WORK SAMPLE PORTFOLIOS

The 2013 portfolios are a resource to support teachers in the planning and implementation of the Foundation to Year 10 Australian Curriculum: Geography. Each portfolio comprises a collection of student work illustrating evidence of student learning in relation to the achievement standard.

Each work sample in the portfolio varies in terms of how much time was available to complete the task and/or the degree of scaffolding provided by the teacher.

There is no pre-determined number of samples required in a portfolio nor are the work samples sequenced in any particular order. Together as a portfolio, the samples provide evidence of all aspects of the achievement standard unless otherwise specified.

As the Australian Curriculum is progressively implemented in schools, the portfolios will continue to be reviewed and enhanced in relation to their comprehensiveness in coverage of the achievement standard and their representation of the diversity of student work that can be used to highlight evidence of student learning.

THIS PORTFOLIO – Year 10 Geography

This portfolio comprises a number of work samples drawn from a range of assessment tasks, namely:

Sample 1  Report – Environmental change and management
Sample 2  Data response – Indicators of human wellbeing
Sample 3  Inquiry – Human wellbeing index
Sample 4  Practical exercise – International organisations and human wellbeing

This portfolio of student work shows that the student can explain how the interaction between geographical processes change the characteristics of river and marine environments (WS1). The student predicts changes in these characteristics over time, across space and at different scales, and explains the predicted consequences of change (WS1). The student identifies significant interconnections between human wellbeing in a place and foreign aid (WS4), and between people and environments. The student analyses and explains these interconnections, the changes that result from them and the consequences of change (WS1). The student identifies and describes significant associations between distribution patterns (WS2). The student evaluates alternative views on and strategies to address a geographical challenge using environmental, social and economic criteria and proposes and justifies a response (WS1).
The student’s work shows an ability to use initial research to develop and modify geographically significant questions to frame an inquiry (WS1, WS3). The student collects and critically evaluates a range of primary (WS1) and secondary sources and selects relevant geographical data and information to answer inquiry questions (WS1, WS3). The student accurately represents multi-variable data in a range of appropriate graphic forms (WS1, WS4), including special purpose maps that use a suitable scale and comply with cartographic conventions (WS3). The student evaluates data to make generalisations and inferences (WS3), and propose explanations for significant relationships (WS2), trends (WS3) and anomalies (WS2, WS3). The student synthesises data and information to draw reasoned conclusions (WS3), taking into account alternative points of view (WS1). The student presents findings, arguments and explanations using relevant geographical terminology and graphic representations in a range of appropriate communication forms (WS1, WS3, WS4). The student evaluates their findings and proposes action in response to a contemporary geographical challenge taking account of environmental, economic and social considerations (WS1). The student explains the predicted outcomes and consequences of their proposal (WS3).

The annotated samples in this portfolio provide evidence of most (but not necessarily all) aspects of the achievement standard. The following aspects of the standard are not evident in this portfolio:

- propose explanations for distributions, patterns and spatial variations over time, across space and at different scales
- evaluate data to predict outcomes.
Report – Environmental change and management

Relevant part of the achievement standard

By the end of Year 10, students explain how the interaction between geographical processes at different scales change the characteristics of places. They predict changes in the characteristics of places and environments over time, across space and at different scales and explain the predicted consequences of change. Students identify, analyse and explain significant interconnections between people, places and environments and explain changes that result from these interconnections and their consequences. They propose explanations for distributions, patterns and spatial variations over time, across space and at different scales, and identify and describe significant associations between distribution patterns. They evaluate alternative views on a geographical challenge and alternative strategies to address this challenge using environmental, social and economic criteria and propose and justify a response.

Students use initial research to develop and modify geographically significant questions to frame an inquiry. They collect and critically evaluate a range of primary and secondary sources and select relevant geographical data and information to answer inquiry questions. Students accurately represent multi-variable data in a range of appropriate graphic forms, including special purpose maps that use a suitable scale and comply with cartographic conventions. They evaluate data to make generalisations and inferences, propose explanations for significant patterns, trends, relationships and anomalies, and predict outcomes. They synthesise data and information to draw reasoned conclusions, taking into account alternative points of view. Students present findings, arguments and explanations using relevant geographical terminology and graphic representations in a range of appropriate communication forms. They evaluate their findings and propose action in response to a contemporary geographical challenge taking account of environmental, economic and social considerations. They explain the predicted outcomes and consequences of their proposal.

