



ANDERSON SERANGOON JUNIOR COLLEGE

JC2 H2 Geography Preliminary Examinations (2019)

H2 GEOGRAPHY

9751/01

Paper 1 Structured Essay Questions

26 August 2019

3 hours

Additional Materials:

Answer Booklet

READ THESE INSTRUCTIONS FIRST

1. Write your name and class in the spaces provided below, and on all the work you hand in.
2. Write in dark blue or black pen on both sides of the paper.
3. You may use an HB pencil for any diagrams or graphs.
4. Do not use staples, paper clips, glue or correction fluid.

Answer **three** questions. **One** from each section.

You should make reference to appropriate examples studied in the field or the classroom, even where such examples are not specifically requested by the question.

Diagrams and sketch maps should be drawn whenever they serve to illustrate an answer.

You are reminded of the need for good English and clear presentation in your answers.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

This question paper consists of 3 printed pages, including this page.

[Turn Over]

Section A – Tropical Environments

Answer **one** question from this section.

- 1 (a) Explain the impacts of the reversal of the Walker Circulation in tropical regions. [12]
 - (b) "The shifting of the Inter-Tropical Convergence Zone is solely responsible for variations in rainfall in tropical regions."
- Evaluate the validity of the given statement. [20]
- 2 (a) Explain the factors that influence the formation of karst landforms in the humid tropics. [12]
 - (b) To what extent is the release of stored carbon into the atmosphere the most significant impact of tropical deforestation? [20]

Section B – Development, Economy and Environment

Answer **one** question from this section.

- 3 (a) Explain how the New International Division of Labour (NIDL) may affect the sectors of the economy in developing countries. [12]
 - (b) To what extent do transnational corporations bring more positive than negative impacts to countries? [20]
- 4 (a) Explain how Thomas Malthus' theory on population-resource relationships might still be relevant today. [12]
 - (b) "One day, poor countries may actually benefit from their natural resources."
- Assess the validity of this statement. [20]

Section C – Sustainable Development

Answer **one** question from this section.

- 5 (a)** Explain the challenges faced by countries at low levels of development in mitigating climate change. [12]
- (b)** "Evidence for climate change strongly suggest that human activities have caused climate change today."
- To what extent do you agree with this statement? [20]
- 6 (a)** Explain why countries with fast-growing populations may find it difficult to achieve sustainable urban development. [12]
- (b)** "No other proposed solution is more effective in mitigating traffic congestion than public transport."
- Evaluate the validity of this statement. [20]



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9751/02

Paper 2

17 September 2019

3 hours

Additional Materials: Answer Booklet
 1 Insert

READ THESE INSTRUCTIONS FIRST

Write your name and class in the spaces provided below, and on the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.

Candidates answer **all** questions.

The Insert contains all the Resources referred to in the questions.
You should make reference to appropriate examples studied in the field or the classroom, even where such examples are not specifically requested by the question.
Diagrams and sketch maps should be drawn whenever they serve to illustrate an answer.
You are reminded of the need for good English and clear presentation in your answers.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [] at the end of each question or part question.

Section A

Theme 4: Geographical Investigation

Elderly-friendly features at Bukit Merah View Food Centre and Market in Singapore

- 1 The Bukit Merah View Food Centre and Market (FCM), located within the Bukit Merah neighbourhood in Singapore, had been recently renovated with new elderly-friendly features, such as wider walkways, slip-resistant flooring, and accessibility ramps.

Accordingly, a group of 4 students decided to conduct fieldwork over a Saturday and Sunday at Bukit Merah View FCM, in order to investigate whether these upgrades have adequately met the needs of the elderly living in the Bukit Merah neighbourhood. They developed the following hypothesis:

The new elderly-friendly features at Bukit Merah View Food Centre and Market have adequately met the needs of the elderly living in Bukit Merah.

The students chose to focus on elderly residents aged 65 and above who live near Bukit Merah View FCM. The students designed a questionnaire, and conducted a survey with 24 elderly residents. Upon completing their fieldwork, the students analysed their data and produced a report.

