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91935R

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New Zealand Qualifications Authority

Level 1 Geography 2025

91935 Demonstrate understanding of decision-making in response to a geographic challenge in the wider Pacific region

Credits: Five

RESOURCE BOOKLET

Refer to this booklet to answer the questions for Geography 91935.

Check that this booklet has pages 2–16 in the correct order and that none of these pages is blank.

YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.

INSTRUCTIONS

Use these resources to complete the assessment for Geography 91935.

Note Resources A–G (pages 3–9) are **the same as** the material supplied to you in class.

Pages 10–15 contain **new resource material**. Make sure you read this before beginning your answers.

FIJI

RESOURCE A: Location

The island nation of Fiji is located in the south-western Pacific, inside the tropics of the Southern Hemisphere. It is approximately 1,770 km north of New Zealand. The islands cover a total land area of 18,270 km².

Map 1: Location of Fiji

Map 2: Main features of Fiji

RESOURCE B: Geography

Most of Fiji's 330 islands were formed by volcanic activity starting around 150 million years ago, and there is still some geothermal activity on the islands of Vanua Levu and Taveuni.

Fiji has some of the largest mountains among South Pacific island nations. Mount Tomanivi (1,324 m), in the centre of Viti Levu, is Fiji's highest peak. The volcanic islands have extensive areas of indigenous forest.

Fiji's coral islands, unlike volcanic islands, have low elevations and are typically smaller. They were formed by the build-up of coral deposits. These islands are known for their beautiful beaches, clear waters, and varied marine life. The coral islands are often surrounded by colourful coral reefs, mangroves, and lagoons.

Many of Fiji's famous tourist resorts and ecotourism spots, which offer a peaceful and tropical experience, are located on these islands.

Image 1: A Fijian volcanic island.

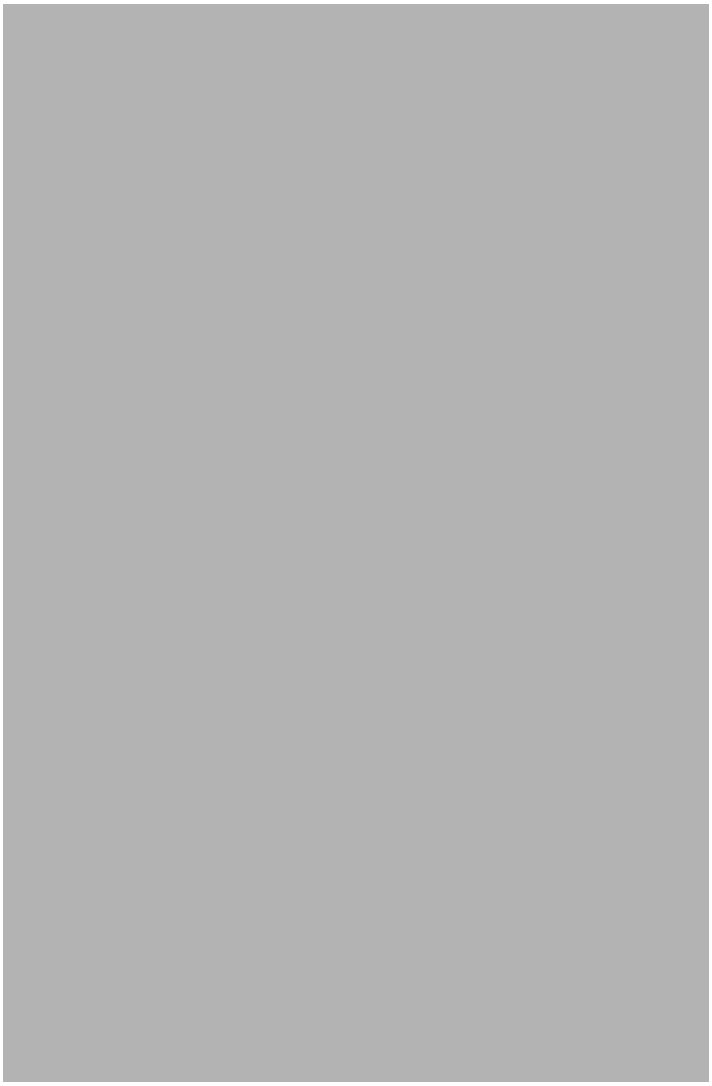


Image 2: A coral reef near Castaway Island, Fiji.

