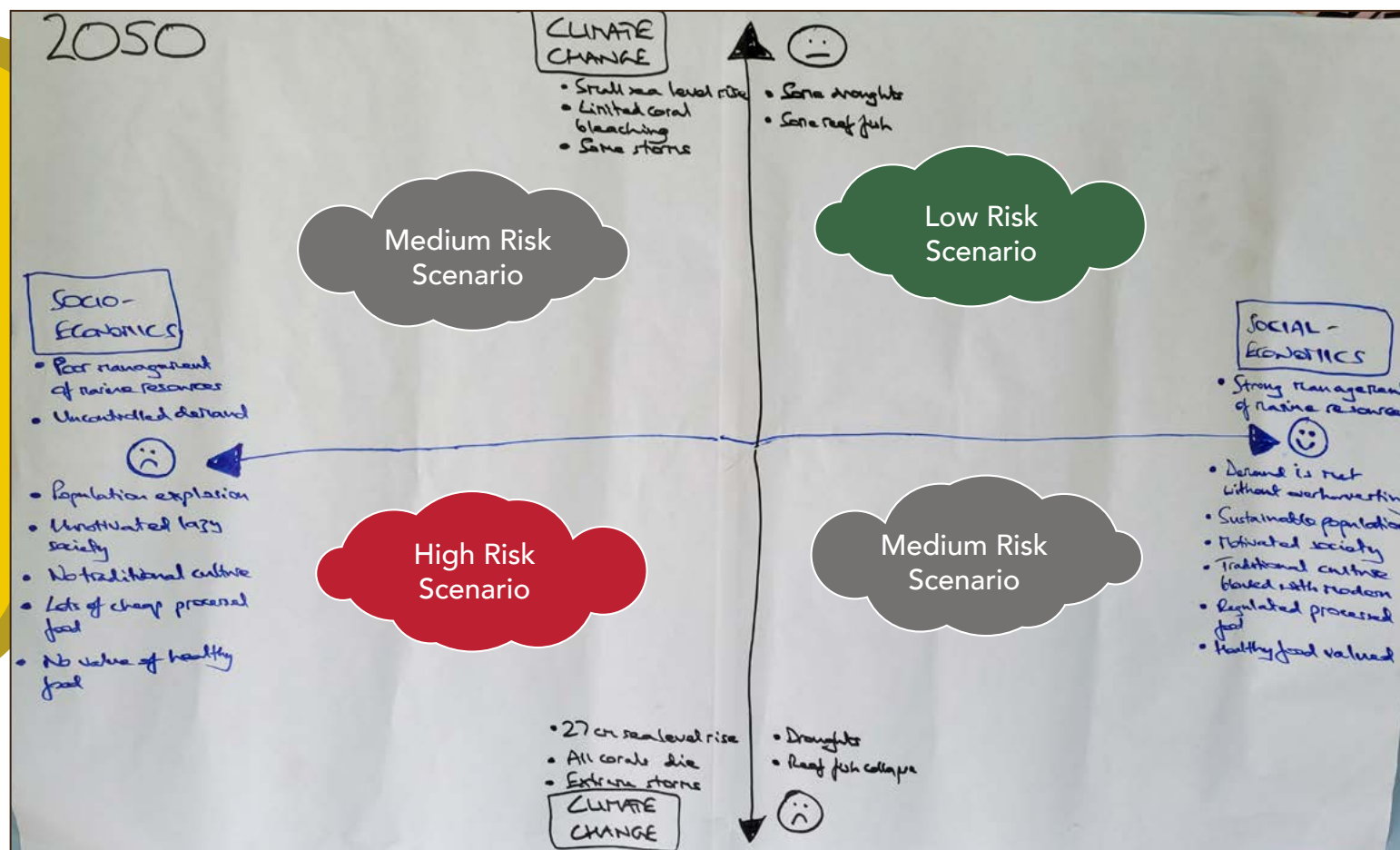
This activity was carried out to:

- Think about future uncertainty and risk caused by the important drivers listed in Step 2

