Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel Level 3 GCE

Centre Number | Candidate Number

Thursday 11 June 2020

Afternoon (Time: 2 hours 15 minutes) | Paper Reference **9GE0/03**

Geography

Advanced
Paper 3

You must have:
Resource Booklet (enclosed)
Calculator, ruler

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- Calculators may be used.
- Any **calculations** must show all stages of **working out** and a **clear answer**.

Information

- The total mark for this paper is 70.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

- You are **advised** to spend the first **15 minutes** reading the Resource Booklet.
- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over

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Answer ALL questions. Write your answers in the spaces provided.

You must use the Resource Booklet provided and your own knowledge and understanding from across your course of study to answer the questions in this paper.

1 Explain the differences between colonial and neo-colonial mechanisms of maintaining power.

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(Total for Question 1 = 4 marks)

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2 (a) Table 1 below shows data for the level of development of the 38 members of the United Nations that are landlocked countries.

A Chi-squared test was used to establish if there is an association between being landlocked and the level of development. Two hypotheses were set up:

There is no significant association between the level of development and being landlocked.

Alternative hypothesis:

There is a significant association between the level of development and being landlocked.

(i) Using the formula and the data in Table 1 below calculate the value of χ^2

(2)

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Show your working.

χ^2 = ...

Level of development	Low human development	Medium human development	High human development	Very high human development
Observed	14	4	7	13
Expected	9.50	9.50	9.50	9.50
$(O-E)^2$	20.25	30.25	6.25	12.25
$(O-E)^2 / E$	2.13	3.18	0.66	1.29

Table 1

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(ii) To test the significance of this value for χ^2 the table below was used to determine which hypothesis should be accepted.

	90% significant (0.1)	95% significant (0.05)	99% significant (0.01)
Critical value	6.25	7.81	11.34

State the result of this test of significance.

(2)

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(b) Explain why the result you have reached for the χ^2 test in 2 (a)(ii) may not be a reliable guide to the relationship between a country being landlocked and its level of development.

(4)

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(Total for Question 2 = 8 marks)

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3 Study Figures 1, 2, 3a and 3b in Section A of the Resource Booklet.

Analyse the evidence that the trade profile of Latin America might hinder its development.

(8)

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(Total for Question 3 = 8 marks)

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4 Study Figure 4 and Figure 5 in Section A of the Resource Booklet.

Analyse the relationship between inequalities and the level of social and economic development.

(8)

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(Total for Question 4 = 8 marks)

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5 Study the resources in Section B of the Resource Booklet.

Evaluate the view that economic development based on natural resources inevitably leads to environmental degradation (destruction).

(18)

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(Total for Question 5 = 18 marks)

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You should have read the whole of the Resource Booklet, including Sections C and D, before attempting this question.

6 Evaluate the view that Latin American countries cannot develop whilst the USA remains the dominant global superpower.

(24)

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(Total for Question 6 = 24 marks)

TOTAL FOR PAPER = 70 MARKS

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Geography

Advanced

Paper 3

Resource Booklet

Do not return this Resource Booklet with the question paper.

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SECTION A

Political and economic dependence have been key features of the history of Latin (South and Central) America. Conquered by Spain and Portugal in the sixteenth century, most of the continent established its political independence by the 1820s.

However, the conquest of the Aztec and Inca empires of Latin America had reduced the indigenous population to the status of slaves.

The conquest led to a demographic disaster; the population collapsed from 40 million to 4 million by 1650. Black slaves from Africa helped make up the losses.

Spain and Portugal exploited the Americas for whatever natural resources they could find, for example the 'silver mountain' at Potosi in Bolivia. Thus, Latin America became a region supplying natural resources.

Figure 1 – South America showing national borders and capital cities

Independence, of a sort, did come to Latin America. The wars of independence were led by land owning elites against the colonial powers, Spain and Portugal. These were wars about gaining economic and political control.

Since gaining independence, the newly formed nations have largely relied on exporting raw and semi-processed materials rather than developing manufacturing industries.