RESOURCE C: Climate

Fiji has a subtropical climate with two distinct seasons:

- The wet season (November–April) contributes most of Fiji's annual rainfall. Tropical storms and cyclones are more likely during this season.
- The dry season (May–October) is considered the best time to visit Fiji.

Graph 1: Average monthly temperature and rainfall
Tavua, Fiji

Tropical cyclones

On average, there are ten to fifteen cyclones per decade that affect some part of Fiji. Approximately 25% of these will cause severe damage.

Cyclone name	Date	Category	Cyclone name	Date	Category
Mal	November 2023	Category 1	Sarai	December 2019	Category 2
Kevin	March 2023	Category 4	Gita	February 2018	Category 5
Cody	January 2022	Category 1	Zena	April 2016	Category 3
Ana	February 2021	Category 1	Winston	February 2016	Category 5
Yasa	December 2020	Category 5	Pam	March 2015	Category 5
Harold	April 2020	Category 4	Lusi	March 2014	Category 3
Tino	January 2020	Category 1	Evan	December 2012	Category 4

Table 1: Fiji cyclone history, 2012–2023.

RESOURCE D: Population

Fiji's population is projected to be 933,000 by the end of 2025. Most of the population live on the two main islands – Viti Levu and Vanua Levu.

Viti Levu is home to about 70% of Fiji's population. On the southeast coast of Viti Levu is Fiji's capital and largest city, Suva, which had a population of 77,366 people in 2024. Lautoka is the second largest city, on the western side of Viti Levu, with a 2024 population of 52,500 people. Approximately 60% of Fijians live in urban areas.

Graph 2: Population pyramid, Fiji (2025)

Between 2023 and 2024, around 70,000 people migrated from Fiji, mainly to Australia and New Zealand, for education and employment. Many of these migrants were skilled and semi-skilled workers, representing about 15% of Fiji's total labour force.

Age group	Age (years)	Percentage	Number of males and females (M:F)
Youth dependency	0–14	24.7%	119,910 : 114,904
Working age	15–64	66.4%	323,339 : 308,921
Elderly dependency	65+	8.9%	39,055 : 45,482

Table 2: Fiji population age structure.

Fiji ethnic groups	Number of people	Percentage
iTaukei* – mix of Melanesian and Polynesian	519,892	56.8%
Indo-Fijian	343,239	37.5%
Rotuman – Polynesian ethnic group native to the Rotuma islands	10,984	1.2%
Other – European, other Pacific Islanders, Chinese.	41,189	4.5%

Table 3: Fiji ethnic population, 2007. *In 2010, a law was passed to replace 'Fijian' with 'iTaukei' when referring to the original and native settlers of Fiji in official documents.

RESOURCE E: The Legend of Degei, the Snake God

Degei is a serpent and one of the supreme gods of Fiji, often considered the creator god. He is depicted as a giant serpent, and is believed to have played a major role in the creation of the world and the first humans.

In Fijian mythology, the people trace their arrival on the islands back to the snake god Degei. This mythical being is credited not only with bringing them to the islands but also with triggering various weather phenomena.