Resource 1 shows the students' questionnaire. Some of the collected data, together with pie charts that the students created, are shown in Resource 2.

- (a) Explain why the students' hypothesis may be appropriate for their investigation. [2]
- (b) With reference to Resource 1, explain **three** ways in which the students' questionnaire may limit the accuracy and/or reliability of their data collection. [6]
- (c) Suggest **two** ways in which the selected results from the survey in Resource 2 may be better represented to help the students understand how elderly residents feel about the new elderly-friendly features in Bukit Merah View FCM. [4]
- (d) Examine the extent to which the selected results from the survey in Resource 2 can support the students' hypothesis. [5]
- (e) Based on the students' findings in Resource 2, the students hope to better understand how a "feeder bus service" could be implemented to better serve the needs of the elderly residents who frequent Bukit Merah View FCM.

Explain how the students could go about collecting the necessary information. [8]

Section B

Theme 1: Tropical Environments

Mass movements in Philippines

- 2 Resource 3 shows the climate graph for Itogon, a small mining town in the Philippines. Resources 4 and 5 are photographs of two different mass movement events that have occurred in the Philippines. The mass movement event shown in Resource 4 occurred after Typhoon Mangkhut made landfall in the Philippines in September 2018. Resource 5 shows a mass movement event at a limestone quarry site in Bohol, Philippines in March 2018. Resource 6 gives information about the effects of Typhoon Mangkhut on Itogon.
- (a) Describe the climatic characteristics of Itogon as seen in Resource 3. [3]
 - (b) Account for the climatic characteristics of Itogon as seen in Resource 3. [5]
 - (c) Compare the nature of the mass movements seen in Resources 4 and 5. [4]
 - (d) Explain the usefulness of Resource 6 in understanding the severity of the mass movement event following Typhoon Mangkhut as seen in Resource 4. [4]
 - (e) Assess the relative importance of climatic factors in the occurrence of the mass movement event seen in Resource 4. [9]

Theme 2: Development, Economy, and Environment

Management of Water in Iran

- 3 Resource 7 shows the countries that are projected to experience water stress in 2040. Resource 8 shows the dams in the Harirud River Basin, a transboundary river basin that crosses Iran, Afghanistan, and Turkmenistan. Resource 9 contains a factsheet about Iran. Resource 10 gives an example of a possible solution to alleviate water scarcity in Iran.
- (a) Describe the distribution of countries that are projected to experience water stress in 2040 as seen in Resource 7. [4]
 - (b) Compare the location of dams between the countries in the Harirud River Basin as seen in Resource 8. [3]
 - (c) With reference to Resources 8 and 9, explain why Iran is experiencing water scarcity. [7]
 - (d) Using Resource 9, suggest **two** reasons why water scarcity is a pressing issue for Iran. [4]
 - (e) With reference to Resources 8, 9 and 10, and your own knowledge, explain the benefits and limitations of the solution suggested in Resource 10 in alleviating issues of water scarcity in Iran. [7]

Theme 3: Sustainable Development

Impact of the 2016 Olympic Games on urban liveability in Rio de Janeiro, Brazil

- 4** Favelas are unregulated low-income neighborhoods unique to cities in Brazil. In 2016, the Summer Olympics was hosted at various locations in Rio de Janeiro, Brazil.

Resource 11 features photographs of favelas in Rio de Janeiro, Brazil. Resource 12 shows the locations of favelas and the 2016 Olympic zones and venues in Rio de Janeiro. Resource 13 depicts changes to public transport provision in Rio de Janeiro that occurred as a result of the 2016 Rio Olympic Games. Resource 14 is a commentary on the impacts of the 2016 Rio Olympics on Rio de Janeiro.