Figure 2 – Countries of Latin America showing their most important export by value, in 2018

Top 5 Exports from Latin America to the rest of the world	Value in US$ billion	Top 5 imports to Latin America from the rest of the world	Value in US$ billion
Crude oil	39	Refined oil	44
Copper ore	25	Integrated circuits	18
Soya beans	25	Automobiles	16
Automobiles	24	Electrical transmission equipment	11
Gold	18	Medicines	10

Figure 3a – Latin America's five most valuable exports and imports in 2016

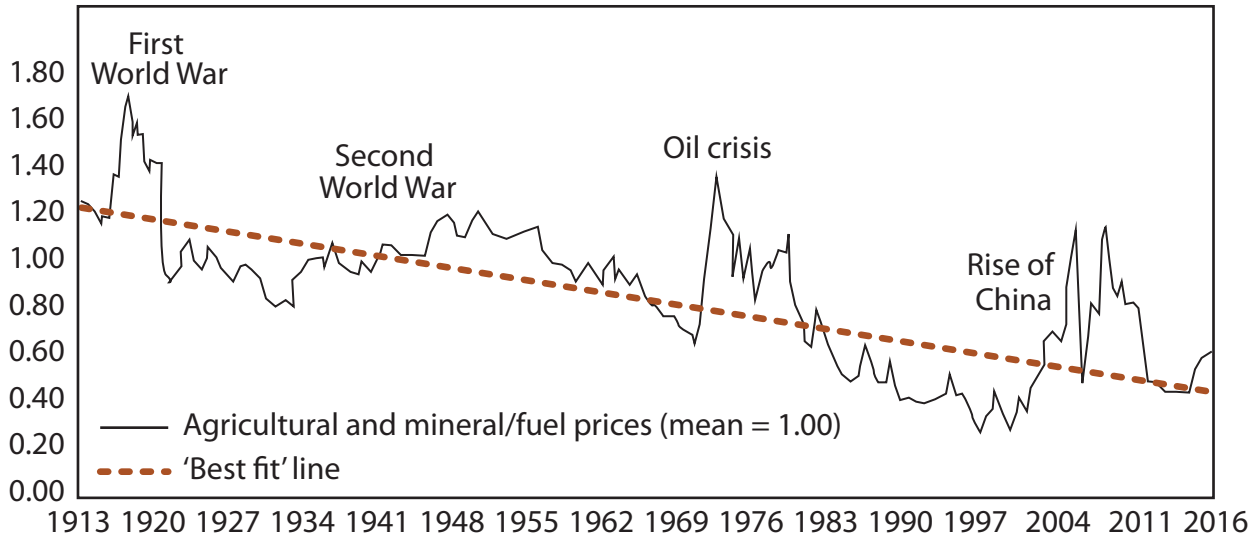


Figure 3b – The changes in global prices for agricultural and mineral/fuel products, 1913–2016

Perhaps one of the most significant issues for Latin America continues to be the unequal distribution of income. One of the most obvious causes of this is the unequal distribution of land ownership (see Figures 4 and 5).

