OXFORD
UNIVERSITY PRESS

ASPIRE
SUCCEED
PROGRESS

Complete Geography

for Cambridge IGCSE® & O Level

Second Edition

David Kelly
Muriel Fretwell

Oxford excellence for Cambridge IGCSE® & O Level

OXFORD
UNIVERSITY PRESS

OXFORD
UNIVERSITY PRESS

Great Clarendon Street, Oxford, OX2 6DP, United Kingdom

Oxford University Press is a department of the University of Oxford. It furthers the University's objective of excellence in research, scholarship, and education by publishing worldwide. Oxford is a registered trade mark of Oxford University Press in the UK and in certain other countries

First edition published 2012
This edition published 2018

British Library Cataloguing in Publication Data

Data available

ISBN 978-0-19-842495-6

1 3 5 7 9 10 8 6 4 2

Paper used in the production of this book is a natural, recyclable product made from wood grown in sustainable forests. The manufacturing process conforms to the environmental regulations of the country of origin.

Printed in the UK by Bell & Bain Ltd.

Acknowledgements

The publishers would like to thank the following for permissions to use their photographs:

Cover: imageBROKER/Alamy Stock Photo; Dennis Hallinan/Alamy Stock Photo; 4kodiak/iStockphoto; Bartosz Hadyniak/iStockphoto; R. Fassbind/Shutterstock; nikkytok/Shutterstock.
p1: OUP/Photodisc; **p11**: Mike Goldwater/Alamy Stock Photo; **p13:** Tim Graham/Alamy Stock Photo; **p15:** Sean Sprague; **p18(b):** John Moore/Getty Images; **p18(t):** Bloomberg/Getty Images; **p34:** ssguy/Shutterstock; **p36:** Susan Montgomery/Shutterstock; **p38:** Joe Doylem/Alamy Stock Photo; **p43:** Friedrich Stark/Alamy Stock Photo; **p50(t):** Marco Cristofori/Getty Images; **p50(b):** Paulo Fridman/Getty Images; **p56(tl):** OUP/Corel; **p56(tr):** OUP/Digital Vision; **p58(t):** OUP/Image Source; **p62(l):** OUP/James Hardy/PhotoAlto; **p62(r):** OUP/Robert Stainforth; **p68:** OUP/Photodisc; **p69(tl):** Dinodia Photos/Alamy Stock Photo; **p69(b):** Daniel Berehulak/Getty Images; **p69(tr):** Fredrik Renander/Alamy Stock Photo; **p70(t):** Adrian Fisk; **p70(b):** Punit Paranjpe/Reuters; **p71:** Fly Fernandez/Getty Images; **p72:** SEBASTIAN D'SOUZA/Getty Images; **p73(l):** SEBASTIAN D'SOUZA/Getty Images; **p73(r):** Bloomberg/Getty Images; **p74:** OUP/Photodisc; **p75(t, b):** OUP/Photodisc; **p76(l, r):** OUP/Photodisc; **p77(l):** OUP/Digital Vision; **p77(r):** OUP/Fuse; **p78(l):** OUP/Keith Levit; **p78(l, tr, br):** OUP/Photodisc; **p79:** OUP/Photodisc; **p80:** OUP/FOTOG; **p81(t, b):** OUP/Photodisc; **p82(m):** Peter Adams Photography Ltd/Alamy Stock Photo; **p85:** Bloomberg/Getty Images; **p86:** OUP/Photodisc; **p89:** Tim Clayton - Corbis/Getty Images; **p93:** OUP/Photodisc; **p94(bl):** OUP/Photodisc; **p95(b):** OUP/Photodisc; **p104:** Bloomberg/Getty Images; **p107:** OUP/Photodisc; **p109(t):** imageBROKER/Alamy Stock Photo; **p113(b):** PETER BOWATER/SCIENCE PHOTO LIBRARY; **p122:** Asianet-Pakistan/Alamy Stock Photo; **p124(t):** Andrew Findlay Alamy Stock Photo; **p124(b):** Rafael Garea-Balado/Alamy Stock Photo; **p125(t):** Global Warming Images/Alamy Stock Photo; **p125(b):** © chrisstockphotography/Alamy Stock Photo; **p142(br):** Dan Burton Photo/Alamy Stock Photo; **p157:** OUP/Corbis; **p163(l):** OUP/Photodisc; **p163(tr):** sciencephotos/Alamy Stock Photo; **p163(br):** Hornbil Images/Alamy Stock Photo; **p164:** OUP/John Cartwright; **p165(l):** Hugh Threlfall/Alamy Stock Photo; **p165(r):** David J. Green - technology/Alamy Stock Photo; **p167:** jan suttle/Alamy Stock Photo; **p168(t):** GIPhotoStock X/Alamy Stock Photo; **p168(b):** Peter Jordan_EU/Alamy Stock Photo; **p174(tr):** Getty Images/Photodisc; **p178:** NASA; **p180:** NASA; **p197(t):** OUP/Photodisc; **p202(l):** Martin Harvey/Getty Images; **p202(tr):** Frans Lanting Studio/Alamy Stock Photo; **p202(br):** nelzajamal/Shutterstock; **p203:** Photofusion Picture Library/Alamy Stock Photo; **p204(t):** KSTFoto/Alamy Stock Photo; **p210(t):** imageBROKER/Alamy Stock Photo; **p210(bl):** Bildagentur-online/Begsteiger/Alamy Stock Photo; **p210(br):** blickwinkel/Alamy Stock Photo; **p212:** adrian arbib/Alamy Stock Photo; **p213(t):** Aurora Photos/Alamy Stock Photo; **p213(b):** NASA; **p214(t):** adrian arbib/Alamy Stock Photo; **p214(b):** Jim West/Alamy Stock Photo; **p216:** Shutterstock; **p218(t, b):** Shutterstock; **p219:** Shutterstock; **p220(tl, tr, bl, br):** Shutterstock; **p223(l):** Shutterstock; **p223(r):** Shutterstock; **p224:** Volkswagen Group; **p229:** Ant Clausen/Shutterstock; **p232(t, l, mr):** OUP/Photodisc; **p232(br):** Horizon International Images Limited/Alamy Stock Photo; **p233:** OUP/Clearviewstock; **p235:** OUP/Photodisc; **p239**: Shutterstock; **p240:** Worldwide Picture Library/Alamy Stock Photo; **p241(t, b):** OUP/Photodisc; **p242:** Tyler Olson/Alamy Stock Photo; **p244:** Neil Cooper/Alamy Stock Photo; **p255:** OUP/Photodisc; **p258:** OUP/Digital Vision; **p259(t):** Aerial Archives/Alamy Stock Photo; **p259(b):** Dave Porter/Alamy Stock Photo; **p260:** Visions of America, LLC/Alamy Stock Photo; **p261(t):** Dorling Kindersley ltd/Alamy Stock Photo; **p261(b):** Iain Masterton/Alamy Stock Photo; **p262:** OUP/Photodisc; **p268:** Dave Pratt/PA Archive/PA Images; **p272:** Hemis/Alamy Stock Photo; **p273:** David Cumming/Getty Images; **p274(t):** Rolf Richardson/Alamy Stock Photo; **p277:** khd/Shutterstock; **p280(t):** OUP/Photodisc; **p280(m):** OUP/Digital Vision; **p280(b):** OUP/Tips Italia RF; **p281(l):** OUP/White; **p281(r):** OUP/Photodisc; **p282:** OUP/Stockbyte; **p284:** Paul Glendell/Alamy Stock Photo; **p285:** Earl & Nazima Kowall/Getty Images; **p288:** OUP/Nick Dolding; **p289:** OUP/Photodisc; **p290:** Ashley Cooper/Getty Images; **p292(t):** WIS Bernard/Getty Images; **p292(b):** Geof Kirby/Alamy Stock Photo; **p293:** CHRISTIAN RIZZI/Getty Images; **p295:** Mohsen Shandiz/Getty Images; **p296:** Prisma by Dukas Presseagentur GmbH/Alamy Stock Photo; **p297:** Régis BOSSU/Getty Images; **p298:** LOOK Die Bildagentur der Fotografen GmbH/Alamy Stock Photo; **p303(t):** Friedrich Stark/Alamy Stock Photo; **p303(b):** Friedrich Stark/Alamy Stock Photo; **p304:** Corbis RF/Alamy Stock Photo; **p330:** Dorothy Burrows/LGPL/Alamy Stock Photo.