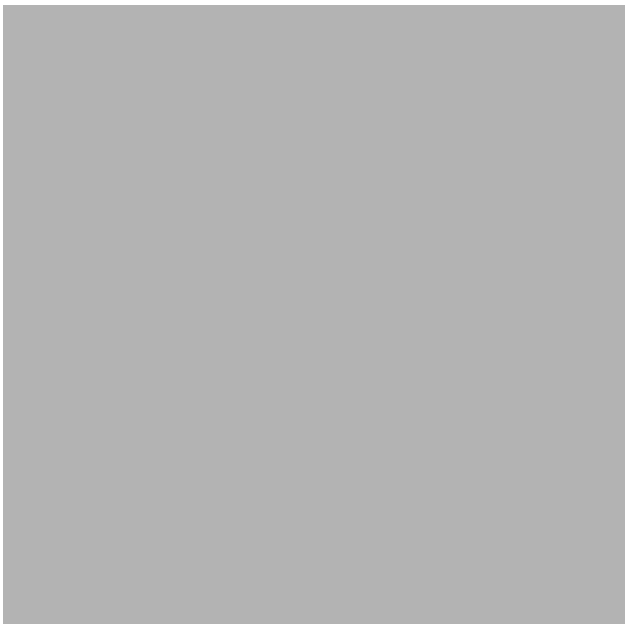


Image 3: A depiction of Degei and Turukawa.

According to storytellers, Degei was lonely until he met a hawk named Turukawa. One day, Turukawa disappeared, and in his search, Degei found two abandoned eggs in the hawk's nest. When the eggs hatched into humans, Degei raised them. After these humans' own children were born, Degei set off on an ocean journey with them to Lautoka, Fiji, where he established the first human settlement.

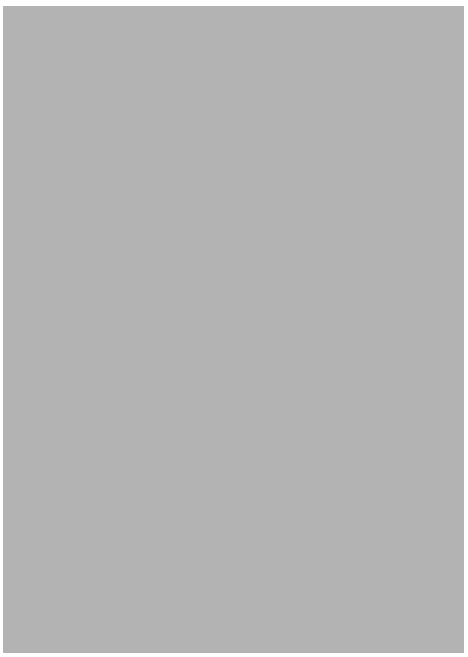
To this day, it is believed that Degei lives in a cave in Fiji, and when he moves he can trigger bad weather or bring much-needed rain for the fields. It is also said that when Fijians die they pass through his cave, where Degei judges them, deciding whether they deserve to go to paradise. Those who lived poorly are sent to an unpleasant place called Murimuria.

This legend not only explains the origins of the Fijian islands but also emphasises themes of respect for nature, the importance of balance, and the consequences of disobedience to higher powers.

The legend of Degei reflects the high value Fijian culture places on the environment. This is evident in the concept of *bula vakavanua* (traditional way of life), which emphasises living in harmony with nature and the land (*vanua*). *Vanua* refers to the land and its spiritual significance, representing respect for the land, culture, and values central to Fijian identity. The legend of Degei also highlights the principle of *tabu*, having a deep respect for sacred traditions and the natural world.

RESOURCE F: Fijian culture

The pictures below show various aspects of the rich and diverse culture of the people of Fiji, including the some of the traditions of both Indigenous Fijians and Fijian Indians.



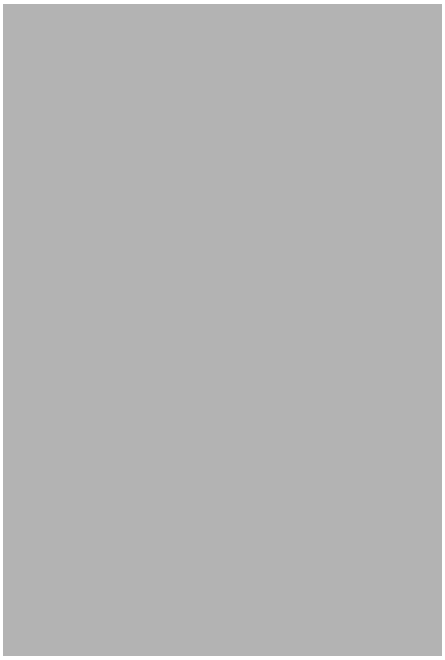



Image 4 (left): Kava ceremony. **Image 5** (middle upper): Diwali. **Image 6** (middle lower): Fijian food. **Image 7** (right): Fire dancing.