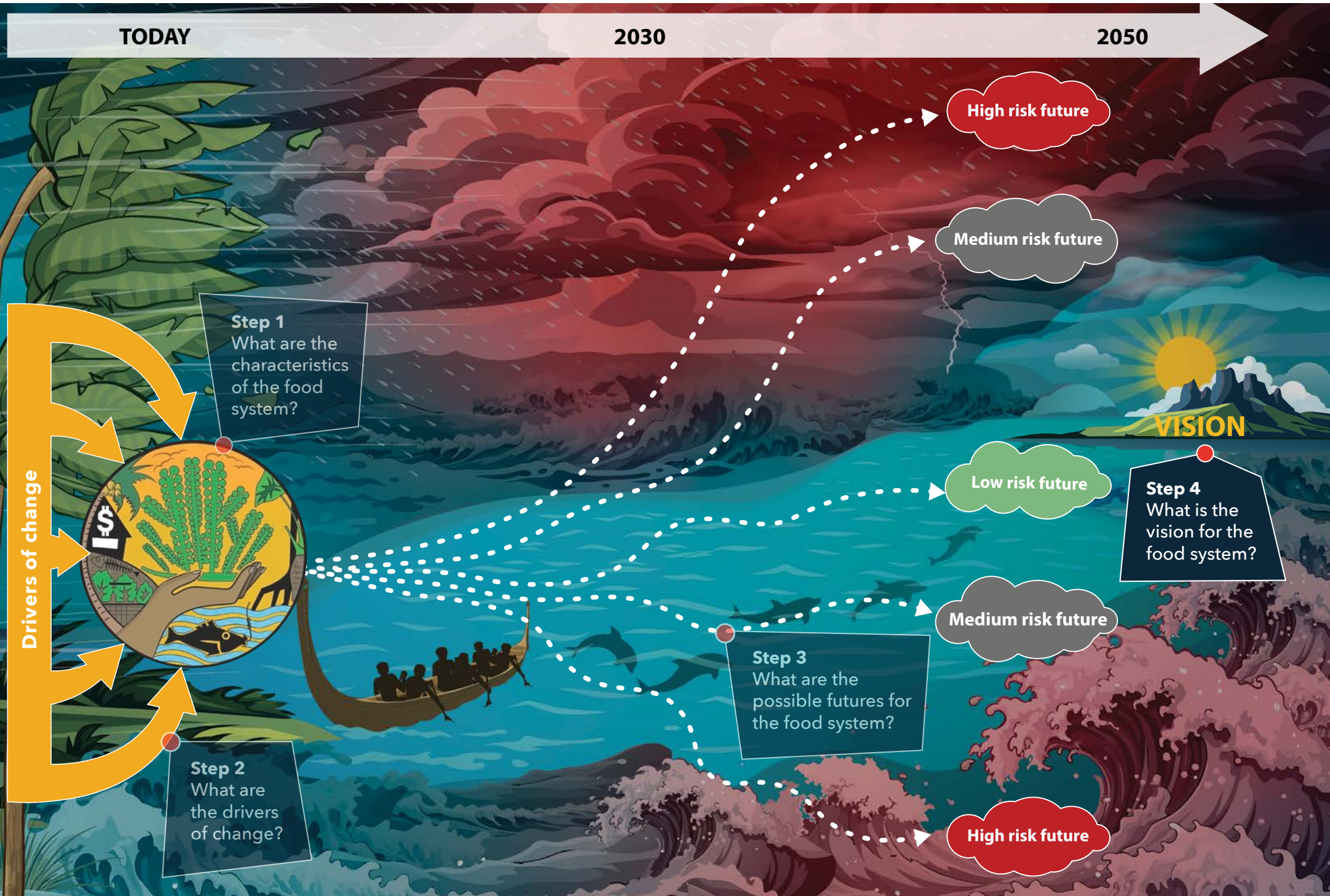


Facilitators took the main economic, social, cultural and climate change drivers from Step 2 and created a range of future scenarios. The 'low risk scenario' was good socio-economic conditions, and less severe climate change.

The 'high risk scenario' was poor socio-economic conditions, and severe climate change.



Step 4 What is the vision for the food system?



Activity 9: Food System Vision

This activity was carried out to:

- Create desired visions for the food system
- Think about the well-being of future generations



Later, the artist
Desmond Warugutaia
combined the visions
into one picture



FUTURE KAIBAI FOR YUMI

FUTURE KAIBAI FOR YU AND MI
 FUTURE KAIBAI FOR PIKININI
 FUTURE KAIBAI FOR EVERYONE GILONG MI

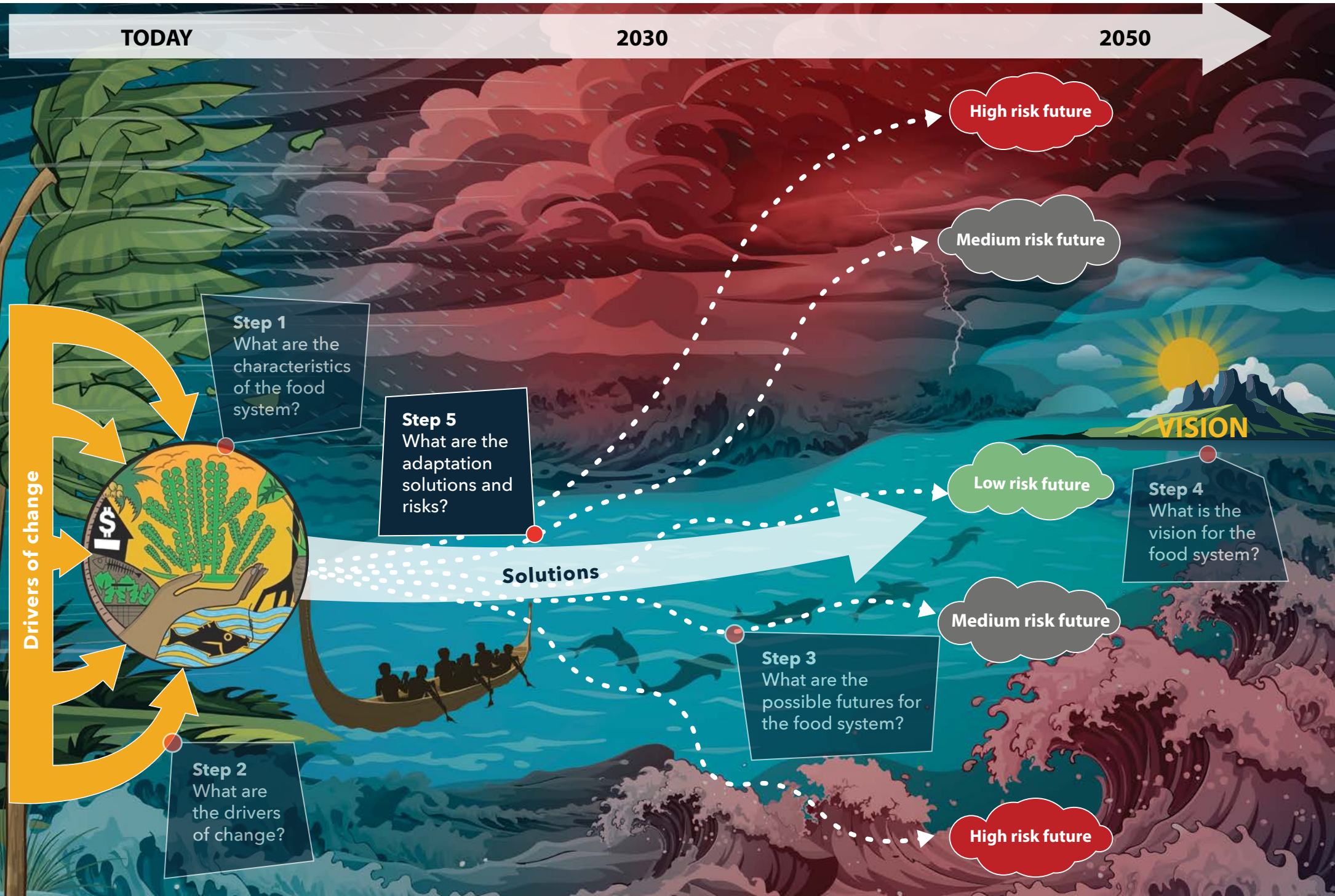
TRANSFORMING FOOD SYSTEM FOR YU AND MI
 TRANSFORMING FOOD SYSTEM FOR PIKININI
 TRANSFORMING FOOD SYSTEM FOR EVERYONE GILONG MI

YUMI WORKING TOGETHER
 TO TRANSFORM OUR FOOD SYSTEM
 LISTENING LEARNING AS WE GO
 IN ISO TAKINGI COMMUNITY
 FUTURE KAIBAI FOR FAMILY
 AND FOR YU AND MI
 TRANSFORMING OUR FOOD SYSTEM
 FOR HAPPY COMMUNITY

To complement the vision, Dafisha Aleziru from the WWF team composed the 'Future Kaikai' song which has been sung by the community.