- (a)** Describe the characteristics of the favelas seen in Resource 11. [3]
- (b)** Explain **two** ways in which the characteristics of favelas as seen in Resource 11 may impact the liveability of favela residents. [4]
- (c)** Describe the distribution of favelas within the planned Olympic zones in Rio de Janeiro as shown in Resource 12. [3]
- (d)** With reference to Resources 12 and 13, explain how the 2016 Olympic Games might have benefitted the city of Rio de Janeiro. [6]
- (e)** Using Resources 12 to 14, assess the extent to which the 2016 Olympic Games may have had more negative impacts on the poor than the rich in Rio de Janeiro. [9]



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READ THESE INSTRUCTIONS FIRST

The Insert contains all the Resources referred to in the questions.

This document consists of 13 printed pages, including this page and 1 blank page.

[Turn Over]

Resource 1 for Question 1
Questionnaire designed and used by students

SURVEY

Name: _____

1. What is your age?

- ☐ 65 -70 years
- ☐ 71 – 75 years
- ☐ 76 – 80 years
- ☐ Above 80 years

2. Do you live near the Bukit Merah View Food Centre and Market?

- ☐ Yes – it takes me less than 20 minutes to travel here by public transport
- ☐ No – it takes me more than 20 minutes to travel here by public transport

3. Which newly-introduced feature(s) do you appreciate the most? (You may select more than one.)

- ☐ Wider walkways and accessibility ramps
- ☐ Slip-resistant flooring
- ☐ More fans and extended sheltered seating areas
- ☐ Free wi-fi

4. Please share with us your responses below:

		Strongly Agree	Agree	Disagree	Strongly Disagree
a.	The newly-introduced elderly-friendly features have adequately met my needs.				
b.	The new elderly-friendly features make me want to come to Bukit Merah View Food Centre and Market more often.				

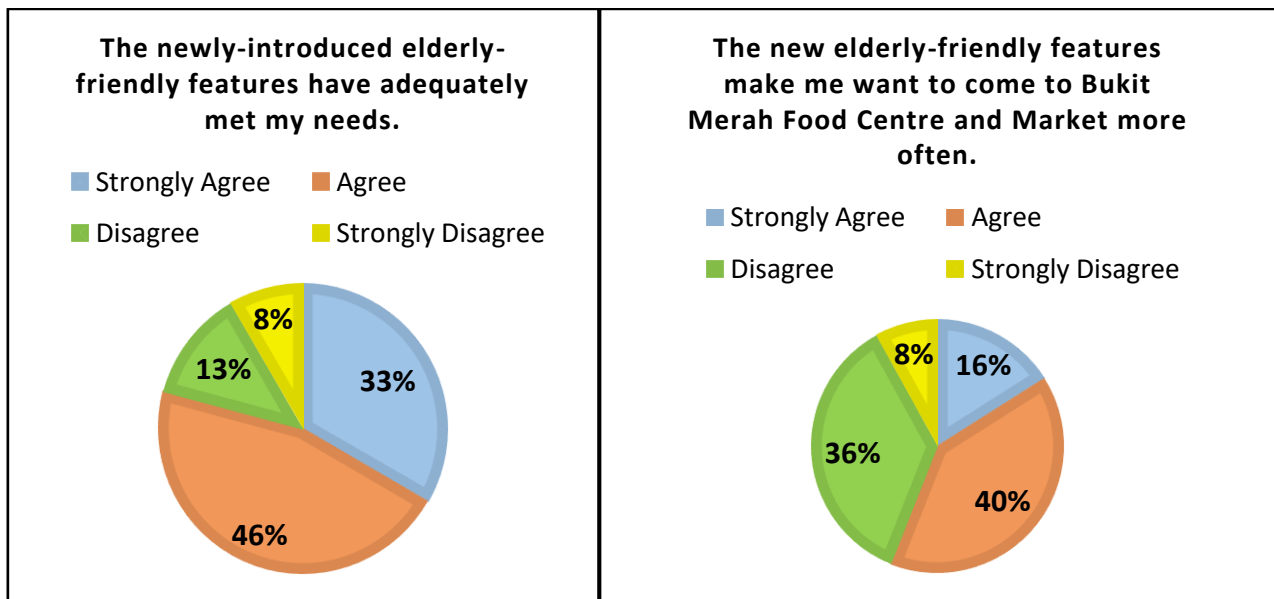
5. Are there any other elderly-friendly features/improvements that you would like to see at Bukit Merah View Food Centre and Market?