Summary of task

Students were required to investigate change to a local environment and recommend an appropriate way to manage the changed environment. The geographical inquiry took place over five weeks and students were asked to present their findings as a written report.
INTRODUCTION

Erosion is a natural process in rivers where moving water removes soil and rock from river banks and beds over time. However, the rate of erosion can be increased by human land use beside waterways. The destruction of riparian vegetation by humans, for example, can increase the rate of erosion.

Riparian land is any land that adjoins or directly influences a body of water. Healthy riparian zones are important in a catchment because they increase protection against erosion and improve water quality by reducing the amount of run-off, sediment and nutrients entering the waterway.

The purpose of this report is to investigate change to a local environment and recommend strategies to effectively manage the current situation. The changed environment being investigated is located at Bicentennial Park on the banks of Ross River (see map). Bicentennial Park was previously used as waste landfill site by residents of Townsville. It is located on an outer bend of the river which is eroding and exposing rubbish in the old dump.

Map Showing Location of the Study Site at Bicentennial Park

Annotations

Defines the geographical process of erosion and explains how erosion and the destruction of riparian zones interact to increase the rate of erosion.

Uses a map that conforms to cartographic conventions to show the location of the study site.

Source: Map data@2013 Google

Acknowledgement

ACARA acknowledges the contribution of Australian teachers and students for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.
RESEARCH METHODOLOGY

Data was gathered through a variety of techniques to assist with the investigation. Primary data was gathered at the site through observations and photographs were taken. Local residents were also surveyed about the issue to determine their views on proposed management strategies and to gain a better understanding of the issue, a council representative was interviewed.

To discover the level of change to the environment at Bicentennial Park, secondary data was gathered through the use of maps, old photographs, and a cross-section of the river at the study site. Data was also gathered through the use of internet information to research management options.

Annotations

Identifies an appropriate methodology to investigate the environmental change.

Uses a variety of primary sources (field observations, survey, interview) and secondary sources (land use maps, aerial photography) to gather information required for the investigation.
Report – Environmental change and management

THE ENVIRONMENTAL CHANGE

Bicentennial Park was transformed from a waste landfill site to a recreational park in the 1970s. The catchment was subject to the “Environmentally Hazardous Chemicals Act” and the “Unhealthy Building Land” regulations. The issue that has been considered throughout the investigation is soil erosion at this site and the pollutants that are being released into the river from the former waste landfill site as a result.

Photograph Showing Erosion at the Study Site

The issue at this location is that when the river is in full flow during the wet season, the outer bank erodes at a greater rate. The cross section shows that there is a very steep bank on the north side which is the outer bend and where the erosion is occurring.

Cross Section of Ross River from North to South Showing the Erosion

The problem with this site is that the rate of erosion has been increased by human activity. The riparian vegetation that once stemmed the rate of erosion at this site has been destroyed by human activity; that is by use of the land as a landfill site and a recreational park. A further problem with this site is that it was once a waste landfill site and the increased rate of erosion is causing rubbish and pollutants to be released into the water. Therefore, human use of the land has not only caused the problem of increased erosion but has also worsened the environmental effects of erosion.

Annotations

Uses a primary source to illustrate the extent of erosion at the study site.

Identifies the natural causes of change to the study site over time.

Communicates findings of the river profile as a graphic representation in the form of a cross section.

Identifies interconnections between people, places and environments and explains the impact of these interconnections.

Acknowledgement

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THE ENVIRONMENTAL EFFECTS

Soil erosion is a significant threat to water quality as it increases sediment and nutrients in the river. This in turn causes higher algal growth and water turbidity and loss of aquatic habitat.

Erosion on the north bank of the Ross River at Bicentennial Park is causing more damaging environmental effects because of its former use as a waste landfill site. Erosion is causing the exposure of rubbish and pollutants and these are being released into the river. The release of toxins and chemicals and rubbish into the water is reducing water quality and threatening aquatic ecosystems.

Because the Ross River catchment flows into the Great Barrier Reef World Heritage Area (Cleveland Bay), erosion at the study site is having an impact on aquatic ecosystems in the Great Barrier Reef. The rubbish, chemicals, sediment and nutrients leaching from the former landfill site threaten this internationally significant reef system including its rich biodiversity.