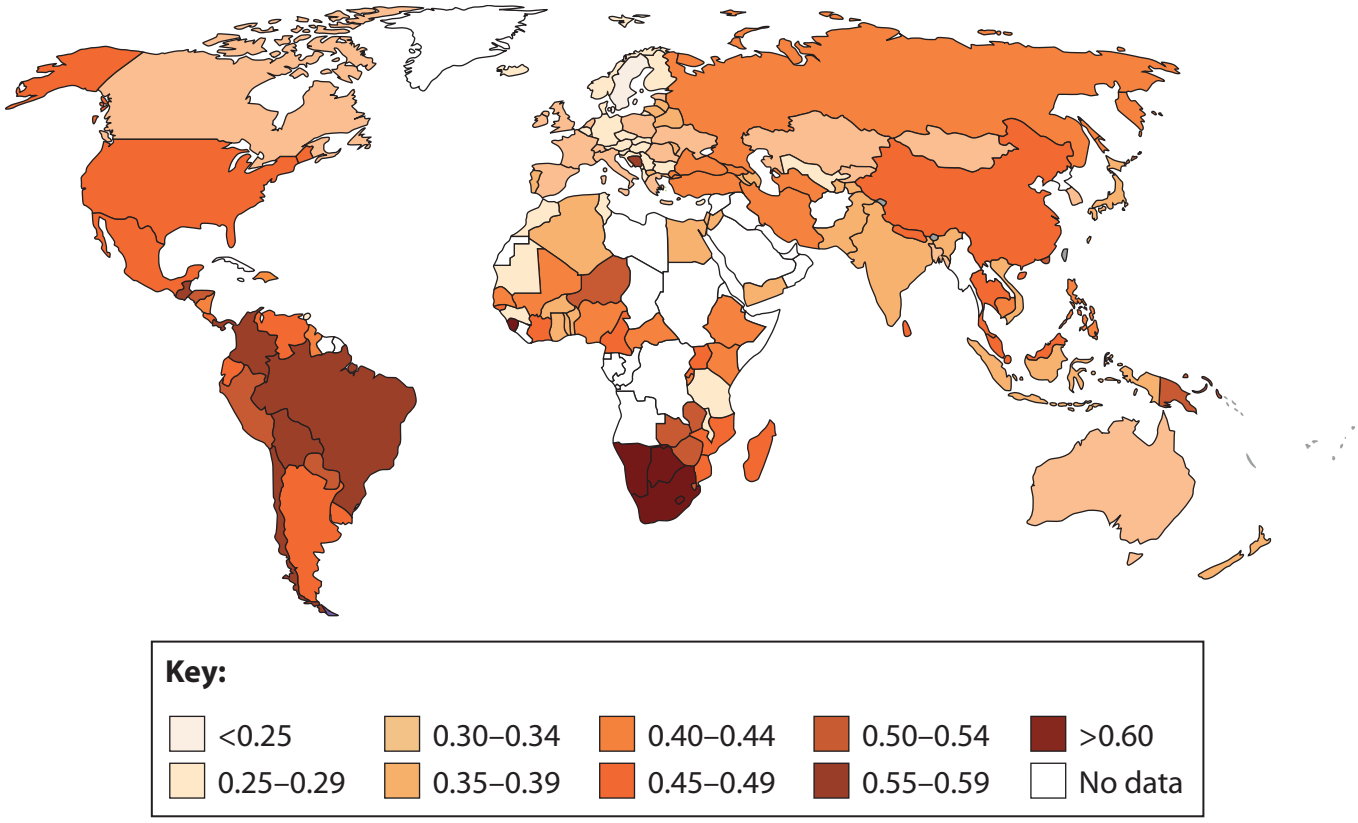


Figure 4 – Global variations in the Gini Coefficient for income (larger numbers = more unequal income distribution)