40, 41, 45, 46(l, r), 47, 55(t, l, r), 56(bl), 57(t, b), 58(b), 82(t, b), 83, 84, 97(t), 100, 102, 109(b), 110, 111(t, m, b), 112, 113(t, m), 114, 115, 120(t), 147, 156(t, m), 230(l, r), 230(r), 246, 310(b), 312(bl), 313(1, 3), 314(r), 321(t), 323(tl, tr, ml, mr, bl ,br), reproduced with permission from David Kelly.

56(br), 94(t, br), 95(t), 96, 97(bl, br), 126, 129(t, b), 131(l, r), 132, 133(tl, tr, br), 134(t, m), 135, 136(tl, tr, br), 137(tl, tr, bl), 138, 140(t, b), 141, 142(bl, tr), 143, 144(t, m, b), 145, 146(l, r), 148(l, r), 149(t, b), 150(t, b), 151(l, r), 154, 156(t, m, b), 169, 170(tl, tr), 170(ml, mr, bl, br), 171(tl, tr, bl, br), 172(ml, mr, bl, br), 174, 185, 186, 191, 194, 196, 197(b), 198, 199(t, b), 200, 204(b), 205, 206, 207(tl, tr, bl, br), 208, 209(tl, tr, bl, br), 211, 215(t, b), 247, 252, 266(tl, tr, bl, br), 267(tl, m, tr, bl, br), 269(l, r), 270(tl, tr, m, bl, br), 271, 274(b), 275, 276(t, m b), 287, 332, 347, reproduced with permission from Muriel Fretwell.

Ordnance Survey maps reproduced with permission of Ordnance Survey. Illustrations are by: Barking Dog Art and Thomson Inc.

The publishers are grateful to the following for permission to reproduce copyright material:

Enerdata for map of 'Global Total Energy Consumption' in *Global Energy Statistical Yearbook 2017*, https://yearbook.enerdata.net/total-energy/world-consumption-statistics.html

Global Wind Energy Council (GWEC) for graph of world wind power generating capacity at www.gwec.net

World Tourism Organization (UNWTO) for extracts from table 'The top ten countries for tourist arrivals in 2016' in *UN Tourism Highlights 2017*, copyright © UNWTO, 92844/56/17.

World Trade Organization for graph 'The growth in world trade between 2005 and 2015' in *International Trade Statistics 2015*, copyright © World Trade Organization 2015.

Although we have made every effort to trace and contact all copyright holders before publication this has not been possible in all cases. If notified, the publisher will rectify any errors or omissions at the earliest opportunity.

Links to third party websites are provided by Oxford in good faith and for information only. Oxford disclaims any responsibility for the materials contained in any third party website referenced in this work.