Image 8 (left): Fiji Indian wedding. **Image 9** (right): Fiji rugby sevens team.



Images: **10** (left) and **11** (middle): Traditional crafts. **Image 12** (right): Fijian food.

RESOURCE G: Economy

Fiji's economy benefits from its natural beauty, natural resources, fertile land, geographic location, and cultural heritage of both Indigenous Fijians and Fijian Indians.

Tourism

Tourism is Fiji's biggest industry, attracting over 900,000 visitors in 2023. It made up about 40% of Fiji's GDP, contributing FJD3.4 billion (NZD2.54 billion). Tourism also provides jobs for 150,000 people.

Fiji's economy heavily relies on tourism, making it vulnerable to natural disasters and global economic changes.

Image 13: Suggested tourist itinerary from a Fiji tourism company.

Agriculture

Agriculture is Fiji's second-largest industry, contributing about 15% to the country's GDP in 2023. It supports rural livelihoods, with sugarcane being a major export crop, directly and indirectly employing 200,000 people. However, only 16% of Fiji's land is suitable for farming, which limits agriculture.

Fisheries play a key role in both local consumption and exports. Subsistence farming and fishing are also vital for the local economy.

Image 14: Ministry of Agriculture and Waterways logo.

Manufacturing

Manufacturing employs about 13% of Fiji's workforce and includes key industries like food processing (for example, sugar refining), garment production, and bottled water exports.

Image 15: Fiji bottled water advertisement.

FIJI'S VULNERABILITY TO CLIMATE CHANGE

Fiji, like many Pacific Island nations, is under growing threat from rising sea levels that are the result of climate change. While the Earth's climate has naturally changed over millions of years, current climate change is largely caused by human activities, primarily the burning of fossil fuels like coal, oil, and gas. Fijian communities are facing severe impacts from rising sea levels, including coastal erosion, flooding, saltwater contamination, and damage to infrastructure (for example, roads, bridges, and water supply). These impacts are becoming more frequent and severe, disrupting lives and traditions.

The impacts of rising sea levels

To raise global awareness, Earth.Org has mapped what extreme flooding could look like in Fiji by the year 2100 (see Map A below). Based on their projections of a 2-to-4-metre sea level rise by 2100, Fiji must plan to protect critical infrastructure such as ports and hospitals, and protect freshwater reserves from saltwater contamination. Many communities are already struggling with the loss of arable (cropping) land and traditional ways of life.

Map A: Rising sea level projections by 2100 for two scenarios, with the amount of rise in metres (mild=2 m; extreme=4 m). 150,000 people will be displaced.

Fiji's response to rising sea levels

Wealthier communities and those receiving international aid can implement long-term solutions, such as constructing man-made and natural sea walls, upgrading infrastructure, and adapting agricultural practices. Meanwhile, others with limited resources often resort to makeshift short-term measures, such as using tyres and sandbag barriers, which can easily be damaged and become ineffective. In the most severely affected areas, rising waters will ultimately force many communities to abandon their homes and relocate inland, a process that is both costly and culturally disruptive.

Relocation of coastal villages

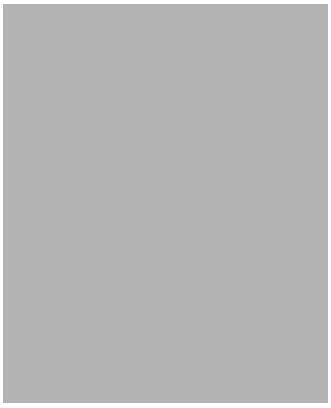


Image A:
Prime Minister Rabuka.