- ☐ No
- ☐ Yes – Please share your suggestions with us below:

Thank you for your time.

Resource 2 for Question 1
Selected results from the survey

Age group	Total no. of respondents
65-70 years	10
71-75 years	7
76-80 years	5
Above 80 years	2
TOTAL	24



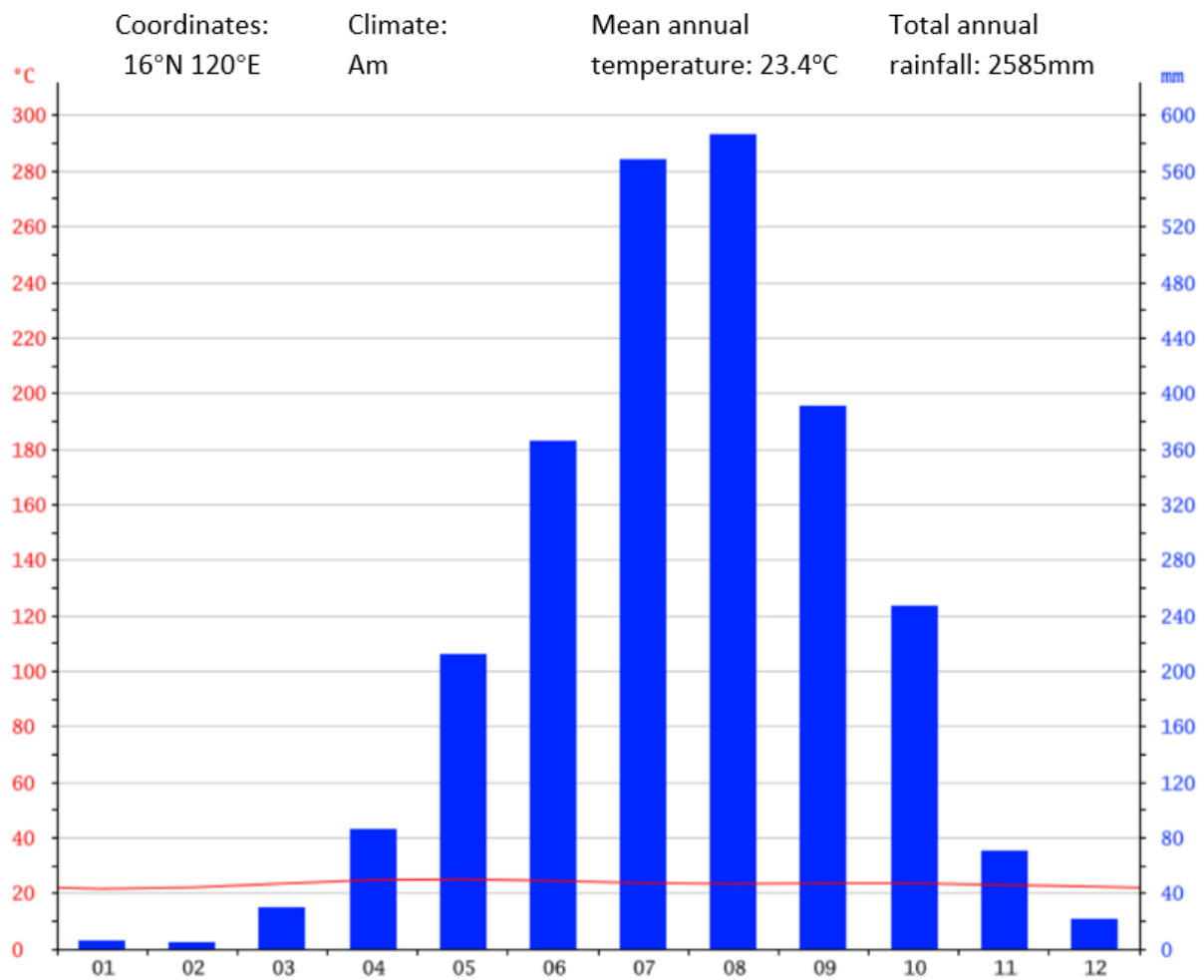
Are there any other elderly-friendly features/improvements that you would like to see at Bukit Merah View Food Centre and Market?