Therefore, the environmental changes occurring on the river bank at Bicentennial Park may have far reaching consequences in the long term. If left unmanaged, the river bank will continue to erode and further pollute the river and Great Barrier Reef with chemicals, sediment, nutrients and rubbish. In the long term, this will result in a loss of aquatic habitat and will have consequences for the functioning of ecosystem services we depend on.

Annotations

Identifies the impact of erosion on environmental characteristics.

Explains how interconnections between people and places affect environmental characteristics.

Explains the connections between geographical phenomena within the one place and between places (the effect of erosion on both the Ross River and the Great Barrier Reef).

Predicts changes to the marine environment and the consequences of this change over time, at different scales and across space.
STRATEGIES TO MANAGE THE ENVIRONMENTAL CHANGE

Re-vegetation
Re-vegetation is the most natural way to reduce the impacts of erosion on the bank. This method involves the planting of trees along the river bank and restricting access to the bank by placing a fence around the area of concern.

Riprap Revetment
This is the reshaping of river banks with the use of riprap revetment to reduce erosion and increase public accessibility to the river. Riprap revetment is the process of placing rocks or other armoring material to protect a stream bank or shoreline from erosion. It is a very common method of controlling stream bank erosion.

Diagram Showing Riprap Revetment Strategy

Annotations

Identifies and explains two strategies to manage environmental change at the study site.

Uses a diagram to illustrate the strategy of riprap revetment.
Report – Environmental change and management

Re-vegetation

This option is environmentally sound because the river would be restored to its natural state before human intervention. However, it will most likely not stop the leaching of chemicals and rubbish into the river.

This option will impact the local community by restricting the access that residents have to the river. This will mean that people will no longer be able to fish from the banks, or on rocks in the river itself.

The cost of this project is relatively small because of the simple construction method of building a fence and plant native plants.

Other advantages of re-vegetating are that it enhances biodiversity, reduces erosion, improves the look of the area and provides creates wildlife corridors.

This method has low start-up costs but incurs costs in the long term for maintenance and upkeep of the site.

Evaluation of Riprap Revetment

Riprap revetment is extremely effective as it consists of layered, various-sized rocks placed along a sloping or angled bank. Some advantages of riprap revetment as an erosion treatment are that it is designed for high velocities, provide a significantly high degree of protection, relatively easy installation, there is low maintenance and finally, it provides immediate long-term protection. The riprap revetment reduces erosion by providing a physical barrier which rubbish and toxins cannot pass through.

This option has a minimal impact on community stakeholders as it still allows people to access the park and participate in sport and recreational activities. The economic costs of this option are bound to be high due to the construction costs.

Annotations

Evaluates each management strategy by considering their social, economic and environmental impacts.
Report – Environmental change and management

**Annotations**

Makes a justified decision regarding the most appropriate strategy to manage change in the local environment.

Predicts outcomes of the proposal.

Considers the views of different groups of people when making decisions about management strategies.

**Recommendations**

After evaluating both strategies to reduce erosion at the study site, it is recommended that riprap revetment be implemented. While this option is more expensive than re-vegetating the bank, it would be more effective in stemming erosion and stopping the flow of pollutants into the river. Furthermore, this method will not affect the recreational use of Bicentennial Park. Riprap revetment will provide a buffer for the river from the landfill and help restore erosion to its natural rate. This in turn will limit the amount of rubbish and excess nutrients and sediments from entering the water. This strategy will improve the water quality of the river and prevent damage to aquatic ecosystems.

Survey results also revealed that riprap revetment was the management strategy favoured by the general public. However, it is not the favoured strategy of the Townsville City Council which supports the strategy of re-vegetation. The council has established 15 community groups to become involved in re-vegetation projects in their local areas. There are also other groups that favour re-vegetation of such as Tropical Urban Landcare Group (TUPALG). The council and these groups prefer re-vegetation because it improves the aesthetic and amenity values of the area. However, the solution is not preferable for the former landfill site as it is not as effective at buffering against the release of rubbish as the Rip revetment strategy.

While council has successfully revegetated other sections of Ross River, the most effective strategy to manage change and reduce erosion on the outer bend of the river at the Bicentennial Park site is riprap revetment.

