

No part of the candidate's evidence in this exemplar material may be presented in an external assessment for the purpose of gaining an NZQA qualification or award.

2

90814



908140



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

SUPERVISOR'S USE ONLY

Tick this box if you
have NOT written
in this booklet

Level 2 Education for Sustainability 2022

90814 Demonstrate understanding of aspects of sustainability in different contexts

Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of aspects of sustainability in different contexts.	Demonstrate in-depth understanding of aspects of sustainability in different contexts.	Demonstrate comprehensive understanding of aspects of sustainability in different contexts.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt BOTH parts of the task in this booklet.

Pull out Resource Booklet 90814R from the centre of this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–12 in the correct order and that none of these pages is blank.

Do not write in any cross-hatched area (✂). This area may be cut off when the booklet is marked.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

Excellence

TOTAL

07

ASSESSOR'S USE ONLY

Plan your answers in the box below. Your planning will not be marked.

PLANNING

Resource Booklet 90814R contains resources about sustainability issues in three different contexts:

- **Resource A** – Water: A New Zealand public health issue
- **Resource B** – Zoning and climate change
- **Resource C** – Flood disaster risk and food security.

Read all the information in the resource booklet, then choose at least TWO of the contexts listed above to answer part (a) of the task. Enter your chosen contexts in the box below.

Contexts: Resource A - Water: A New Zealand public health issue
Resource B - zoning and climate change
Resource C - Flood disaster risk and food security

TASK

- (a) Using the four aspects of sustainability (environmental, social, cultural, economic), explain how the practices presented in the resources may, or may not, contribute to a sustainable future.

In your answer, refer to:

- at least TWO of the four aspects of sustainability, using TWO of your selected contexts
- the Māori concepts of manaakitanga and kaitiakitanga.

In the article Water: a New Zealand public health issue two aspects of sustainability shown are social and economic sustainability on both a global and New Zealand wide scale. Globally, some 771 million people lack access to safe water, this has led to widespread amounts of waterborne diseases and deaths in many different communities affecting the overall social sustainability immensely. Social sustainability is the physical health and well being of communities. For example, due to the need to carry heavy water vessels over long distances many women and children have low quality of life and standards of living.

It says in this context that, access to safe water directly helps the most vulnerable people from the poorest nations in the world to protect themselves from illness and disease therefore ensuring social sustainability for the future. In New Zealand, fresh potable

is also of cultural significance and is seen as a taonga (treasure) and we are the Kaitiaki (guardians) of our natural environment and our water sources. This brings in both cultural and environmental sustainability into the picture of New Zealand's water security as well. Here we believe that all New Zealanders deserve safe, dependable and affordable water services that support good health and sustainable environmental outcomes although some areas have experienced ongoing water problems. Different departments such as the Three Waters Reform Programme are working on increasing its sustainability for the future. This relates to Manaakitanga as it is improving the quality of our water which is further improving the wellbeing and physical health of our people showing respect and kindness to our local communities.

Economic sustainability is also shown in this context as the Three Waters Reform Programme as it will cost New Zealand \$185 million to fix, upgrade and maintain our country's water services. This will improve our water quality in ~~the~~ return and are said to save households thousands of dollars therefore increasing economic sustainability for many households. Councils have invested in other services critical to the wellbeing of our communities are potable water services in some cases. When Three Waters was established including non-financial shareholdings they are striving to improve NZ's drinking, waste and storm water systems. This relates to Kaitiakitanga as improving our water systems will help the environment and increase guardianship over the land sustainably for the future and aspects of Manaakitanga as it is showing care for local communities.

→ continued on pg 9

- (b) Explain how the interrelationships between at least TWO of the aspects of sustainability evident within the resources may, or may not, contribute to a sustainable future.
For a comprehensive answer, you should consider the wider implications of these interrelationships, using evidence from your own studies.

The interrelationships between environmental, cultural, social and economic sustainability within each of the contexts are significant in the future sustainability of each area and its people. Social sustainability ~~inter~~ in Resource A: Water - a New Zealand public health issue interacts with environmental sustainability within Resource C: Flood disaster risk and food security as they are both major effects of climate change that are going to increase in the future. Droughts caused by climate change increase risks of waterborne diseases, and having to travel long distances for unclean water. While increased amounts of floods due to climate change can also contaminate water sources leading to similar effects of waterborne diseases and decreased amounts of social sustainability and environmental sustainability for the future. Reducing Mānuaakitanga or wellbeing of communities is effected by the changing of microclimates within areas.

Another interaction between different aspects of sustainability is economic sustainability within Resource A and environmental aspects within Resource B: Zoning and climate change, this is because new water strategies or improving water systems result in improvements to the natural environment. Also new understanding of water systems, such as finding ways to bring safe water to communities while incorporating environmental and climate change resistant elements. For example water systems that are resistant to

flooding and sea level rise to reduce contamination of water sources during those times. Especially for low-lying coastal areas who will be effected the most from sea level rise. As ninety-percent of all urban areas are coastal most cities are already feeling the impacts of climate change. Zoning is a way that our water ways, systems and land can be protected by effects from climate change. For example, in Florida, homes are not being ~~any~~ built away from the coastlines ~~and~~ cliffs to reduce effects from erosion and sea level rise. This increases kaitiakitanga as it improves preservation protection and guardianship of communities most effected by climate change for the future.