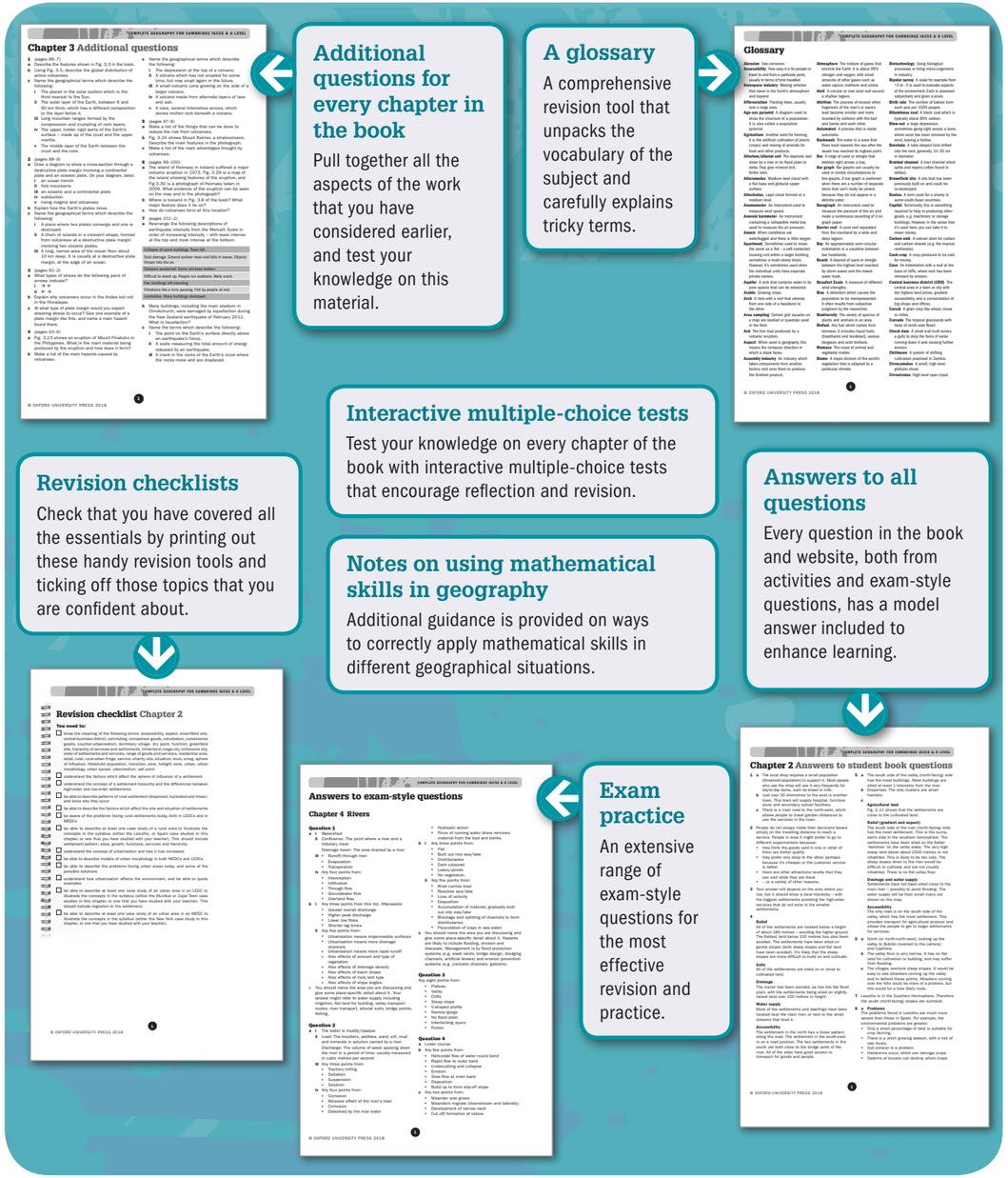
IGCSE® is the registered trademark of Cambridge Assessment International Education. All examination-style questions and answers within this publication have been written by the authors. In examination, the way marks are awarded may be different.

Contents

Answers, mark schemes and additional exam tips can be found on your free support website. Access the support website here: www.oxfordsecondary.com/9780198424956

What's on the support website?

Welcome to your Geography course. The material on the support website has been specially written to support your learning. On this page you can see what you will find on the website. Everything in the book and website has been designed to help you prepare for your examination and achieve your best.



Introduction

The purpose of this book is to prepare you for Cambridge IGCSE® (0460 and 0976) and Cambridge O Level (2217) Geography. It is intended to provide you with a good preparation for studying geography at a higher level.

- **Chapters 1-11** provide the knowledge and understanding needed for IGCSE® and O Level Paper 1 (Geographical Themes) and Paper 2 (Geographical Skills).
- **Chapter 12** provides preparation in the skills and analysis needed for Paper 2 (Geographical Skills).
- **Chapter 13** provides preparation in the investigative skills needed for IGCSE® Component 3 (Coursework) or Paper 4 (Alternative to Coursework), and O Level Paper 3 (Geographical Investigations).

This book provides an active approach to the subject, with questions for you to answer and tasks for you to do both within and at the end of each chapter. Specimen answers to all of the questions can be found on the accompanying website.

The final part of each question on the Cambridge IGCSE® and O Level Paper 1 asks you to describe an example that you have studied in detail – a case study. Each chapter contains case studies to help you answer these questions. You may, of course, choose to do different case studies that are more relevant to the area where you live.

As well as answers to all of the questions in the book, the accompanying website also contains:

- a full glossary of key words related to each chapter
- additional questions based on the material in the book (some of them interactive)
- additional Cambridge IGCSE® and O Level exam-style questions, which you can print off.

A note about terms

This book uses the terms 'more economically developed countries' (MEDCs) and 'less economically developed countries' (LEDCs). These terms are often referred to in examination questions. This classification is used throughout the book but it must be remembered that there is no generally accepted, up-to-date definition of these terms and not all countries are easy to classify.

Two other terms used throughout the book – which often cause confusion – are *physical* and *human* when referred to in geography. Physical geography is the natural features of relief, drainage and vegetation, while human geography covers non-natural features such as settlement, agriculture, industry and transport.

CAIE syllabus matching grid

Matching grid for Cambridge IGCSE® syllabuses 0460 and 0976, and Cambridge O Level syllabus 2217, for examination from 2020.

Syllabus section	Student Book
Theme 1: Population and settlement	
1.1 Population dynamics	Chapter 1
• Describe and give reasons for the rapid increase in the world's population	Pages 2–5
• Show an understanding of over-population and under-population	Pages 7–9
• Understand the main causes of a change in population size	Pages 6–7, 10–12
• Give reasons for contrasting rates of natural population change	Pages 10–12
• Describe and evaluate population policies	Pages 12–17
Case studies	
• A country which is over-populated	Page 9
• A country which is under-populated	Page 9

Syllabus section	Student Book
• A country with a high rate of natural population growth	Pages 11–12
• A country with a low rate of population growth (or population decline)	Pages 16, 17
1.2 Migration	Chapter 1
• Explain and give reasons for population migration	Pages 17–18
• Demonstrate an understanding of the impacts of migration	Pages 19–23
Case study	
• An international migration	Pages 19–23
1.3 Population structure	Chapter 1
• Identify and give reasons for and implications of different types of population structure	Pages 24–26
Case study	
• A country with a high dependent population	Pages 26–29
1.4 Population density and distribution	Chapter 1
• Describe the factors influencing the density and distribution of population	Pages 29–33
Case studies	
• A densely populated country or area (at any scale from local to regional)	Page 31
• A sparsely populated country or area (at any scale from local to regional)	Pages 31–33
1.5 Settlements (rural and urban) and service provision	Chapter 2
• Explain the patterns of settlement	Page 39
• Describe and explain the factors which may influence the sites, growth and functions of settlements	Pages 40–42
• Give reasons for the hierarchy of settlements and services	Pages 35–38
Case study	
• Settlement and service provision in an area	Pages 43–47
1.6 Urban settlements	Chapter 2
• Describe and give reasons for the characteristics of, and changes in, land use in urban areas	Pages 55–60
• Explain the problems of urban areas, their causes and possible solutions	Pages 61–66
Case study	
• An urban area or urban areas	Pages 64–66
1.7 Urbanisation	Chapter 2
• Identify and suggest reasons for rapid urban growth	Pages 48–52
• Describe the impacts of urban growth on both rural and urban areas, along with possible solutions to reduce the negative impacts	Pages 67–74
Case study	
• A rapidly growing urban area in a developing country and migration to it	Pages 69–73
Theme 2: The natural environment	
2.1 Earthquakes and volcanoes	Chapter 3
• Describe the main types and features of volcanoes and earthquakes	Pages 88–95
• Describe and explain the distribution of earthquakes and volcanoes	Pages 86–87