**Annotations (Overview)**

The student presents findings and explanations using appropriate geographical terminology and graphic representations in a range of appropriate communication forms. The student posed a significant geographical question, ‘How should erosion in the river at Bicentennial Park be managed?’ and synthesised information from a range of primary and secondary sources to draw reasoned conclusions about how to manage environmental change.
Data response – Indicators of human wellbeing

Relevant part of the achievement standard

By the end of Year 10, students explain how the interaction between geographical processes at different scales change the characteristics of places. They predict changes in the characteristics of places and environments over time, across space and at different scales and explain the predicted consequences of change. Students identify, analyse and explain significant interconnections between people, places and environments and explain changes that result from these interconnections and their consequences. They propose explanations for distributions, patterns and spatial variations over time, across space and at different scales, and identify and describe significant associations between distribution patterns. They evaluate alternative views on a geographical challenge and alternative strategies to address this challenge using environmental, social and economic criteria and propose and justify a response.

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Summary of task

Students were provided with a representation on the relationships between GDP per capita and indicators of human wellbeing and were asked to analyse this data in order to answer the following:

1. Explain why GDP/capita is thought a suitable measure for comparing human wellbeing across countries.
2. Evaluate the reliability and usefulness of using GDP per capita as the only measure of human wellbeing.
3. For two of the indicators of wellbeing, explain the relationship with GDP/capita.

This task was completed under exam conditions in one 55 minute lesson. Students were given access to a computer to record their answers.
Acknowledgement
ACARA acknowledges the contribution of Australian teachers and students for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.

Data response – Indicators of human wellbeing

Figure 1: Relationships between GDP per capita and indicators of human wellbeing

- Mean years in school (women 25 year and older) and GDP per capita
- Life expectancy and GDP per capita
- Child mortality (0-5 years per 1000 born) and GDP per capita
- Medical doctors (per 1000 people) and GDP per capita
- Democracy score and GDP per capita
- Food supply Kilocalories per person & day and GDP per capita
- Total health spending (% of GDP) and GDP per capita
- Literacy rate, adult females (% of females aged 15 years and over) and GDP per capita

Source: www.gspminder.org

The size of each circle represents the population size of the country. The colour of the circle shows the region where the country is located.
Study Figure 1.

1. Explain why GDP/capita is thought a suitable measure for comparing human wellbeing across countries.

GDP per person is a gauge of value of goods and services produced by a certain country divided by its population. It points out the financial resources that government has to improve the good of the people. More GDP/person may say that there are more resources to spend on health, housing and schooling, for example. This is also shown in fig.1 as there are good connections between some signs of wellbeing and GDP/person. E.g. as GDP/person rises, life expectancy and food supply raises, and child deaths decrease.

2. Evaluate the reliability and usefulness of using GDP per capita as the only measure of human wellbeing.

Changes in GDP/person usually end in changes in human wellbeing. But this isn’t a strong relationship for some signs of wellbeing and for some pointers such as democracy, there doesn’t seem to be a relationship. Some countries have an increasing GDP/person but this doesn’t end in better wellbeing, as the financial resources of a country may be used on paying debt, buying weapons, or, only a small part of the population may benefit from the wealth. A country may also have a low GDP/person but is able to make the wellbeing better for its people by aid programmes. So although GDP/person is a useful measure of some parts of human wellbeing, it isn’t always the best indicator. This is particularly true of gender unfairness, freedom of speech, harassment and stress. In addition, GDP per person may be increasing fast in a country but at the expense of the environment or needing people to work long hours. The measure doesn’t take into account the sustainability of financial growth and so the sustainability of the level of human wellbeing in a country. Some of the poorest countries in the world are the happiest. But this isn’t always the case.
Data response – Indicators of human wellbeing

Study Figure 1.

3. For two of the indicators of wellbeing, explain the relationship with GDP/capita.

Life expectancy shows a good association with GDP per person. This is because a high GDP/person provides the country with the resources to better its healthcare (e.g. number of doctors per 1000 people). A high GDP per person may also allow health care to be provided free to smaller income groups in the country. A high GDP per person also allows countries to improve the education of the people through schools and provision of teachers. As the education of a country gets better the country can get more teachers and doctors trained. Access to clean water, toilets and food supply can also be improved, as GDP per person increases and this also lowers the risk of disease and malnutrition.