No – 8 respondents

Yes – 16 respondents. Some suggestions include:

- Feeder bus service
- “Reserved for Elderly” seating section in the food centre
- Clearer signboards (such as larger and less cursive fonts)
- Sheltered walkways from bus stop and along main roads

Resource 3 for Question 2
Climate graph for Itogon, Philippines



Resource 4 for Question 2

**Mass movement event following Typhoon Mangkhut in Itogon, Philippines
in September 2018**



Resource 5 for Question 2

Mass movement event at a limestone quarry site in Bohol, Philippines in March 2018



Resource 6 for Question 2**Effect of Typhoon Mangkhut that made landfall in the Philippines****Typhoon Mangkhut: More than 100 dead and missing**

Carmela Fonbuena in Manila and Hannah Ellis-Petersen in Bangkok, The Guardian

Updated 1922 GMT September 17, 2018

Benguet province, Philippines – Almost 100 people are presumed dead after a landslide caused by Typhoon Mangkhut enveloped a small mining town in the Philippines, burying homes and a chapel where dozens of people had taken shelter.

At the height of the storm, dozens of people in Itogon – mostly miners and their families – took refuge in a chapel housed in a former bunkhouse in the belief they would be protected. However, part of a mountain collapsed on top of the building.

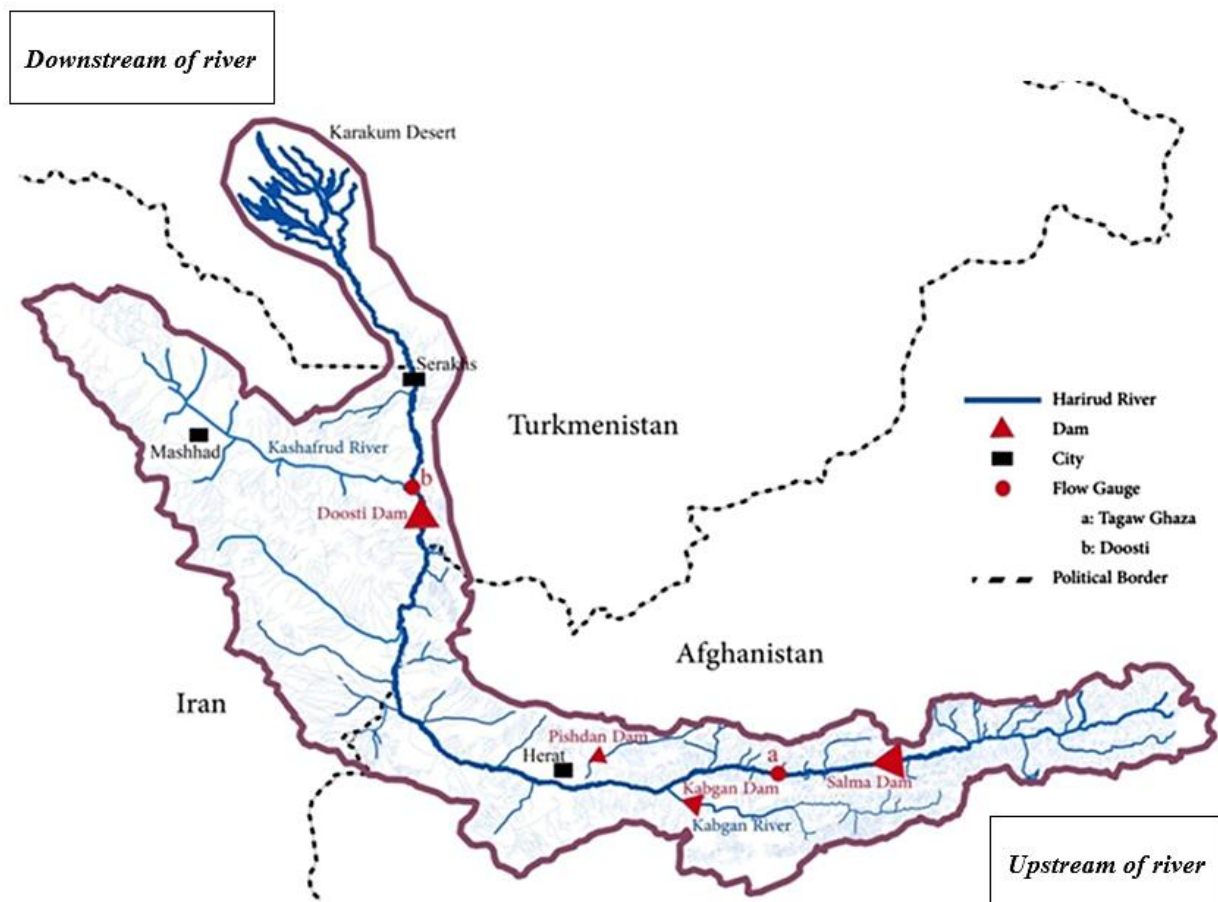
"They were advised to move out because that is a hazardous area during typhoons, it might kill them and it really happened," Lt. Gen. Emmanuel Salamat of the Philippines Armed Forces told CNN Philippines on Monday.