Step 5 What are the adaptation solutions and risks?



Activity 10: Solutions and Risks

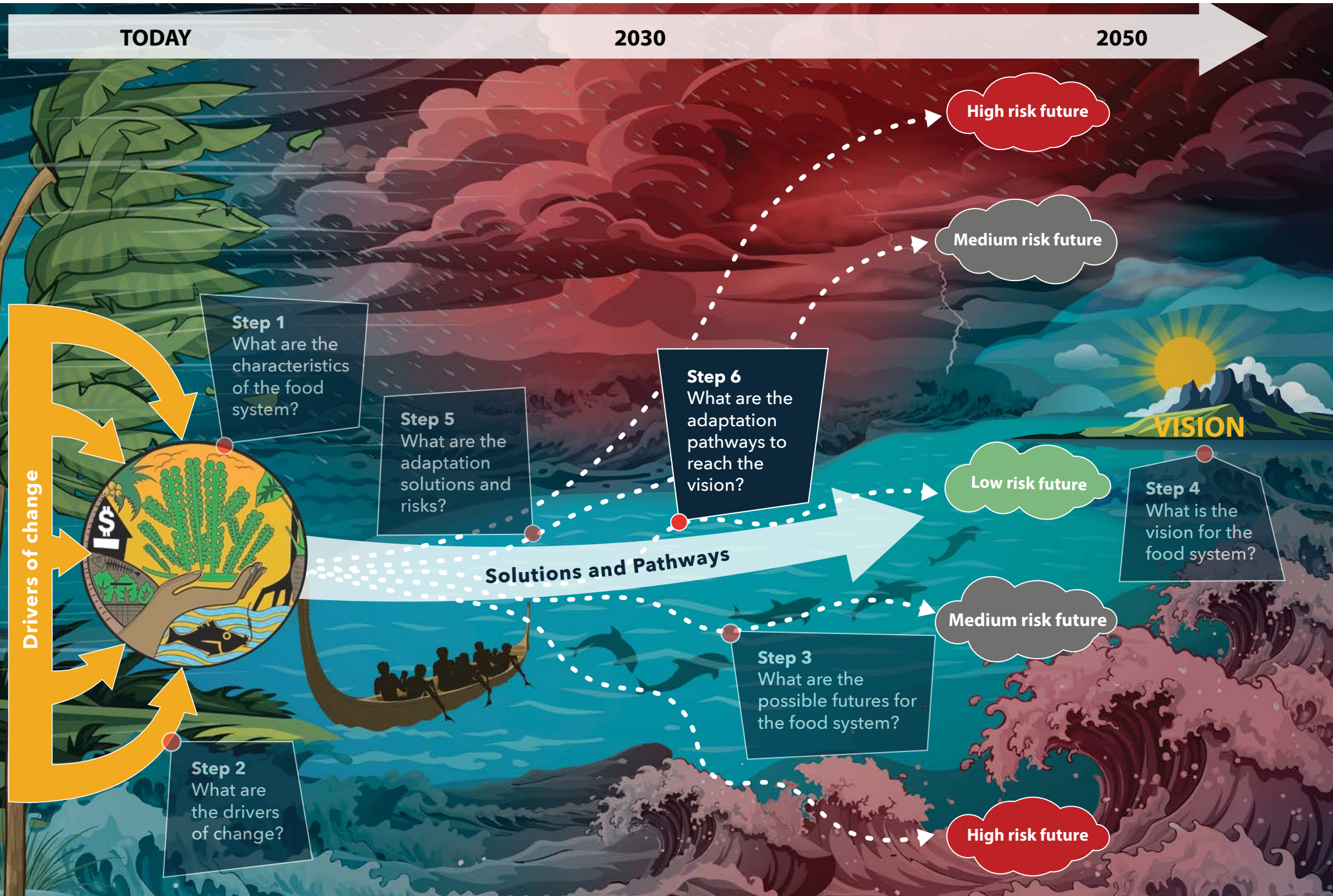
This activity was carried out to:

- Apply learnings from Steps 1, 2 and 3 to identify solutions that could achieve the vision, and their timing
- Prioritise solutions that are 'no regrets' (low risk and flexible) to cope with future uncertainty





Step 6 What are the adaptation pathways to reach the vision?