Syllabus section	Student Book
• Describe the causes of earthquakes and volcanic eruptions and their effects on people and the environment	Pages 88–92, 101–102
• Demonstrate an understanding that volcanoes present hazards and offer opportunities for people	Pages 95–97
• Explain what can be done to reduce the impacts of earthquakes and volcanoes	Pages 96, 102
Case studies	
• An earthquake	Pages 103–105
• A volcano	Pages 99–100
2.2 Rivers	Chapter 4
• Explain the main hydrological characteristics and processes which operate in rivers and drainage basins	Pages 108–116
• Demonstrate an understanding of the work of a river in eroding, transporting and depositing	Pages 108–116
• Describe and explain the formation of the landforms associated with these processes	Pages 108–116
• Demonstrate an understanding that rivers present hazards and offer opportunities for people	Pages 117–120
• Explain what can be done to manage the impacts of river flooding	Page 119
Case study	
• The opportunities presented by a river or rivers, the associated hazards and their management	Pages 121–125
2.3 Coasts	Chapter 5
• Demonstrate an understanding of the work of the sea and wind in eroding, transporting and depositing	Pages 127–132
• Describe and explain the formation of the landforms associated with these processes	Pages 132–137, 140–144
• Describe coral reefs and mangrove swamps and the conditions required for their development	Pages 143–144, 150–151
• Demonstrate an understanding that coasts present hazards and offer opportunities for people	Pages 138, 152
• Explain what can be done to manage the impacts of coastal erosion	Page 139
Case study	
• The opportunities presented by an area or areas of coastline, the associated hazards and their management	Pages 151, 153–156
2.4 Weather	Chapter 6
• Describe how weather data are collected	Pages 159–165, 167–175
• Make calculations using information from weather instruments	Pages 160–162
• Use and interpret graphs and other diagrams showing weather and climate data	Pages 166–167
2.5 Climate and natural vegetation	Chapter 7
• Describe and explain the characteristics of two climates: equatorial	Pages 187–191
• Describe and explain the characteristics of two climates: hot desert	Pages 191–197
• Describe and explain the characteristics of tropical rainforest and hot desert ecosystems	Pages 198–201, 208–210
• Describe the causes and effects of deforestation of tropical rainforest	Pages 202–205
Case studies	
• An area of tropical rainforest	Pages 201–208
• An area of hot desert	Page 211

Syllabus section	Student Book
Theme 3: Economic development	
3.1 Development	Chapter 8
• Use a variety of indicators to assess the level of development of a country	Page 217
• Identify and explain inequalities between and within countries	Pages 218–219
• Classify production into different sectors and give illustrations of each	Page 220
• Describe and explain how the proportions employed in each sector vary according to the level of development	Pages 221–222
• Describe and explain the process of globalisation, and consider its impacts	Pages 222–223
Case study	
• A transnational corporation and its global links	Pages 225–228
3.2 Food production	Chapter 9
• Describe and explain the main features of an agricultural system: inputs, processes and outputs	Pages 230–248
• Recognise the causes and effects of food shortages and describe possible solutions to this problem	248–251
Case studies	
• A farm or agricultural system	Pages 233–235, 238–242, 244–248
• A country or region suffering from food shortages	Page 251
3.3 Industry	Chapter 10
• Demonstrate an understanding of an industrial system: inputs, processes and outputs (products and waste)	Pages 253–254, 256–257
• Describe and explain the factors influencing the distribution and location of factories and industrial zones	Pages 254–255, 257–261
Case study	
• An industrial zone or factory	Pages 258–261
3.4 Tourism	Chapter 10
• Describe and explain the growth of tourism in relation to the main attractions of the physical and human landscape	Pages 266–269
• Evaluate the benefits and disadvantages of tourism to receiving areas	Pages 269–274
• Demonstrate an understanding that careful management of tourism is required in order for it to be sustainable	Pages 269–276
Case study	
• An area where tourism is important	Pages 269–276
3.5 Energy	Chapter 11
• Describe the importance of non-renewable fossil fuels, renewable energy supplies, nuclear power and fuelwood; globally and in different countries at different levels of development	Pages 278–285
• Evaluate the benefits and disadvantages of nuclear power and renewable energy sources	Pages 285–298
Case study	
• Energy supply in a country or area	Pages 296–298

Syllabus section	Student Book
3.6 Water	Chapter 11
• Describe methods of water supply and the proportions of water used for agriculture, domestic and industrial purposes in countries at different levels of economic development	Pages 299–300
• Explain why there are water shortages in some areas and demonstrate that careful management is required to ensure future supplies	Pages 300–301
Case study	
• Water supply in a country or area	Pages 302–303
3.7 Environmental risks of economic development	Chapters 2, 6, 7, 9, 10, 11
• Describe how economic activities may pose threats to the natural environment and people, locally and globally	Pages 67–73, 179–185, 201–205, 206–208, 261–263
• Demonstrate the need for sustainable development and management	Pages 183–184, 205, 208, 212–215, 236–237, 263–265
• Understand the importance of resource conservation	Pages 183–184, 205, 208, 236–237
Case study	
• An area where economic development is taking place and causing the environment to be at risk	Pages 69–73, 182–185, 201–205, 206–208, 212–215, 238–242, 262–263, 266, 272–274, 296–298
Mathematical skills in geography	Throughout the book and on the support website
Geographical skills (needed for Cambridge IGCSE® and O Level Paper 2)	Chapter 12
Coursework and geographical investigations skills (needed for Cambridge IGCSE® Component 3/Paper 4, and O Level Paper 3)	Chapter 13

8 Development

This chapter covers the following Cambridge IGCSE® and O Level topics:

- **3.1 Development**

- What are More Economically Developed Countries (MEDCs) and Less Economically Developed Countries (LEDCs)?
- Why do people in some parts of the world live in extreme poverty while others are very rich?
- How can economic development be measured?
- How do people's jobs change as a country becomes more developed?
- What is globalisation?
- What are transnational corporations and how do they affect our lives?