Drone images from the scene provided by the UN Migration Agency showed a scar on the mountain where homes appear to have been wiped out.

Resource 7 for Question 3
Projected Water Stress in Asia in 2040



Resource 8 for Question 3
Dams in the Harirod River Basin



Resource 9 for Question 3
Factsheet about Iran

Geography of Iran	
Latitude	32.4279° N, 53.6880° E
Precipitation characteristics	Average precipitation per year: 730 mm
Change in precipitation levels from 2017 to 2018	Average precipitation levels fell by 29%
Land Uses	<ul style="list-style-type: none"> • Agricultural land: 30.1% <ul style="list-style-type: none"> • Arable land (land suitable for growing crops): 10.8% • Crops: 1.2% • Pasture (e.g. for grazing): 18.1% • Forest: 6.8% • Other (e.g. industry, residential): 63.1%
People and Society	
Total Population in Iran	83,024,745 <ul style="list-style-type: none"> • 17th most populous country in the world as of 2018 • As of 2012, more than half of Iran's population is under 35 years old
Annual population growth (%)	1.24% (census last taken in 2016)
Economy of Iran	
GDP per sector (2017 estimate)	Agriculture: 9.8% (Agriculture consumes 92% of the country's renewable water resources per year)
	Industry: 35.9%
	Services: 54.3%
Major industrial export goods	Petroleum, chemical and petrochemical products, automobiles
Major crops for commercial farming	Wheat, rice, dates (All these crops rely on a mix of irrigation and precipitation to develop)

Resource 10 for Question 3

A possible solution to alleviate water scarcity in Iran

Iran Desalination Capacity to Rise by 300,000 Cubic Meters Per Day by 2021



In the past six years, 39 desalination units with a capacity of approximately 174,000 cubic meters per day (63.7 million cubic meters a year), are operating mostly in the southern coasts.

Sixty desalination plants with a capacity of over 242,000 cubic meters per day (88.4 mcm per year) are operating in different regions in Iran, The Energy Ministry news portal reported.

Construction of another 25 desalinating projects is underway, which upon completion by 2021 will add 300,000 cubic meters of water to daily output.