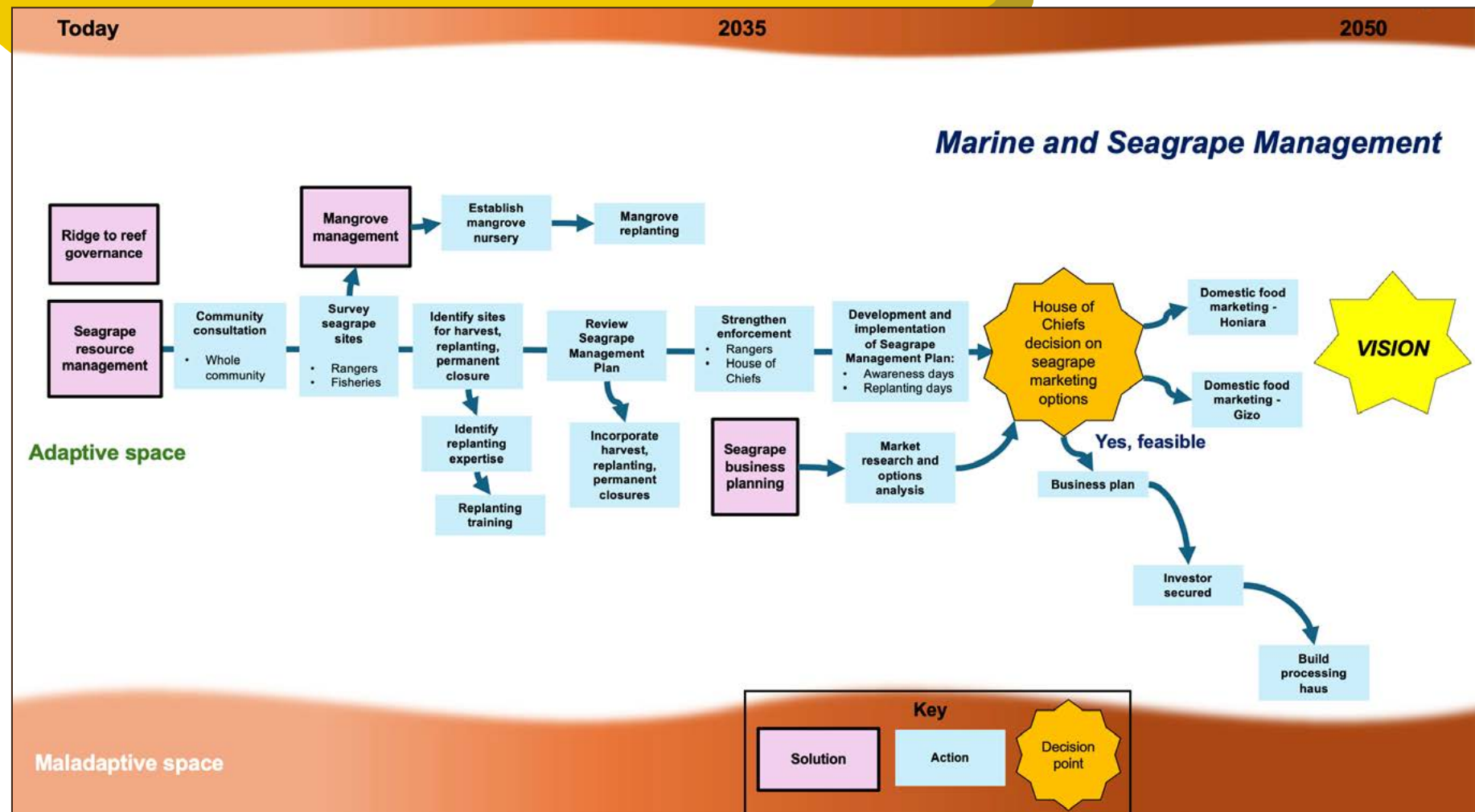
Activity 11: Adaptation Pathways

Adaptation pathways were drawn to:

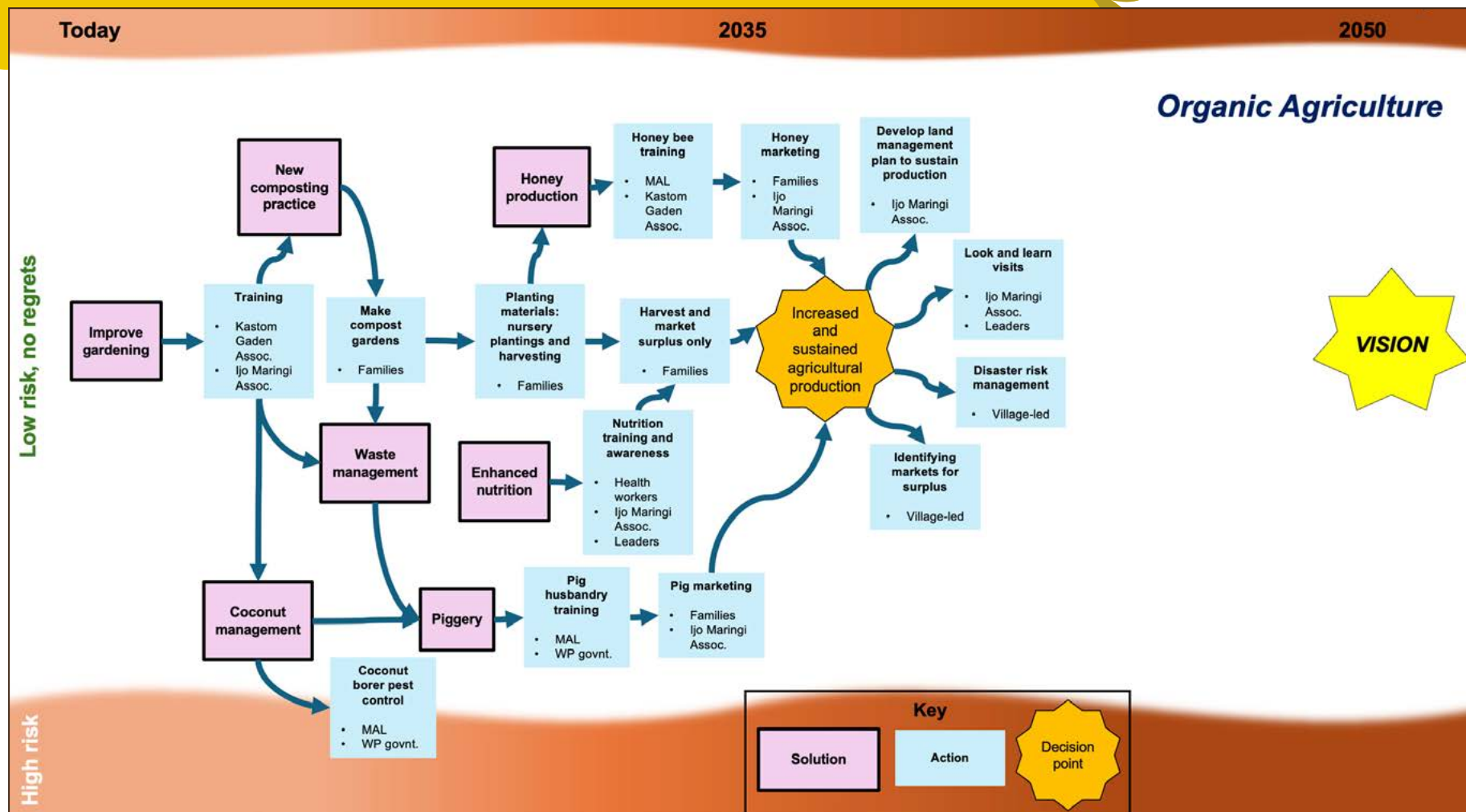
- Identify actions and decision-points to implement the solutions
- From Step 1, identify key people responsible for carrying out the actions