In this chapter you will learn about:

- the ways that the lives of people in different countries are not equal and how these inequalities can be measured
- how these inequalities have occurred
- the different types of jobs that people do and how they are classified
- how globalisation has affected people's lives in wealth and employment, culture, communication and migration
- the giant companies known as transnational corporations (TNCs).

LEARNING TIP The terms More Economically Developed Country (MEDC), Less Economically Developed Country (LEDC), and Newly Industrialised Country (NIC) are not in the Cambridge syllabus but they are used in Cambridge examination questions. There are no modern definitions of these terms but they are useful when used in a general way. MEDCs, like those in Western Europe and North America, have high incomes, low birth rates, high living standards and strong infrastructure. LEDCs, like those in Africa, have low incomes, high birth rates, low living standards and weaker infrastructure. NICs include the more recently industrialised countries such as Brazil, Mexico, Thailand and China.

In geography, the word 'development' is generally used to mean the way that a country becomes more advanced in its economy, infrastructure and the economic and social well-being of its citizens. This includes:

- standard of living – to do with money and wealth
- quality of life – to do with the things that affect a person's well-being and happiness.

Measuring development

Gross domestic product (GDP) per capita is calculated by taking the total value of the goods and services produced by a country in any one year and dividing it by the population of the country. It is expressed as $US per person so that countries can be compared. It measures standard of living but not quality of life. It does not take into account goods produced by subsistence farmers and people working in the informal economy and it may underestimate the production of poorer countries.

The Human Development Index (HDI) is an example of a composite index. It takes into account a country's:

- GDP per capita
- adult literacy and educational provision
- life expectancy at birth.

It was developed by Indian and Pakistani economists and is published annually by the United Nations. It is given as a number between zero (very low) and one (very high). It reflects standards of living and quality of life.

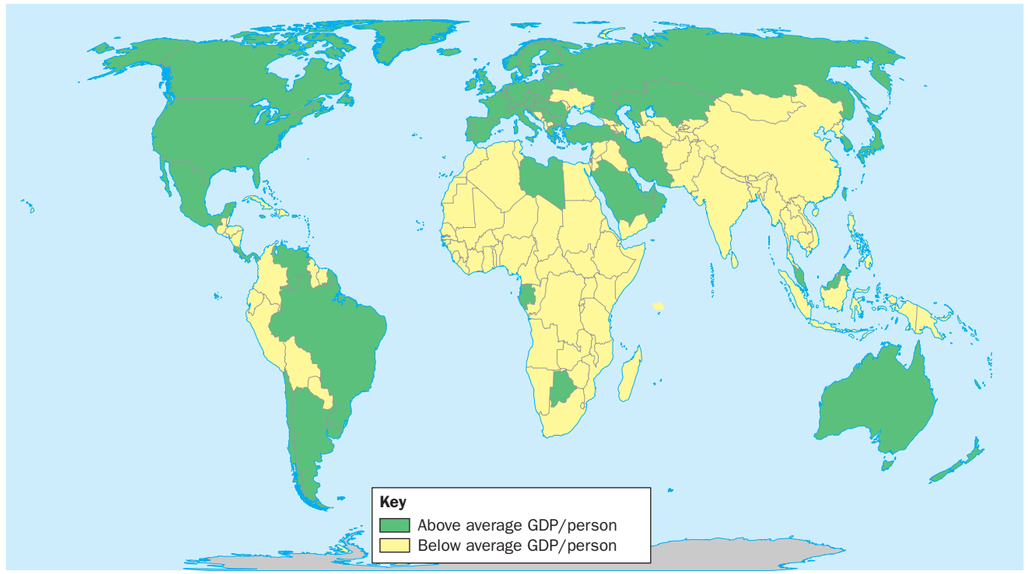


Fig. 8.1 World map of average GDP per person

Reasons for inequalities

Why are some countries much richer than others?

- **Location** – landlocked countries have generally developed more slowly than countries with a coastline.
- **Size** – many small countries have developed more slowly than large countries.
- **Natural hazards** – a country that experiences natural hazards such as earthquakes is less likely to develop rapidly.
- **Climate and soil** – tropical countries have developed more slowly than temperate countries. Tropical soils tend to be infertile and reduce agricultural production. Tropical countries suffer from pests and diseases, which limit population growth and agricultural production.
- **Stable government** – many Europeans and North Americans believe that their democratic political system has stimulated economic growth. Unstable government, poor law and order, and corruption can lead to civil unrest and delay economic and social progress.
- **Economic policies that encourage growth** – investment may come from credit, savings or transnational corporations (TNCs).
- Ability to **trade** – poor countries have traditionally suffered from unfair trading practices such as tariffs and import duties.
- **Population issues** – in Stage 2 of the Demographic Transition Model (DTM; see Chapter 1), if economic development does not keep up with population growth, the increasing population will not have enough food, housing, jobs, or services. Governments can achieve this either by encouraging economic growth or by reducing birth rates to limit the amount of population growth. Once a country reaches Stage 3 of the DTM, the growth in population starts to provide a large and productive workforce and a more wealthy market for goods and services.

Some of these points explain why some countries in Africa are often much poorer than some countries in Europe. However, there are many exceptions. For example, Singapore is a small, island nation on the Equator but it is a wealthy MEDC. Japan suffers from volcanic eruptions, earthquakes, tsunamis, and typhoons but it is one of the wealthiest countries in the world.

Countries at different stages of development

Table 8.1 shows information about three countries. Norway has one of the highest HDIs in the world, Thailand became an NIC in the 1990s, and the Central African Republic has one of the lowest HDIs in the world.

Fig. 8.2 Housing beside rivers in Phnom Penh, Cambodia (top), and Chicago, USA (bottom)

	Norway	Thailand	Central African Republic
HDI	0.949	0.73	0.35
GDP per capita ($US)	69 000	16 800	700
Death rate per 1000	8.1	7.9	13.5
Infant mortality per 1000 births	2.5	9.4	88.4
Birth rate per 1000	12.2	11.1	34.7
Life expectancy at birth	81.8	74.4	52.3
Population growth rate (%)	1.07	0.32	2.12
Adult literacy (% of population)	100	96.7	36.8
Doctors per 1000 population	4.42	0.39	0.05
Urban population (% of total)	80.5	50.4	40
Agricultural employment (% of population)	2	9	58
Access to electricity (% of population)	100	99	3
Internet use (% of population)	96.8	39.3	4.6

Table 8.1 Different measures of development (based on the most up-to-date statistics available in 2017) for Norway, Thailand, and the Central African Republic

1 Study Table 8.1.
- **a** Which figures stand out as being different to the general pattern?
- **b** What other measures of development not shown in Table 8.1 would be good indicators of development?