Resource 11 for Question 4
Photographs of favelas in Rio de Janeiro, Brazil



Resource 12 for Question 4

Locations of favelas and the 2016 Olympic zones and venues in Rio de Janeiro



Maracanã Stadium

Maracanã Stadium

- Football stadium
- Venue for the opening and closing ceremonies of the 2016 Summer Olympics

**Site of the Barra Olympic Park**

- A cluster of nine sporting venues in Barra da Tijuca, which includes the Olympic Village (with a total of 3,604 apartments and 31 buildings), and newly-constructed sporting venues such as the Olympic Tennis Centre



Olympic Tennis Centre

Site of the Copacabana Stadium

- A temporary structure built to host the Beach Volleyball segment of the Olympics
- Copacabana district has the 11th highest Human Development Index in Rio, and is considered one of the best neighbourhoods in the country.

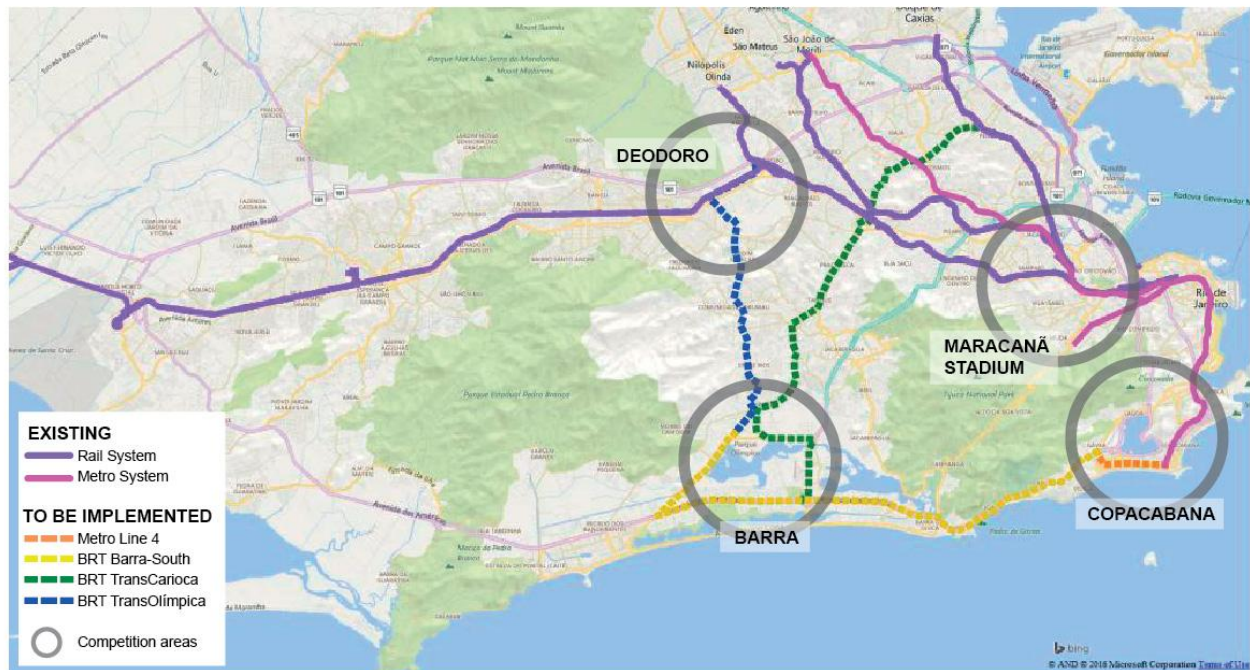


Copacabana Stadium on Copacabana Beach

Resource 13 for Question 4

Changes to public transport provision in Rio de Janeiro

PLANNED FOR THE 2016 OLYMPIC GAMES



IMPLEMENTED FOR THE 2016 OLYMPIC GAMES



Notes:

- **BRT: Bus Rapid Transit**
- **Metro: Subway system**

Resource 14 for Question 4**Commentary on the impacts of the 2016 Olympics on Rio de Janeiro**

A 2019 study by Brazil's Institute for Applied Economic Research (IPEA) concluded that the 2016 Rio Olympics had generally positive economic impacts on the city of Rio de Janeiro. Reportedly, without the Games, the city's gross domestic product (GDP) per capita would have been 7.5% lower in the period leading up to the event (2012 to 2015). However, some had doubts as to the extent to which the 2016 Rio Olympic Games had truly benefitted the city. According to an AP report, the Rio Olympics ended up costing \$13 billion.