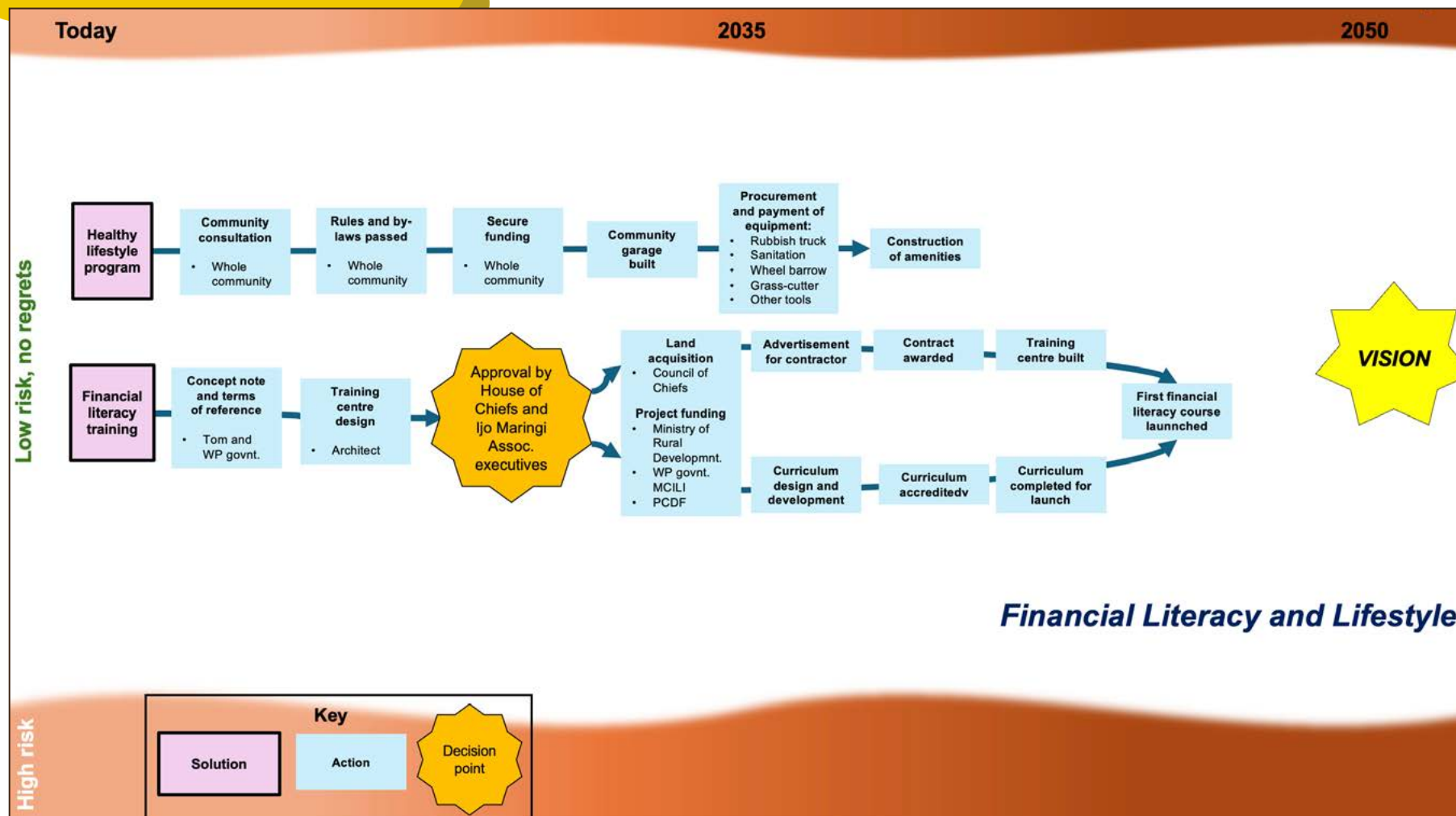
A priority no regrets solution is seagrape resource management, because seagrapes will be resilient to future climate change. Ridge to reef governance and mangrove management is also needed to protect seagrapes. Business planning for possible future seagrape marketing and processing is also needed. A decision point will be reached where the House of Chiefs must decide how to market seagrapes.