RESEARCH The United Nations Human Development Report can be found at: http://hdr.undp.org/en/2016-report. Look at the countries list at the end of the report. How does your country compare with others?

Regions at different stages of development

The whole of a country does not develop at the same rate. The same differences that are found between different countries are often found within a single country. It is often the central, more accessible areas of a country which develop fastest and its remoter areas which develop more slowly. Fig. 8.3 shows the more and less developed regions of the European Union (EU). Notice that the poorer areas are at the edges of the EU, such as Wales, Portugal, and southern Italy.

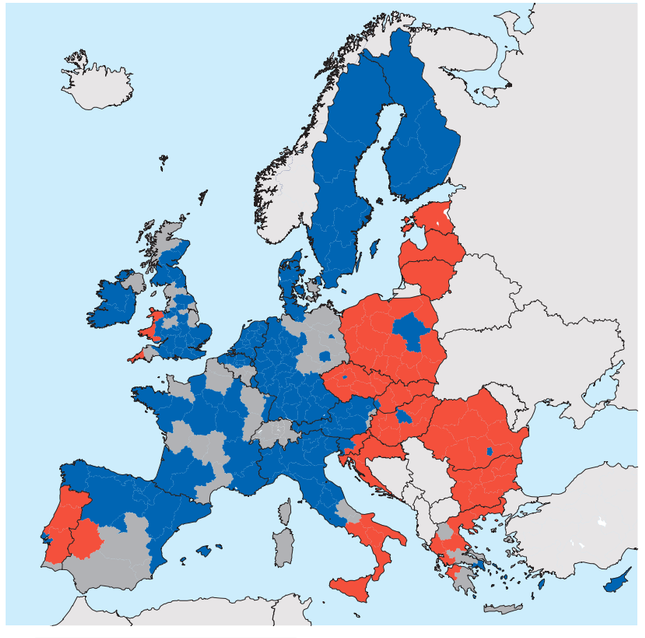


Fig. 8.3 Most and least developed regions of the European Union (source: Cranberry Products at English Wikipedia)

The features of these regions are shown in Table 8.2.

Central ("core") areas	Regional ("peripheral") areas
More urbanised	More rural
More tertiary and quaternary industry (see the next section of this chapter)	More primary industry
Higher incomes and more wealth	Lower wages and higher unemployment
Higher living costs	Lower living costs
Inward population migration	Outward population migration, especially of young educated workers – a "brain drain"
Strong transport systems	Poor accessibility
Home of government and social elite	

Table 8.2 Features of central areas and regions

The rich, core areas tend to get richer and the peripheral areas poorer. The European Union has given financial grants to poorer regions in an attempt to change this. This extra money is to develop transport facilities and support industrial development.

In China, the coastal areas have developed rapidly, for example in the port city of Shanghai. Inland areas lag behind, and there is population migration from inland areas to the coastal areas.

There are also great contrasts in wealth between people in the same region. The greatest contrasts between rich and poor are often in LEDCs.

Fig. 8.4 Luanda, Angola, 2015 – the contrast between rich and poor

Industrial sectors

The jobs that people do can be divided into four groups, or sectors:

Sector	Definition	Examples
Primary	Collection or production of natural resources, food and raw materials directly from the land or sea	Farming, fishing, forestry, mining, quarrying
Secondary	Processing, manufacturing, and assembly of the products we need	Steelmaking, car assembly, paper making, food manufacture such as baking
Tertiary	Providing a service	Health, education, retail, transport, banking, insurance
Quaternary	Modern, hi-tech manufacturing and service industries	Aerospace, computer science, pharmaceuticals, biotechnology, research and development

Table 8.3 The four sectors of industry

National employment statistics do not always recognise the quaternary sector and quaternary jobs are sometimes included in the secondary or the tertiary sectors.

2 Classify these jobs into the four sectors of employment – primary, secondary, tertiary and quaternary:

- Nurse
- Shop worker
- Worker in a car factory
- Miner
- Teacher
- Accountant

RESEARCH Conduct a survey in your class about the employment sectors of your classmates' families. Convert your results into percentages of the total and then plot them, as either a pie chart or a divided bar graph.

Discussion point

Classifying jobs is not always easy. Imagine a plumber employed in the building of new houses and another plumber repairing faults in existing houses. Are the two plumbers in the same employment sector?

Fig. 8.5 Primary, secondary, tertiary and quaternary industry

Employment structures

The proportion of people working in primary, secondary, tertiary and quaternary activities in any country or region is called the **employment structure**.

As a country becomes more economically developed, the percentage of its population employed in primary industries decreases, while the percentage employed in tertiary industries increases. The percentage employed in secondary industries increases at first, but then decreases (as the tertiary sector continues to grow). The actual percentage figures vary from country to country. For example, today employment in secondary industry is 17% in the Netherlands, 24% in Germany and 28% in Italy – all European MEDCs.

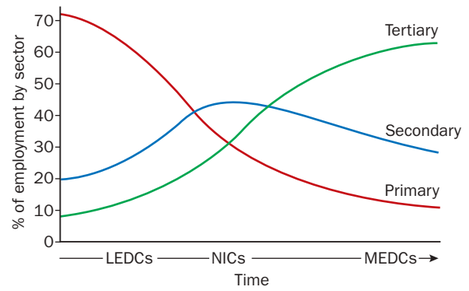


Fig. 8.6 How employment in industrial sectors changes with time as a country becomes more developed

3 Look at the employment statistics in Table 8.4.

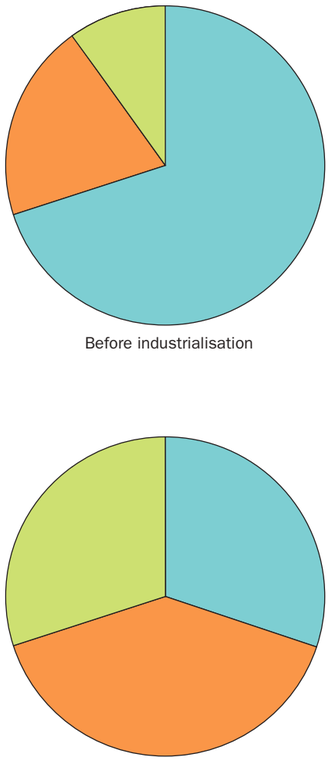
- **a** Plot the data as a pie chart (or divided bar graph) for each country.
- **b** Which of the countries is:
  - **i** an LEDC?
  - **ii** an NIC?
  - **iii** an MEDC?
- **c** How might the employment structure of Malaysia change in the future?