The level of impact has also been unequal within the city. While the Games took place in four areas (Barra da Tijuca, Deodoro, Copacabana and Maracanã), 84% of the direct Games-related costs – roughly about US\$2.2 billion – was invested in Barra da Tijuca, an affluent neighbourhood in Rio de Janeiro where the main Olympic Park and the Olympic Village were installed. The consortium that built a large portion of the Olympic Park promised to turn 60 per cent of it to public use after the Games, while the rest of the land was reportedly meant to become high-end condominiums.

Critics also suggested that infrastructure built for the Rio Olympics, such as three new bus-rapid transit lines (BRTs), had come at a high price for some poorer residents. It was calculated that more than 60,000 people in the city lost their homes between 2009 and 2013. In 2009, 275 of 800 of the residents of Vila Autodromo, a favela located near Barra da Tijuca where the Olympic Park was to be built, were ordered to leave. Almost three-quarters of the families removed from their homes were rehoused under the federal government's flagship social housing programme, *Minha Casa Minha Vida*. While some of these residents were moved to housing estates near their original homes, more than 8,600 families had been moved to the city's West Zone, in some cases up to 60km away from the city centre. This has had a massive impact on residents' job opportunities and mental health.

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Copyright Acknowledgements:

Question 2 Resource 3	https://en.climate-data.org/asia/philippines/benguet/itogon-20187/		
Question 2 Resource 4	https://www.msn.com/en-us/news/us/philippines-landslide-dozens-feared-buried-in-itogon-benguet/ar-BBNrhBz		
Question 2 Resource 5	https://www.boholchronicle.com.ph/2018/03/06/2		
Question 2 Resource 6	https://www.theguardian.com/world/2018/sep/17/mangkut-leaves-death-destruction-and-chaos-from-philippines-to-china		
Question 3 Resource 8	https://link.springer.com/article/10.1007/s10784-018-9418-9		
Question 3 Resource 9	https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html		
Question 3 Resource 10	https://financialtribune.com/articles/energy/99129/iran-desalination-capacity-to-rise-by-300000-cubic-meters-per-day-by-2021		
Question 4 Resource 11	http://catcomm.org/wp-content/uploads/2014/06/leolima3.jpeg https://st.depositphotos.com/1832225/3599/i/950/depositphotos_35995607-stock-photo-brazilian-favela-in-rio-de-jpg		
Question	4	Resource	12
	https://theses.ubn.ru.nl/bitstream/handle/123456789/3956/Janssen%2C_Anke_1.pdf?sequence=1		
Question 4 Resource 13	https://collaboration.worldbank.org/content/sites/collaboration-for-development/en/groups/tod-cop/blogs.entry.html/2016/09/07/article_rio_olympic-NjRq.html		
Question 4 Resource 14	https://www.olympic.org/news/new-independent-study-confirms-games-provided-significant-economic-benefit-to-rio-de-janeiro https://www.businessinsider.sg/rio-olympics-financial-disaster-2017-6/		

https://www.washingtonpost.com/world/the_americas/the-favela-next-to-rios-new-olympic-park-that-fought-to-survive-and-lost/2016/08/01/fc8496ce-55c2-11e6-b652-315ae5d4d4dd_story.html
<https://www.independent.co.uk/news/world/americas/rio-2016-olympics-favela-shanty-towns-evicted-brazil-a7168221.html>
<https://www.theguardian.com/world/2015/oct/28/brazil-officials-evicting-families-2016-olympic-games>