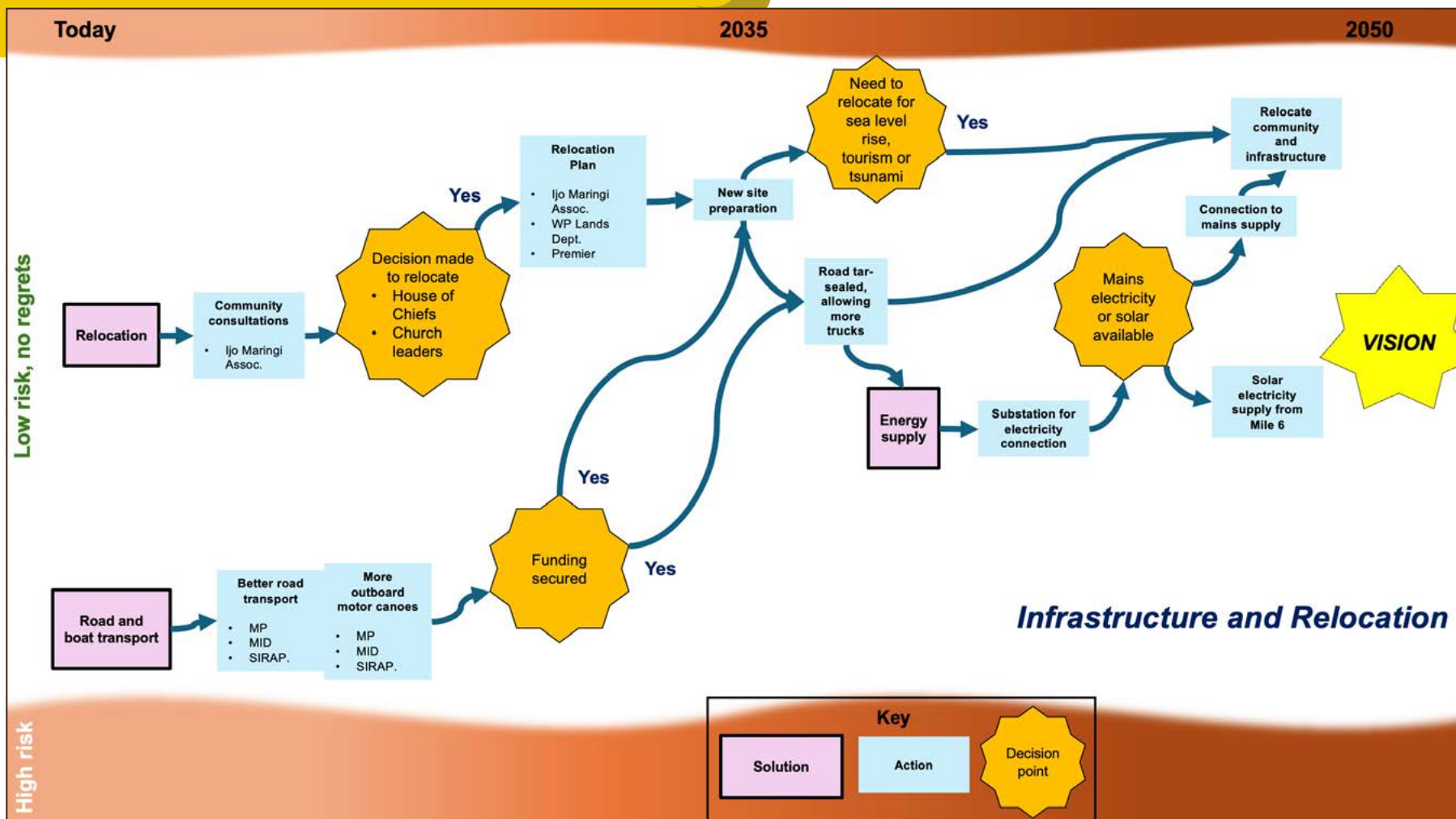
Solutions for organic agriculture begin with improving gardening, and training in composting. This would enable improved waste management. Establishment of coconut management was more risky because of the coconut borer pest, and a piggery was risky because of future heat stress on pigs. Honey production would become possible once suitable flowering plants were established. Nutrition enhancement would also be no regrets. Once increased and sustained agricultural production is ensured, surplus can be marketed.



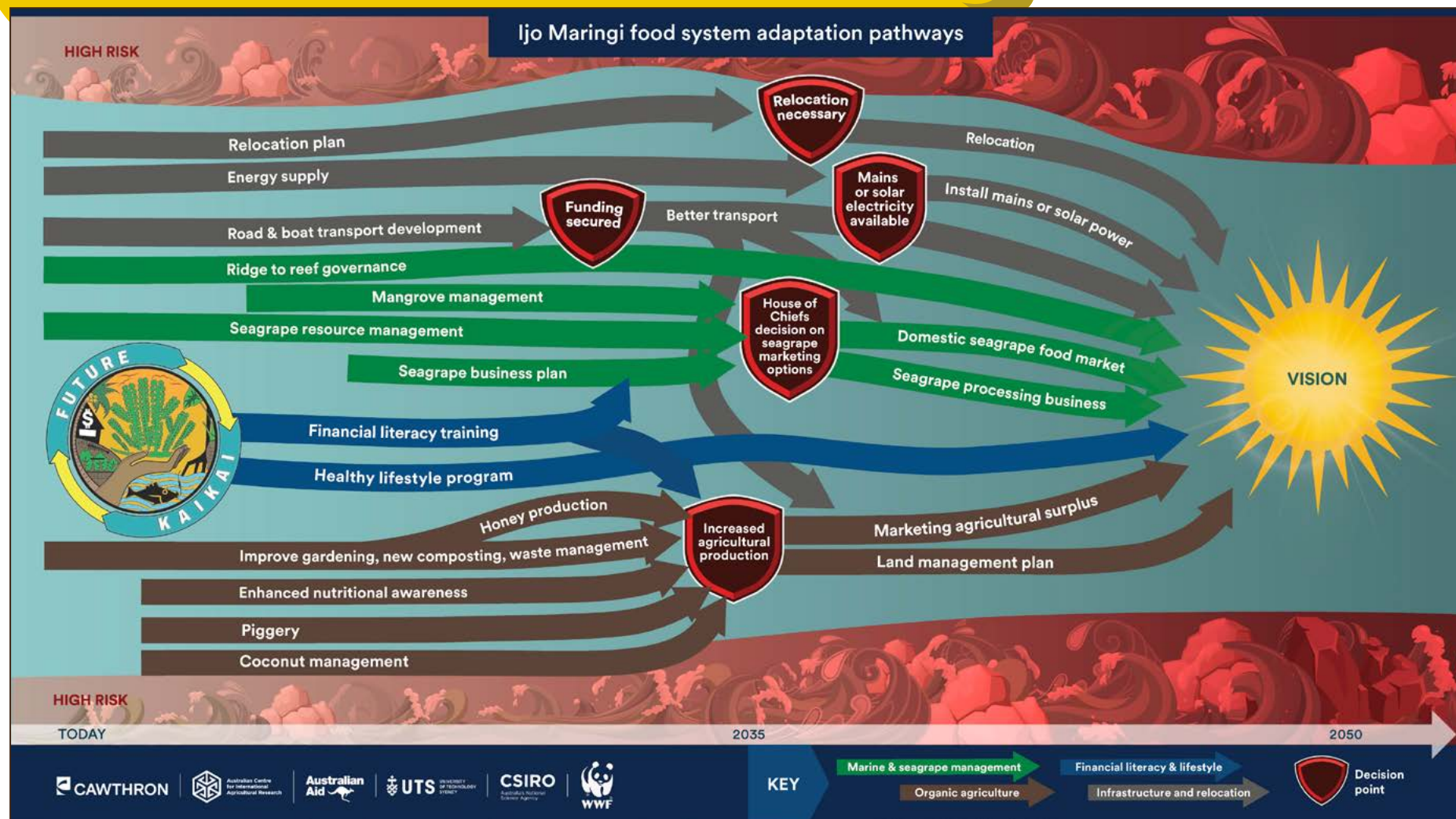
Financial literacy solutions were no regrets, and begin with the building of a training centre. A healthy lifestyle program would establish rules, and build a community garage for tools.