Food supply increases as GDP per person increases because when people are on average richer, they can afford to buy more food. An increasing GDP per person is often associated with better education and health of a population. A better schooled population may have better knowledge of farming, as well as being able to afford equipment and chemicals. A healthier population is also able to work harder to increase their wealth and access to food or to produce their own food. A country that has a high GDP per person can also afford the infrastructure such as dams and irrigation that lower the rates of droughts.

Annotations

Explains the relationship between GDP/capita and other measures of human wellbeing.
Inquiry – Human wellbeing index

Relevant part of the achievement standard

By the end of Year 10, students explain how the interaction between geographical processes at different scales change the characteristics of places. They predict changes in the characteristics of places and environments over time, across space and at different scales and explain the predicted consequences of change. Students identify, analyse and explain significant interconnections between people, places and environments and explain changes that result from these interconnections and their consequences. They propose explanations for distributions, patterns and spatial variations over time, across space and at different scales, and identify and describe significant associations between distribution patterns. They evaluate alternative views on a geographical challenge and alternative strategies to address this challenge using environmental, social and economic criteria and propose and justify a response.

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Summary of task

Students were introduced to the idea that, although the UN Human Development Index assesses human wellbeing using 3 indicators of wellbeing, composite indicators are thought to give a more reliable measure of human wellbeing in a country. Given this background, students were asked to frame an inquiry to determine and justify a composite well-being index. They were provided with the following instructions:

- select a range of 10 social and economic indicators that could be used to measure human wellbeing in a country. You should not choose composite indicators in this task
- outline each indicator and explain how it is a measure of human wellbeing
- draw up a table and collect the data for 10 countries, including Australia and India. You may use any number of references; however, you must cite the source of all of your statistics
- evaluate the importance of each indicator in determining human wellbeing and decide on the weighting that each indicator will be given in calculating the index
- construct a wellbeing index, using your indicators and rank the 10 countries
- comment on the strengths and weaknesses of your index, including the reliability and bias of the data sources
- comment on how you could improve the index
- create a map to creatively and imaginatively display your wellbeing index
Inquiry – Human wellbeing index

Introduction

Human wellbeing relies on a range of factors such as health, wealth and education. It relies on a person’s view factors that might affect their level of wellbeing such as freedom, security and happiness.

In making this Human Wellbeing Index, the focus has been on using those indicators of human wellbeing as these can be more easily quantified.

The following 10 indicators were used to create the index:

1. Life expectancy
2. Population growth rate per year (%)
3. Ratio of females: males enrolled at primary school (%)
4. Health expenditure total % of GDP
5. Number of internet users per 100 people
6. % of population with access to improved water
7. Death rate
8. Infant mortality rate
9. Amount of energy used (kg per oil equivalent per capita)
10. GDP per capita (US $)

What do these indicators measure?

These indicators were chosen as they measure different aspects of wellbeing, education, health, gender equality and wealth.

1. Life expectancy measures the health of a population. A person with good health will have a high level of wellbeing and a long life expectancy.

2. Population growth rate per year shows how quickly the size of the population is growing. If the growth is too fast, it may be difficult for the country to provide the necessary infrastructure such as hospitals and schools and this would mean a lower level of wellbeing. A high rate of population growth would also mean that there are a large number of children per family and this may make it hard for a family to provide enough for all of the children; some children may have to leave school to work to help provide for the family. High levels of population growth can also result in crowded conditions in town or rural areas and this could lead to stress. A high level of population growth generally results in a lower level of wellbeing.
Inquiry – Human wellbeing index

3. The ratio of females to males enrolled at primary school indicates gender balance in a country and that all available human resources are being used. If there is a low ratio of females to males in primary school, it suggests that women have less chance to reach their potential in life and this reduces their wellbeing. It also reduces the capacity of human resources in a country, which may slow economic growth and human development. A low level of girls to boys in a primary school ends in a lower level of human wellbeing.

4. The % of GDP spent on health will affect the physical wellbeing of the population. People who are healthy are able to contribute more to the development of the country and take a greater role in society. Mostly, the higher the % of GDP spent on health the higher the wellbeing of the population.

5. The number of internet users per 100 people in the population shows the level of information technology in a country. The internet is getting to be a more important part of communication today for education, business and social matters. so, people’s wellbeing benefits from access to this technology.