Another interaction between different aspects of sustainability is social sustainability in Resource C and Economic sustainability in Resource A and B. The decrease in food security from the effects of flooding and sea level rise relates to economic aspect of sustainability for the future as it means coastal shops, businesses etc. will be effected due to climate change and will decrease future sustainability of coastal areas especially in places heavily used for tourism. This could be preserved for future kaitiakitanga of the environment and manaakitanga of the people by moving businesses, shops and homes away from the coastline a km or so away to reduce the major impact of these effects. Suggested in Resource B, where the character of a poor urban area is changed by wealthier people moving in, improving houses and attracting new businesses, often displacing current inhabitants.

Other interactions between different aspects of sustainability include social sustainability in Resource A and economic sustainability

Extra space if required.
Write the question number(s) if applicable.

QUESTION
NUMBER

B in Resource B ~~and~~ which relates a zoning area where new businesses had be founded, social sustainability is likely to increase with less disruption from flooding and sea level rising causing water security to increase, increasing future sustainability for communities and increases aspect of manaakitanga in the communities involved.

Some wider implications of these interrelationships include different climate change effects that could contaminate water systems in areas and effect communities reducing future sustainability such as hurricanes in Florida, in south-east Florida in places such as West Palm Beach, and down to Miami, hurricanes regularly hit making zoning a much more important factor in increasing the future sustainability in communities, especially areas where many businesses are located at sea level on beachside, along the palm beach inlet, boarding up is used during hurricanes to mask the effects. To increase future sustainability in Florida and here in New Zealand businesses may need to prepare in advance for floods, sea level rise etc.

Other wider implications can include the effort to reduce impacts for unsafe water by installing things like solar powered water pumps, which are environmentally friendly and sustainable for the future. They provide fresh clean water for a ^{small agreed upon} price ~~set~~ by the local community. This improves aspects of social sustainability, improving the health and wellbeing of the people in the local communities decreasing

Extra space if required.
Write the question number(s) if applicable.

QUESTION
NUMBER

A In the context, Flood disaster risk and food security, two aspects of sustainability shown are environmental and social sustainability. Environmental sustainability aspects are shown by informing us that flood disasters have become more frequent due to the effect of climate change, and is said to continue to increase in the future. These floods are decreasing environmental sustainability for the future as it encourages erosion, denudation and damage to natural environments and ecosystems. Coastlines are most effected ~~the~~ meaning low-lying coastal towns, areas and cities are more vulnerable to effects of flooding and sea level rise in the future. This relates to Kaitiaki, as wide spread frequent flooding is reducing the amount of preservation for future generation of the land in coastal or river bed/valley areas significant to Maori culture.

Another aspect in this article shown is social sustainability as these floods decrease food security in effected communities. Floods have devastating consequences on food security as they drown farms, pastures and livestock, reducing crop yields and animal production. This disrupts physical infrastructure, reducing transportation, and destroys socio-economic activities and agriculture. Many of which people are dependent on for income and livelihood, reducing job security and therefore decreasing social sustainability for that effected community. Reduced amounts of food access mean poor nutrition and care are effected, with stock decreasing food prices increase meaning many have no choice

Extra space if required.
Write the question number(s) if applicable.

QUESTION
NUMBER

A

but to have a diet based on non-nutritional food affecting health of the people.

Cultural aspects are linked as well as Maori land is majority located on NZ's coastlines including ^{maunga} Kai I Hood gathering areas, tapu (Sacred area) and burial sites. With increased flooding ikaika are hesitant to move as strong ancestral significance of the area resulting in erosion etc. and decreasing of cultural, and environmental sustainability. Social sustainability is effected as agriculture effected results in loss of food security. This relates to man~~h~~aa kitanga as communities' ^{physical} health and wellbeing is being effected.

Extra space if required.
Write the question number(s) if applicable.

QUESTION
NUMBER

B

effects from waterborne disease. Other ideas include the investigation of agricultural ways such as crops that can survive flood conditions or can withstand the effects of climate change. This will increase future sustainability and increase food security for local communities affected. Buildings can be improved or made more sustainable to withstand flood effects in most vulnerable areas. With time, more strategies and ideas will be produced to help local communities to withstand climate change effects bringing security in different forms and therefore increasing future sustainability in cultural, economic, social and environmental aspects to be more sustainable for future generations.

Excellence Exemplar 2022

Subject	Education for Sustainability	Standard	90814	Total score	07
Q	Grade score	Annotation			
1	E7	<p>The candidate framed their response to this question predominantly in their own words. There was a consistent use of relevant supporting evidence, with clear distinctions made between the candidate's own ideas and those drawn from the resource material. The candidate demonstrated a high level of engagement with the resources, producing a response that clearly examined all resources and addressed the question in a clear and logical manner.</p> <p>The response demonstrated a comprehensive understanding of the aspects of sustainability, including a focus on the wider implications of the interrelationships among those aspects.</p>			