Country	Primary %	Secondary %	Tertiary %
Australia	4	21	75
Bangladesh	47	13	40
Malaysia	11	36	53

Table 8.4 The employment statistics for three countries

The quaternary sector grows after industrialisation. This is shown in Fig. 8.7.

4 Describe the changes in industrial structure shown in Fig. 8.7.



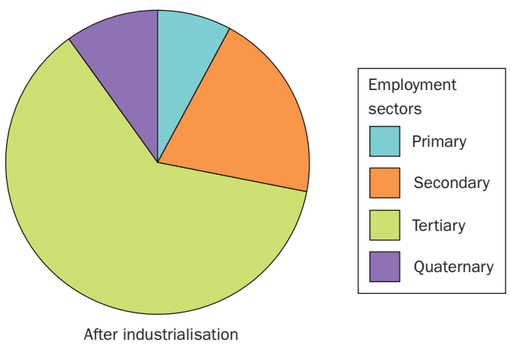


Fig. 8.7 The relative size of employment sectors before, during and after industrialisation

In Chapter 1 the Demographic Transition Model (DTM) was described. Countries with employment structures like the "Before industrialisation" diagram in Fig. 8.7 are generally in Stages 1 and 2 of the DTM. Countries with employment structures like the "Industrialisation" diagram are often NICs in Stage 3 of the DTM. Countries with employment structures like the "After industrialisation" diagram are often in Stages 4 and 5 of the DTM.

5 Fig. 8.8 shows the employment structure of three countries: A, B and C. Which of the three countries is an LEDC, which is an MEDC and which is an NIC?

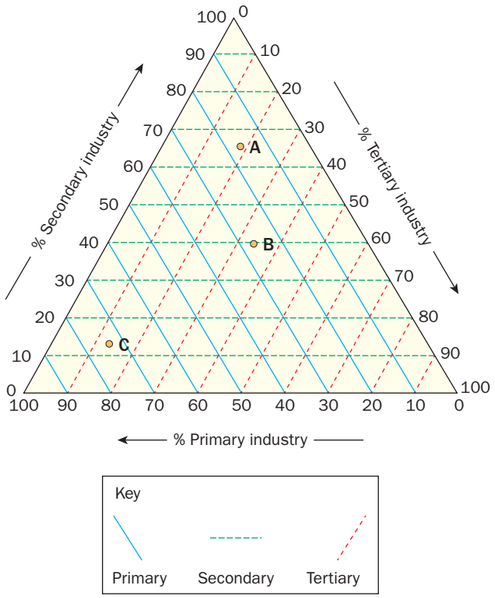


Fig. 8.8 The employment structure of three countries

Globalisation

Globalisation is the growth of international integration, in other words the increase in links between different parts of the world and different countries. Its features are the following:

- An **increase in world trade** and the availability of goods from other countries. As well as the visible trade in goods, this also includes invisible trade in services such as banking, insurance, education, construction and tourism.
- Countries are **more affected by economic change in other countries**. There has been a general growth in trade except for times such as the world financial crisis in 2008–9. This began in the property market in the USA and spread around the world.

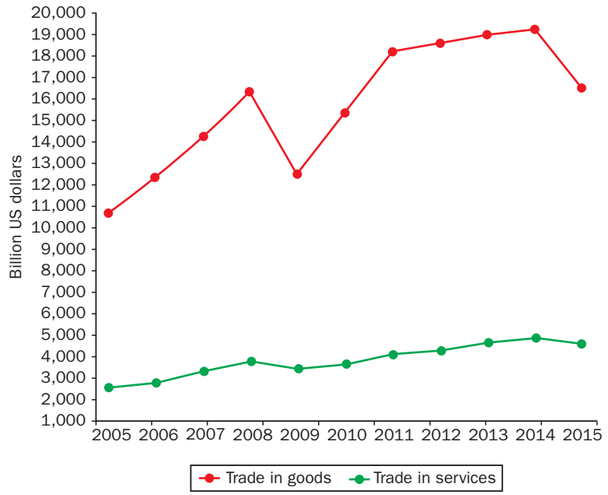


Fig. 8.9 The growth in world trade between 2005 and 2015

- **Cultures in different countries becoming more similar** in languages, food and clothing. Western fashions, music and products are found all over the world. Asian food is now very popular in Europe and North America. English has fewer native speakers than Mandarin or Spanish but it is becoming the main international language.
- There has been a **change in location of some manufacturing industries** from MEDCs such as the UK, USA, and Japan to LEDCs and NICs. This has led to job losses in some countries and new jobs in others.
- **World-wide environmental effects** such as air pollution and global warming. The threat of global warming (see Chapter 10) and atmospheric pollution shows how the actions of one country may affect others. This has led to international action such as the 2016 Paris Agreement, dealing with greenhouse gas emissions. By August 2017, 195 countries had signed the agreement. The 1987 Montreal Protocol has led to international action which has been effective in protecting the ozone layer.
- **International population migration** has increased and people are more likely to travel between countries (see Chapter 1).
- Some of the world's great cities – such as London, New York, Hong Kong, Paris, Singapore, Tokyo, Shanghai, Chicago, Dubai, and Sydney – have become important beyond the boundaries of their own country. They are called **world cities**. Transnational corporations (TNCs, described later in this chapter) have their headquarters in these cities, from where they control their businesses around the world.

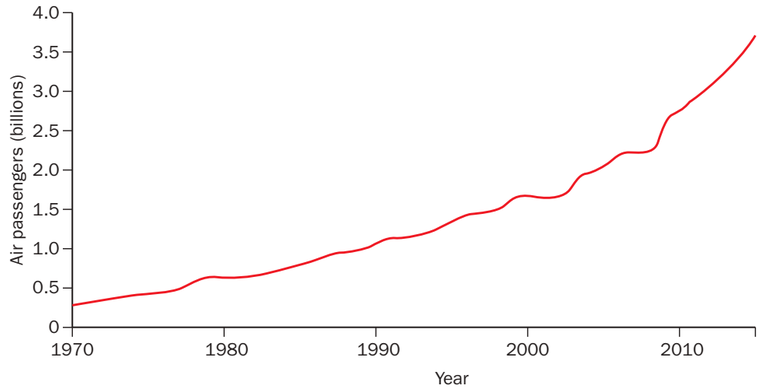


Fig. 8.10 Annual growth in global air traffic from 1970 to 2015 (source: World Bank Group using data from International Civil Aviation Organization, Civil Aviation Statistics of the World and ICAO staff estimates)

Factors which have increased globalisation

- The growth in transnational corporations (TNCs). This is described later in this chapter.
- Advances in transport. This has been particularly so in air travel, as Fig. 8.10 shows. Air travel has become cheaper and accessible to more people.
- Containerisation of freight has allowed large volumes of goods to be moved efficiently.