6. The % of the population with access to better water, impacts on the health of the population. A population that has access to clean water is less likely to get a disease and will spend less time getting water. Many females spend large parts of their day fetching water and this stops girls from attending school. The wellbeing of a population will increase if they are healthy.

Annotations

Explains the relationship between indicators of human wellbeing (for example the effect of education on economic growth and the effect of physical wellbeing on development).
Inquiry – Human wellbeing index

7. The higher the death rate, the lower the wellbeing of a population. A high death rate results from poor health (bad sanitation, poor access to clean water and food, lots of patients per doctor and hazardous occupations).

8. High infant death rate is from poor health and can be a result of bad education with childcare and not enough healthcare facilities for mothers to deliver. People with poor health and bad education have a lower level of wellbeing as their lives are not as fulfilled.

9. The amount of energy that a person uses shows their standard of living which affects their wellbeing. Appliances and transport require energy and people without these, labour saving technology could have a lower level of wellbeing. The higher the amount of energy a person uses, generally the higher their level of wellbeing; however, the climate of a country would affect their energy usage.

10. GDP per capita is a reflection of the wealth of people in a country. The higher the level of wealth a person has, the more able they are to afford basic necessities of life and have access to leisure time; this increases their level of wellbeing.

Weighting of indicators

The indicators that I think are most important in finding human wellbeing are GDP per person, life expectancy, ratio of females to males enrolled in primary school and % of the population with access to improved water. These are considered to be the most important as they affect the members of a population to have good health, education and access to basic necessities which affect wellbeing. In the calculation of the Human Wellbeing Index, I have given these a weighting of twice the value of the other indicators.

Annotations

Explain the connections between different indicators of human wellbeing.

Evaluates the relative importance of different indicators.
Inquiry – Human wellbeing index

<table>
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<tr>
<th>Country</th>
<th>Life expectancy at birth (years)</th>
<th>Population growth rate each year (%)</th>
<th>Ratio of female to males enrolled at primary school (%)</th>
<th>Health expenditure % of GDP</th>
<th>Number of internet users for every 100 people</th>
<th>% of population with access to improved water</th>
<th>Death Rate</th>
<th>Infant mortality rate</th>
<th>Energy used (kg per oil equivalent per capita)</th>
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**Annotations**

Collects relevant geographical data from secondary sources to answer the inquiry question.
Geography

Inquiry – Human wellbeing index

Table 2: Ranking of indicators of wellbeing

<table>
<thead>
<tr>
<th></th>
<th>Life expectancy (years)</th>
<th>Weighting (x2) x rank</th>
<th>Population growth rate (%)</th>
<th>Weighting (x1) x rank</th>
<th>Ratio of females to males in primary school</th>
<th>Weighting (x2) x rank</th>
<th>Health expenditure % of GDP</th>
<th>Weighting (x1) x rank</th>
<th>Number of Internet users/100 people</th>
<th>Weighting (x1) x rank</th>
<th>Weighting (x2) x rank</th>
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</table>

Calculation of the Human Development Index has been achieved by ranking the score that each country has for each indicator and then multiplying this ranking by a weighting based on how important that indicator is in determining the wellbeing of a person in that country.

Annotations

Applies a weighting to rank selected countries for each indicator of human wellbeing.
Acknowledgement
ACARA acknowledges the contribution of Australian teachers and students for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.

Geography

Inquiry – Human wellbeing index

Annotations

Table 3: Sum of weighted ranks

<table>
<thead>
<tr>
<th></th>
<th>Weighted rank</th>
<th>Total weighted rank</th>
<th>Average weighted rank</th>
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Table 4: Ranking of countries using the Human Wellbeing Index

<table>
<thead>
<tr>
<th>Human Wellbeing Index</th>
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<tr>
<td>India</td>
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</table>

<table>
<thead>
<tr>
<th>Lowest level of wellbeing</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>12.2</td>
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</tbody>
</table>

Synthesises data to rank selected countries in terms of their human wellbeing.
Evaluation of the Human Wellbeing Index

The Human Wellbeing Index is a good measure, as it considers aspects of human wellbeing including health, education, wealth and gender equality. It uses information from one source. So this is a strength as it makes the comparisons of countries more reliable; however to get a wide range of data, it was necessary to use information from 2010 and this is now out of date. Also some data was not available for all countries for the ratio of females to males attending primary school. This index gives a snapshot of human wellbeing but doesn’t consider parts of sustainability. The way of calculating the index is also pretty crude. (Small differences in values can become large differences when the rank is weighted.)