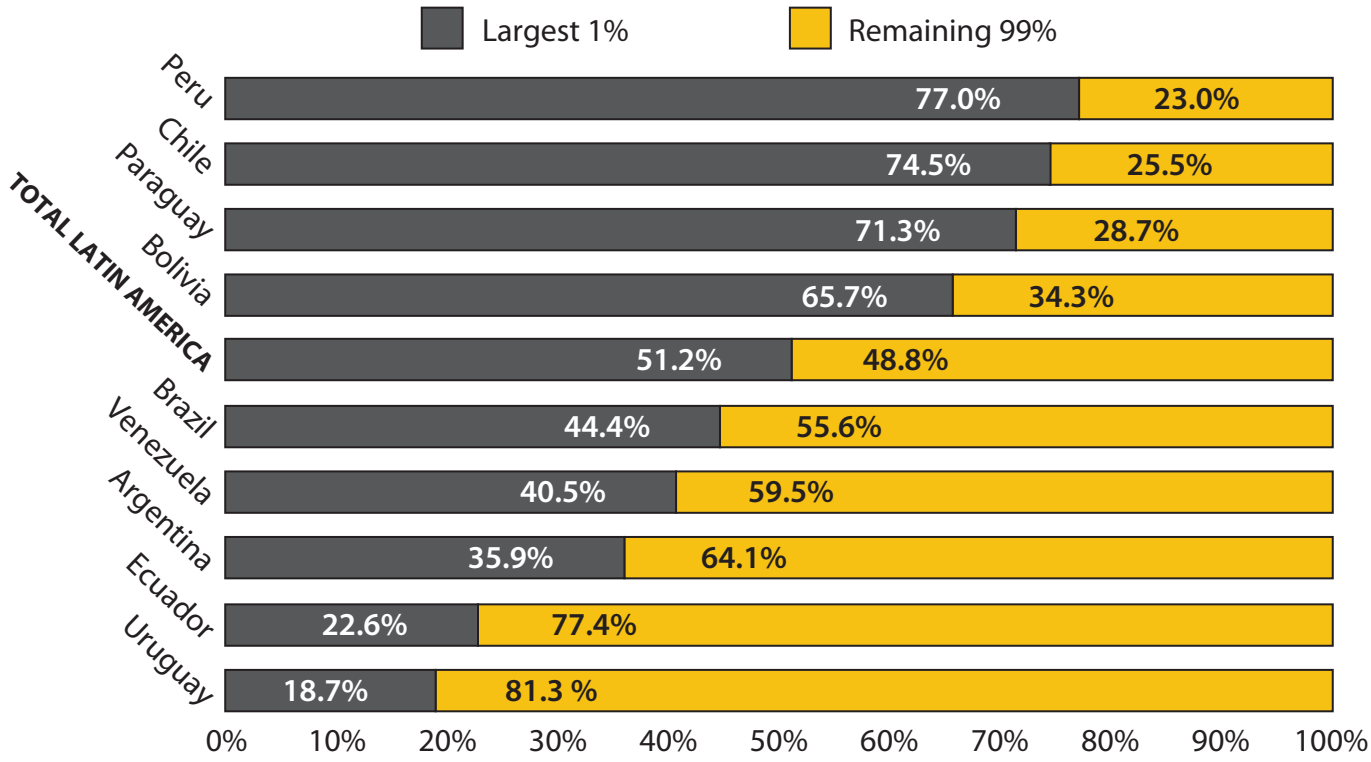


Figure 5 – Land distribution in selected Latin American countries showing the percentage of land owned by the largest 1% of landowners compared with the other 99%

SECTION B

Environmental Impacts

Countries that rely on exporting raw materials have a significant impact on their environments. Latin America has some of the most fragile and threatened ecosystems on the planet.

Globally, land use change (mainly deforestation) is the second largest source of anthropogenic CO_2 emissions. This causes a net reduction of carbon storage in terrestrial ecosystems as well as biodiversity loss.

Central and South America is the global region with the highest net carbon emissions resulting from land use change (see Figure 6).

These land use changes are both a direct impact of previously forested land being turned into commercial farmland and mining areas and an indirect impact as landless peasant farmers are displaced into forested environments.

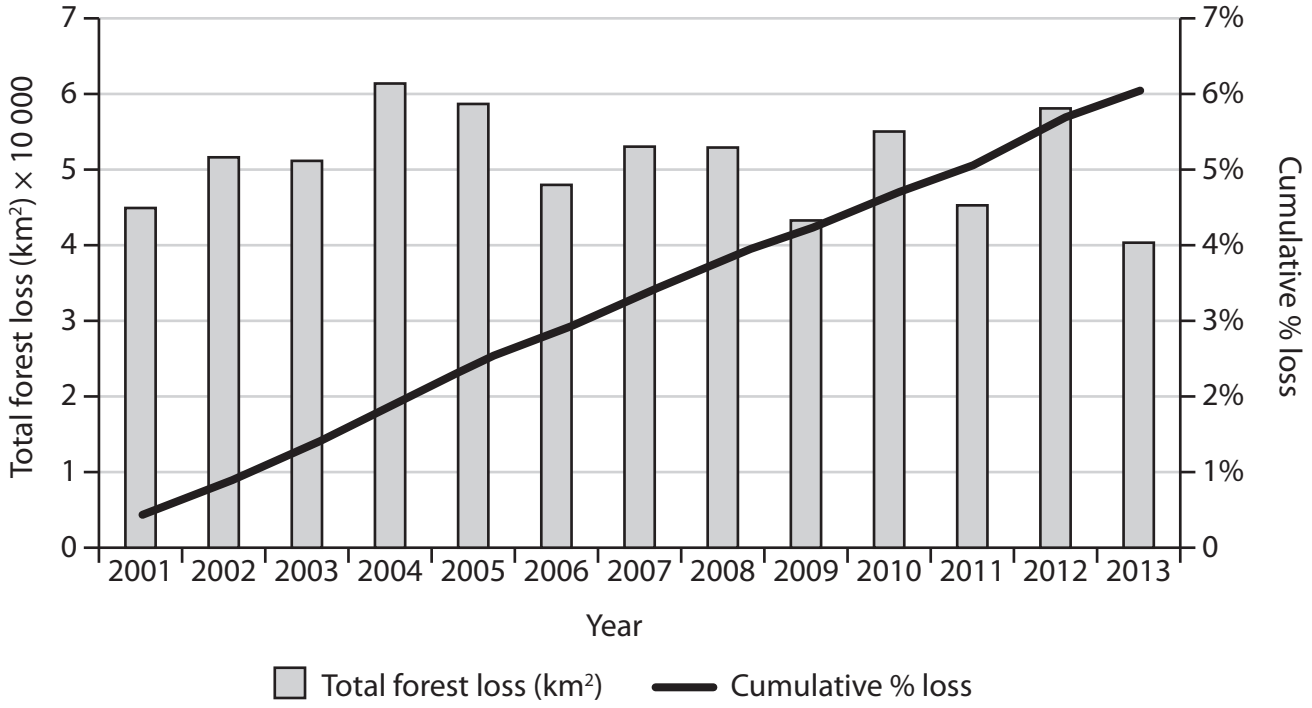


Figure 6 – Total forest loss and cumulative forest loss in Latin America, 2001–2013