Fiji **Prime Minister Rabuka** is leading efforts to combat sea level rise by relocating villages. "This crisis relentlessly eats away at our shores," Rabuka warned. Six villages have already been relocated, and over the next 10 years, Fiji's government is planning to relocate over 40 more villages.

In 2014, the village of Vunidogoloa became the first to move, as residents were forced to abandon their homes and relocate inland. Basic infrastructure such as schools, hospitals, roads, and ancestral burial grounds also had to be moved. While there were issues associated with this move, the village can now see a sustainable future where people are far from the eroding coast.

Images B and C (left and below): The relocation of Vunidogoloa.

While relocation is often seen as one of the most effective responses to rising sea levels, many local villagers consider it a last resort. Although relocated villagers may benefit from improved housing and infrastructure, these projects often lack adequate consultation – something critical for their success and long-term sustainability.

Relocation is especially challenging for Indigenous people such as **Lani Bola**, who holds a deep cultural and spiritual connection to her ancestral lands. "The decision to relocate a Fijian community may seem like an easy one, but abandoning your home isn't some cold, calculated business decision. For those of us affected, it's a deeply emotional loss."

The cost of relocation can be up to NZD5 million. "We have tried various measures to combat the rising sea. We planted mangroves and even placed coral along our beachfront, but nothing has worked. Now, we have an underwater cemetery. I think the best thing we can do now is build a sea wall. At the moment we have no choice – it's a matter of survival," stated Lani.

Image D: A semi-submerged graveyard on Togoru, Fiji.

Defending the coast – the nature-based way

Fiji faces significant challenges in accessing financial support from international governments and donors. To address this issue, Community Climate Funds have been launched by **local climate change campaigners**, which support Fijian communities by financing projects designed to help them adapt to the impacts of climate change, especially rising sea levels. Current initiatives funded by these type of programmes include:

- **Coastal protection measures**. A shift from traditional hard infrastructure like concrete sea walls to nature-based solutions such as sea walls made from natural boulders, along with mangrove restoration. These approaches not only protect coastlines but also support fisheries and are popular with locals like Lani Bola, who asks "Can the government consider more natural, wall-like rocks? Plant more mangroves to dampen the wave force, which will also create a habitat for sea creatures."

Image E: A nature-based sea wall made of locally sourced boulders and planted vetiver grass.

  Mangrove forests help mitigate the effects of rising sea levels by reducing wave heights by an average of 31% and combating erosion by trapping sediments that form new soil. These benefits are cost-effective.

- **Resilient infrastructure**. Raising housing off the ground to reduce the impacts of rising sea levels.
- **Sustainable agriculture**. Projects focused on adopting climate-smart practices to improve food security and economic resilience. This would involve planting crops that are salt-resistant.

Image F: Previous efforts to defend against rising sea levels.

Cost effective nature-based solutions to protect people and their environment

Image G: Sustainable agriculture practice and planting salt-resistant crops.

Image H: Villagers helping in the transplanting of mangrove seedlings.

Image I: Mangrove reforestation project in Fiji. Mangroves reduce the wave force and create a habitat for sea creatures.

Defending the coast – the man-made way

Fiji's **town councils** are focusing on strengthening built infrastructure to protect coastal communities. Built "man-made" infrastructure includes concrete structures like sea walls. They say this will allow communities to better build their resilience to rising sea levels.

Sea walls provide immediate protection against coastal erosion and rising sea levels. Typically made of concrete, they help stabilise eroding land and shield coastal roads and settlements, though they can be expensive. Gabion-style sea walls (rocks in a metal cage), a more affordable alternative, are often used by local councils. Councils are also building climate-resilient roads, bridges, and drainage systems to prevent flooding caused by rising sea levels.

As one local councillor stated, "It's time for councils to take control of the sea level rise problem in Fiji. The community-based attempts to solve the problem, such as using tyres and drums, have not worked. They have not solved the problem and have turned some of our wonderful beaches into an eyesore. We need permanent solutions that will give our people peace of mind."

Image J (left): Concrete sea wall protecting the community of Kiuva.
Image K (above): Gabions act as a sea wall in Savusavu.