The pathway for relocation begins with writing a relocation plan, but the need for future relocation is uncertain and therefore risky. Road and boat transport was more risky because of the need for government funding. If successful, this could enable future mains or solar electricity infrastructure.



The individual pathways were summarised in one diagram. Key decision points were the securing of funding for transport, and then energy availability. Increased agricultural production would enable marketing of surplus. Sustained seagrape production would allow decisions about future marketing and processing to be made. The need for relocation was also an important future decision point.



Implementing the pathways

In July 2024 to March 2026 the project started to implement the food system pathways. The project team engaged with government agencies, donors and NGOs in Honiara to seek input, advice and support.



Knowledge brokers

Participants were asked if anyone would like to volunteer to lead the pathways. Fifteen 'knowledge brokers' volunteered to bring together different partners and information to design pilot projects, and to source funding. They coordinated activities with the AIMCRC, and with the Ward 11 Development Committee and Western Provincial and national governments.



In June 2025 an additional 25 knowledge brokers were also trained in the Food System Pathways tools. This brought the total number of Ijo Maringi brokers to 40. Knowledge brokers have also been trained in project planning and making applications for community grants.



Pilot projects

Six pilot projects were designed to start the pathways, with the input of national and Western Provincial and national government partners:

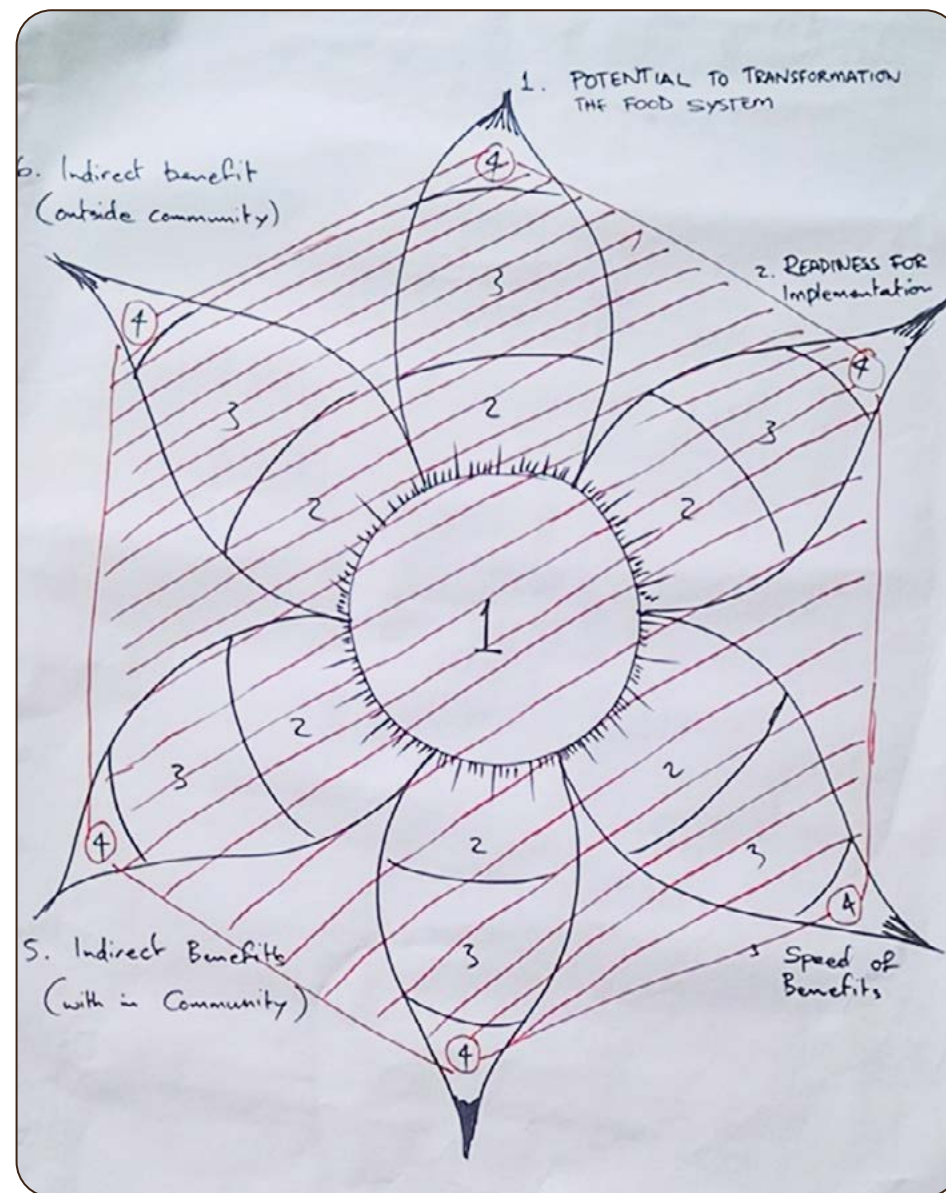
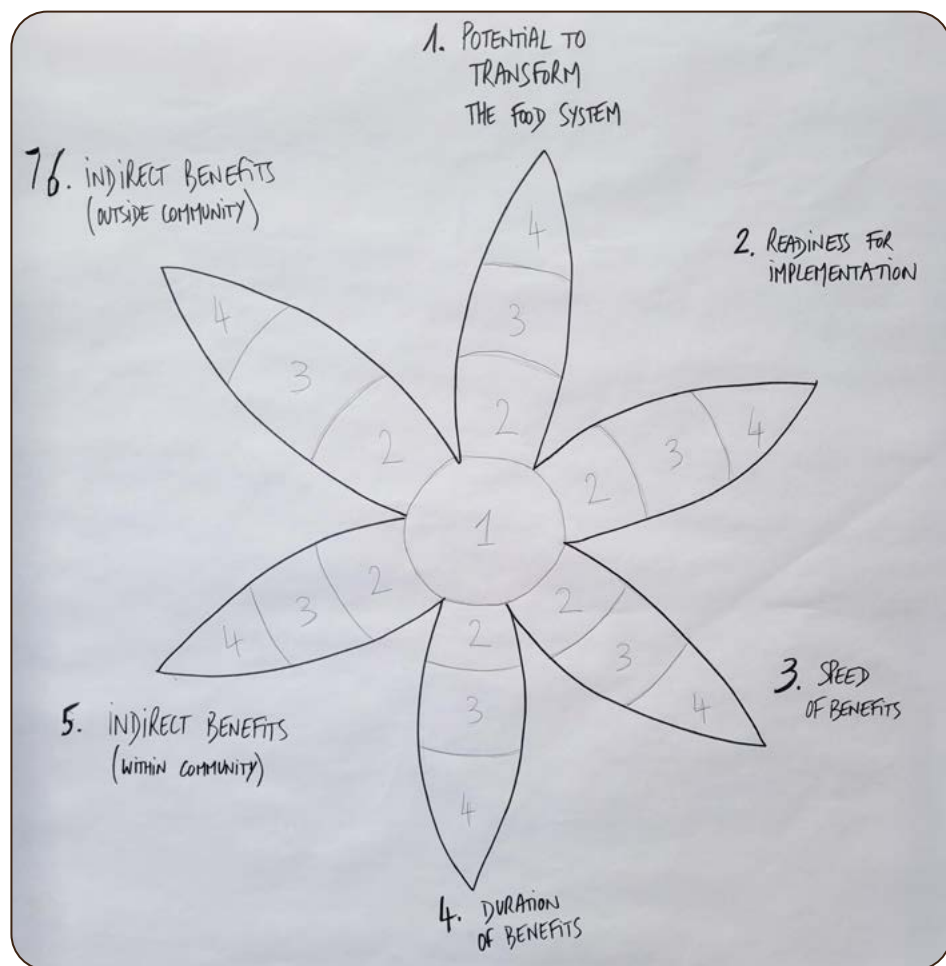
1. Organic agriculture
2. Healthy village lifestyle initiative
3. Training and Resources Hub
4. Relocation project
5. Revo (seagrape) business plan
6. Coastal transportation