Figure 7 – The impact of climate change on Latin America, 2018

SECTION C

Still the 'backyard'?

Since the Second World War the USA has been the dominant neo-colonial power in Latin America. Dismissively regarded as the 'backyard', the whole continent has been subjected to numerous interventions from its rich and powerful northern neighbour.

From 1898 to 2016, the US government has intervened successfully to change governments in Latin America at least 56 times (see Figure 8). These interventions involved the use of US military forces, the Central Intelligence Agency (CIA) or local citizens employed by US government agencies.

In both the United States and Latin America, economic interests are often seen as the underlying cause of US interventions.

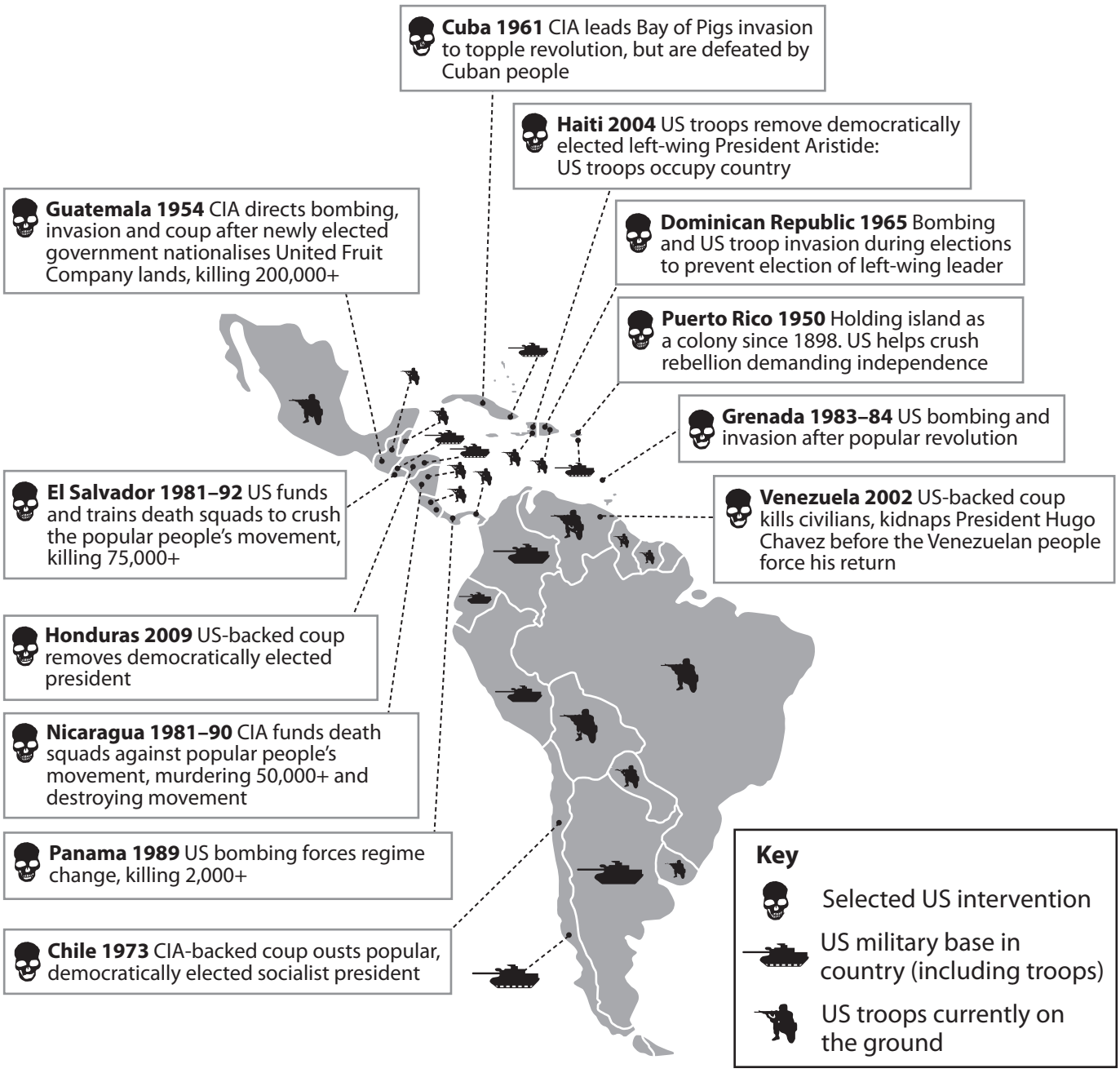