The data was obtained from the World Bank and this is a reliable source. Though there might be differences in the reliability of the data collected or inaccuracies arising because of a country wanting to give a certain impression of the level of development.

However, there are some differences between indicators that reveal weaknesses in the composite indicator. The indicators for South Africa, for example show that the country spends a large proportion of its GDP on health (9%) but life expectancy is the lowest of all countries and the infant mortality rate is very high. This is unexpected as the amount of money spent on health should improve life expectancy and reduce the infant mortality rate. This suggests that these indicators do not show the distribution of access to health services in a country or how the wealth is shared.

To improve the index more, I would show more focus on education such as reading rates for adults, but this was not available for many countries in the World Bank data and would require use of another source. Using female to male ratios enrolled in primary schools gave a good measure of gender equality but did not show the % of the population attending primary school. I would also think of other ways of calculating the index to take into account the actual differences in value of an indicator for each country rather just whether it was larger or smaller than the other values.

What does my composite indicator tell me about the spatial distribution of global poverty?

Countries in Australia, Europe and North America are the most developed and have high levels of human wellbeing. The countries with the lowest level of human wellbeing are in Asia and Africa. Countries in the middle appear to be in the Middle East and South America. This pattern is shown on the map below.

Annotations

Evaluates the effectiveness of the index as a measure of human wellbeing.

Evaluates the reliability and usefulness of the data collected.

Makes generalisations about the cause and effect relationship between different measures of human wellbeing.

Proposes an explanation for anomalies in the data.

Suggests how the composite indicator of human wellbeing could be improved.
Inquiry – Human wellbeing index

Annotations

Creates a special purpose map that complies with cartographic conventions to represent the spatial distribution of different levels of human wellbeing.

Annotations (Overview)

The student synthesises data to draw reasoned conclusions and presents findings, arguments and explanations using relevant geographical terminology in a range of forms including text, maps and tables.
Practical exercise – International organisations and human wellbeing

Relevant part of the achievement standard

By the end of Year 10, students explain how the interaction between geographical processes at different scales change the characteristics of places. They predict changes in the characteristics of places and environments over time, across space and at different scales and explain the predicted consequences of change. Students identify, analyse and explain significant interconnections between people, places and environments and explain changes that result from these interconnections and their consequences. They propose explanations for distributions, patterns and spatial variations over time, across space and at different scales, and identify and describe significant associations between distribution patterns. They evaluate alternative views on a geographical challenge and alternative strategies to address this challenge using environmental, social and economic criteria and propose and justify a response.

Students use initial research to develop and modify geographically significant questions to frame an inquiry. They collect and critically evaluate a range of primary and secondary sources and select relevant geographical data and information to answer inquiry questions. Students accurately represent multi-variable data in a range of appropriate graphic forms, including special purpose maps that use a suitable scale and comply with cartographic conventions. They evaluate data to make generalisations and inferences, propose explanations for significant patterns, trends, relationships and anomalies, and predict outcomes. They synthesise data and information to draw reasoned conclusions, taking into account alternative points of view. Students present findings, arguments and explanations using relevant geographical terminology and graphic representations in a range of appropriate communication forms. They evaluate their findings and propose action in response to a contemporary geographical challenge taking account of environmental, economic and social considerations. They explain the predicted outcomes and consequences of their proposal.

Summary of task

As part of a unit on human wellbeing, students were asked to identify an international organisation that has implemented strategies to reduce differences in global wellbeing in a specific country and explain the impact of this strategy on indicators of human wellbeing.
Practical exercise – International organisations and human wellbeing

Annotations

UNICEF - Malnutrition in Mauritania

Worked to train regional health staff, paediatricians and medical doctors in the management of severe acute malnutrition and its medical complications.

The UNICEF-supported workshop was attended by health workers from the Government, NGOs and UNICEF.

This has improved many areas of Mauritania’s wellbeing.

Annotations (Overview)

The student has located, interpreted and represented data to show the impact of international organisations on reducing global inequalities in human wellbeing.

Acknowledgement

ACARA acknowledges the contribution of Australian teachers and students for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.