The seagrape and mangrove management, and ridge to reef governance pathways were already underway with WWF support.



Prioritising pilot projects

Knowledge brokers facilitated the prioritisation of pilot projects using the 'Flower Tool'. Community members, national and provincial government participants scored projects with six indicators to identify which were the priorities.



Training and Resources Hub

The highest scoring project was the Training and Resources Hub, which would enable implementation of pathways for financial literacy, and agricultural and seagrape business training. Second was the organic agriculture project, followed by healthy lifestyle program, the seagrape business plan and coastal transportation. A relocation plan was the lowest ranked.

The building of the Training and Resources Hub has begun, led by the community and using local timber.



Organic agriculture

Knowledge brokers leading the organic agriculture pilot project have been trained in composting and raised-bed gardening at the WorldFish Nusatupe Research Station. SPC have conducted soil testing and developed compost recipes for local soil conditions. They have also provided training in producing this compost, and Plant Doctor and Soil Doctor training.



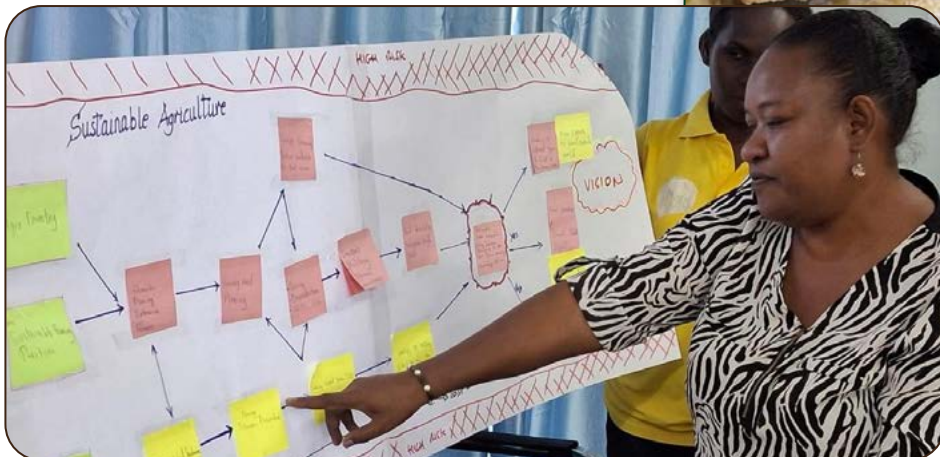
Revo (seagrape) business plan

The seagrape business plan pilot project follows initial exploration of the feasibility of processing seagrasses into products such as body lotion, soap, syrup and noodles, initiated by WWF. A National University of Fiji Master's student, Alissa Offa, is investigating the climate change risks to the value chain for seagrasses, funded by ACIAR's Pacific Agriculture Scholarships, Support and Climate Resilience program. This pilot project is running in parallel with ongoing seagrape and mangrove management conducted by the AIMCRC, which is implementing these adaptation pathways.



Next steps

The AIMCRC and knowledge brokers will continue to implement the pathways in Ijo Maringi, with ongoing support from the Ward 11 Development Committee, Western Provincial Government, national government and donors. In August 2025, WWF presented the Future Kaikai approach to extension, research and planning officers from the Ministry of Agriculture and Livestock in Honiara, who requested further training to support local communities across the Solomon Islands to transform their food systems. The project has produced a Food System Pathways Guidebook to help knowledge brokers, facilitators and extension officers to carry out these exercises in the future.



Food System Pathways Guidebook Solomon Islands

English language V1

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