Figure 8 – Examples of United States interventions in Latin America

SECTION D

Bolivia – both challenged and challenging

Landlocked and challenged by its geography Bolivia has long been one of the poorest, and most divided, countries in Latin America (see Figure 9).

Although landlocked, Bolivia has a claim to be the most environmentally diverse country in the world.

It has glaciers in the Andean cordilleras (ranges), a cold and windswept Altiplano (high plain), a temperate rainforest of the Valles Yungas and a tropical rainforest and savannah in the eastern lowlands.

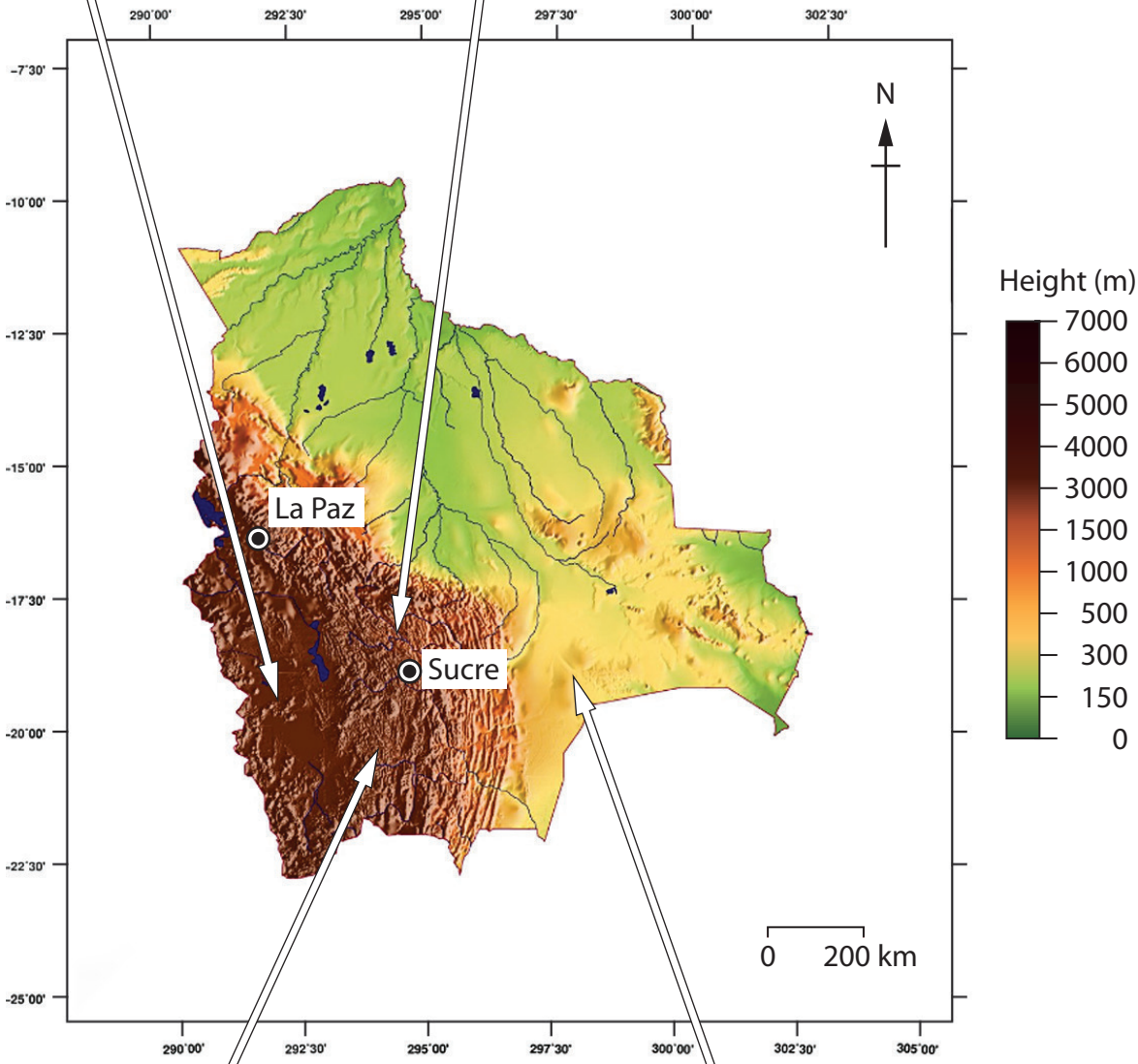
With a population of 10 million in a country that is about 1 million km^2 it is very lightly populated. The highest densities are in and around the main cities of La Paz and Sucre on the Altiplano.