Image L (above left): Car tyres and sandbags on Togoru shoreline to halt the 1.5 m loss of land to the sea each year.
Image M (above right): Concrete-filled oil drums form a sea wall.

Acknowledgements
Material from the following sources has been adapted for use in this assessment:

Resource A
Map 1: https://www.researchgate.net/figure/Map-showing-the-location-of-the-South-Pacific-region-Source-Nunn-2007_fig3_279471860
Map 2: https://courses.washington.edu/tesc243/fiji/regional.shtml

Resource B
Image 1: https://www.lookphotos.com/en/images/70150162-Monukiri-and-Monu-Islands-Fiji-Islands
Image 2: https://64.media.tumblr.com/tumblr_m8wmhsfpTU1r6b8aao1_500.jpg

Resource C
Graph 1: https://en.climate-data.org/oceania/fiji/tavua-town/tavua-town-765412/

Resource D
Graph 2: https://www.populationpyramid.net/fiji/2025/

Resource E
Image 3: https://www.dol-celeb.com/dieux/degei/

Resource F
Image 4: https://www.gurgl.in/wp-content/uploads/2020/05/kava-fiji-national-drink-kava-gold.jpg
Image 5: https://c.tadst.com/gfx/750w/istock-454353339.jpg
Image 6: https://gofiji.net/15-must-try-fijian-dishes/
Image 7: https://www.lookphotos.com/en/images/71041791-Fire-Dance-Viti-Levu-Fiji-Melanesia-Oceania-Pacific-Islands-Pacific
Image 8: https://d397bfy4gvgcdm.cloudfront.net/96073-ZamilTash3-0640-zdpZt.jpeg
Image 9: https://www.fijivillage.com/news_images/94977181067180a984272aa646ce4d.jpg
Images 10 and 11: https://bulaliving.com/traditional-fijian-crafts-you-may-encounter/
Image 12: https://www.scti.co.nz/-/media/project/scti/nz/images/travel-advice/fijian-food/food-in-fiji-indian-and-chinese-food-900x675.jpg

Resource G
Image 13: https://www.diveoclock.com/destinations/Oceania/Fiji/Road_Trip/viti_levu_fiji_diveoclock-24.jpg
Image 14: https://www.agriculture.gov.fj/images/MOAW%20Logo%202023.png
Image 15: https://m.media-amazon.com/images/I/81yVWPVwkaL._AC_SL1500_.jpg

Additional resource material
Map A: https://earth.org/wp-content/uploads/2020/08/fiji-2.jpg
Image A: https://www.foreignaffairs.gov.fj/prime-minister-sitiveni-rabuka-addresses-urgent-climate-action-at-cop28-leaders-summit/
Image B: https://360info.org/three-ways-pacific-nations-are-adapting-to-climate-change/
Image C: https://www.kth.se/blogs/hist/2020/01/vunidogoloa-what-can-we-learn-from-climate-change-relocation/
Image D: https://www.flickr.com/photos/ipsnews/39418945482
Image E: https://kiwainitiative.org/en/projects/nature-based-seawall-project
Image F: https://www.sciencedirect.com/science/article/abs/pii/S0964569121000399
Image G: https://www.rnz.co.nz/international/pacific-news/343197/more-resilient-approaches-to-pacific-farming-outlined
Image H: https://oisca-international.org/images/projects/53/thumbs/mangrove4.jpg
Image I: https://oisca-international.org/images/projects/53/picture25.png
Image J: https://www.fiji.gov.fj/Media-Centre/News/PRIME-MINISTER-IMPRESSED-WITH-SEA-WALL-CONSTRUCTIO
Image K: https://www.csmonitor.com/Environment/2021/0311/How-sea-level-rise-could-affect-Pacific-nations-fishing-rights
Image L: https://i.guim.co.uk/img/media/a8000ed2752ac40a10152a82f246b66e7c38fdd5/0_0_5760_3840/master/5760.jpg?width=1300&dpr=2&s=none&crop=none
Image M: https://babasiga.blogspot.com/2016/12/sea-walls-in-pacific-islands.html