It is the only Latin American country with a majority of indigenous (native) people. Most live on the Altiplano as subsistence farmers growing a variety of cash crops, including coca. This is chewed as a leaf throughout the Andean region but also the key ingredient for cocaine; a target for the US government's 'War on Drugs'.

Bolivia was best known to Europeans for Cerro Rico (silver mountain) at Potosi exploited by the Spanish for 300 years. Potosi silver funded Spain's power but the mines were worked by enslaved indigenous peoples.

The Altiplano at 4000 metres with the Western Cordillera of the Andes in the distance

The so-called 'Death Road' in the Valles Yungas, the only route between the Altiplano and Santa Cruz in the tropical lowlands



Cerro Rico (Silver mountain) at Potosi

Land cleared for soya in the Santa Cruz region

Figure 9 – Views of Bolivia

In 2005, after successive governments dominated by the ethnically European land owning elite, Evo Morales became president. He was the first indigenous American to be elected on the continent. He symbolically renamed the country as the 'Plurinational Republic of Bolivia'.

Morales was elected twice more. In 2014, he received 61% of the total vote even winning the lowland 'conservative' and ethnically European state of Santa Cruz. However in 2019 he lost power in a disputed election and the future direction of Bolivia is uncertain.

Previously the economic history of Bolivia was based on the extraction and production of resources for export; successively silver, tin, gas, soya and most recently lithium.

In power, Morales was an anti-imperialist and tried to develop Bolivia in ways that opposed the free-market version of globalisation. He undertook modest land reform, raised corporate taxes and partly nationalised the gas industry. He used this money to address the low levels of social development on the Altiplano (see Figure 10).

In doing so he alienated the wealthy elite, deprived of power since his election and some foreign governments (especially the United States) but he also found it difficult to keep his own supporters happy with what they saw as the slow pace of reform.

He sought to build external relations with emerging countries that have used 'soft' power to extend their influence in both Africa and Latin America, most notably China and South Korea.

Lithium is found in globally important quantities on the Altiplano. Lithium batteries are key to the development of electric cars. Ideally Bolivia would develop both the batteries, and even the cars, in a joint project with transnational corporations (TNCs), needed for their expertise and investment.

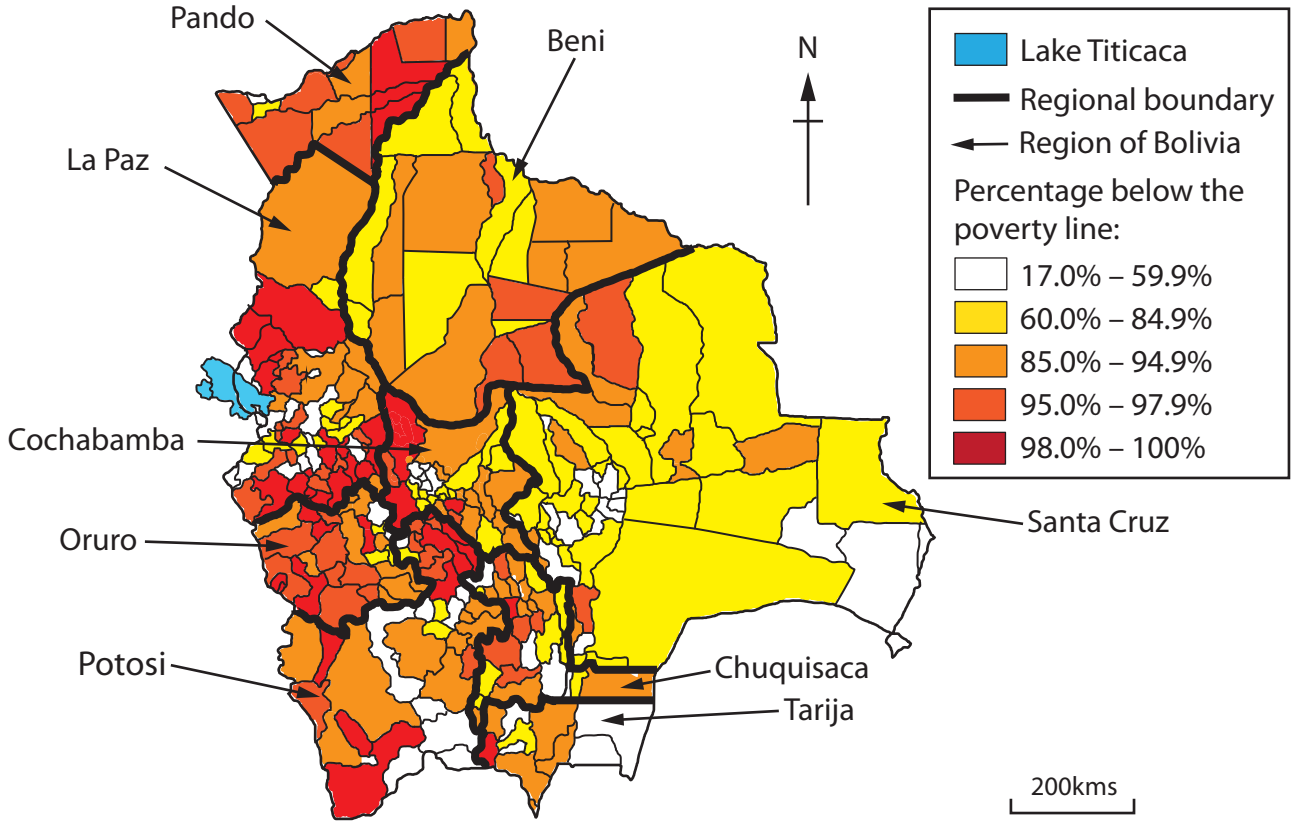


Figure 10 – The pattern of poverty in Bolivia and its regions

Another significant project is a proposed 'ocean-to-ocean' rail line from the Pacific to the Atlantic funded by the Chinese, German and French governments and backed by the Bolivian government.

This project concerns both environmentalists and human rights groups. Many argue that the proposed route will damage the Amazonian ecosystem and negatively affect vulnerable indigenous communities both socially and culturally.

Figure 11 – The planned ocean to ocean rail route connecting Bolivia to both oceans

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Pearson Education Ltd. gratefully acknowledges all following sources used in preparation of this paper:

Figure 1: https://www.ezilon.com/maps/south-american-continent-maps.html

Figure 2: https://www.visualcapitalist.com/wp-content/uploads/2018/02/top-export-every-country-map.html

Figure 3b: adapted from https://www.itau.com.br/itaubba-en/economic-analysis/publications/macro-vision/commodities-in-a-secular-decline-are-we-back-to-the-trend

Figure 4: http://www.geocurrents.info/economic-geography/difficulties-calculating-inequality-and-the-gini-coefficient

Figure 5: https://slideplayer.com/slide/12803918/ (Slide 4)

Figure 6: https://www.cbd.int/gbo/gbo4/outlook-grulac-en.pdf

Figure 7: https://environmentalmigration.iom.int/maps

Figure 8: https://www.pinterest.co.uk/pin/234539093070934658

Figure 9: https://www.mapsofworld.com/physical-map/bolivia-physical-map.html

Figure 10b: https://www.bcb.gob.bo/eeb/sites/default/files/9eeb/archivos/Jueves/402/Factores%20climaticos%20asociados%20al%20analisis%20de%20la%20pobreza%20en%20Bolivia%20Datos%20de%20corte%20transversal%20-%202012.pdf (page 36)

Figure 11: https://www.telesurenglish.net/news/Bolivia-Brazil-Paraguay-Peru-Agree-on-Framework-for-South-Americas-Bi-Oceanic-Railway-20180616-0004.html