Fig. 8.11 The world's busiest container port, Shanghai, China

- International organisations, such as the European Union, the United Nations and the Commonwealth of Independent States, involve co-operation between countries in economic and military activities.
- Advances in communications infrastructure, such as the internet and cell phones, allow the rapid movement of knowledge and information.

Fig. 8.12 A woman speaking on a mobile cell phone in rural KwaZulu-Natal, South Africa

Impacts of globalisation

Local level

Discussion point

How does globalisation affect you and your classmates? Discuss this under the following headings: (a) the food you eat and where it is from, (b) where the people you know were born and the languages they can speak, (c) where you go for holidays, (d) the music you listen to and the clothes you wear, (e) the people you communicate with and where they live. Remember that this will be very different from the time when your parents were at school.

National and global levels

6 Using the information in this chapter, describe the impacts of globalisation at the national and global levels using the following headings: (a) the environment, (b) industry and jobs, (c) international organisations.

Transnational corporations (TNCs)

Transnational corporations are large companies that operate (as producers or sellers) in many countries or continents. They are willing to change the suppliers of their raw materials and components – and the locations of their activities – to wherever conditions for production or sales are most favourable. These companies control an increasing proportion of the global economy.

RESEARCH List the TNCs that operate in your local area. Remember that some of them could operate through petrol stations or supermarkets. Also remember that not all are involved in manufacturing. Companies like the travel company Tui (which owns Thomson Holidays and First Choice) and the accountancy and audit firm PriceWaterhouseCoopers are service industry TNCs.

The world's top ten companies (as measured by their sales) are shown in Table 8.5. They each have annual sales that are greater than the gross domestic product (GDP) of many entire countries.

TNCs have a strong influence on LEDCs, where they often locate activities like production. There has been some criticism of this, but the presence of TNCs in LEDCs can lead to both advantages and disadvantages for those countries.

Fig. 8.13 The global brands of one TNC, Volkswagen

Advantages of a TNC for the LEDC

- A TNC provides jobs for local people.
- It provides a guaranteed income for people.
- It improves people's skills.
- It brings in foreign currency, which helps the country to develop.
- The increased employment also increases the demand for consumer goods in the LEDC and helps other industries to develop there.
- It can lead to the development of local raw materials, such as mining minerals or growing crops.
- It often leads to the development of infrastructure projects, such as roads, dams, airports, schools, and hospitals.

Rank	Name	Industry	Sales (million US$)	Number of employees	Location of headquarters
1	Walmart	Retail	485 873	2 300 000	USA
2	State Grid	Utilities	315 199	926 067	China
3	Sinopec Group	Petroleum refining	267 518	713 288	China
4	China National Petroleum	Petroleum refining	262 573	1 512 048	China
5	Toyota	Motor vehicles	254 694	364 445	Japan
6	Volkswagen	Motor vehicles	240 264	626 715	Germany
7	Royal Dutch Shell	Petroleum refining	240 033	89 000	Netherlands UK
8	Berkshire Hathaway	Insurance	223 604	367 700	USA
9	Apple	Computers and office equipment	215 639	116 000	USA
10	Exxon Mobil	Petroleum refining	205 004	72 700	USA

Table 8.5 The world's top ten companies, as measured by their sales, in 2016

Disadvantages of a TNC for the LEDC

- Most of the profits go abroad and are not reinvested in the LEDC.
- The numbers of local people employed can be small.
- The TNC might suddenly decide to leave the LEDC, if conditions inside or outside the country change. This decision is made outside the LEDC.
- Raw materials, such as minerals, are often exported and not processed in the LEDC.
- Levels of pay are lower than elsewhere in the world.
- The operations of the company may cause environmental damage.

Impacts in MEDCs

- Areas involved in manufacturing industries have suffered when TNCs have moved production to places with cheaper labour, often in LEDCs. This has led to unemployment and the economic decline of some regions in an MEDC.
- TNCs have often located their headquarters in "world cities" from where global brands are managed. This has increased skilled employment in management, accountancy, legal services, marketing, and IT. Economic growth has occurred in these cities.

CASE STUDY

Toyota – a leading motor vehicle manufacturer

Toyota worldwide

The Toyota Motor Corporation of Japan has around 40% of the Japanese motor vehicle market, but it manufactures and sells its vehicles in 170 countries. It is the world's biggest car manufacturer (see Table 8.6) and the world's fifth largest company by the value of its sales (see Table 8.5). It conducts its business with 51 overseas manufacturing companies in 26 countries (see Fig. 8.14 and Table 8.7).

The country outside Japan in which most Toyota vehicles were assembled in 2016 was the USA, with a production of more than 1 380 000. China was the second largest overseas producer, with nearly 1 100 000. With more than 600 000, Canada ranked third. By contrast, only 127 000 vehicles were assembled in the whole of the continent of Africa.

Of the ten Toyota plants in China, three assemble vehicles while the other seven make engines and components to supply the assembly plants.

Fig. 8.14 Toyota operates all over the world. (Toyota's factory locations in Japan itself are shown in Figs. 8.15 and 8.16, plus Tables 8.8 and 8.9.)

Rank	Company	Country of headquarters	Number of vehicles produced
1	Toyota	Japan	10 084 000
2	Volkswagen	Germany	9 872 000
3	Hyundai	South Korea	7 988 000
4	General Motors	USA	7 486 000
5	Ford	USA	6 396 000
6	Nissan	Japan	4 544 000
7	Fiat Chrysler	Italy/USA	4 865 000
8	Honda	Japan	4 544 000
9	Suzuki	Japan	3 034 000
10	Renault	France	3 033 000

Table 8.6 The top ten motor vehicle manufacturing companies in 2016

Country		No. of employees
Canada	Delta BC	292
	Woodstock and Cambridge ONT	5919
The USA	Long Beach CAL	533
	Georgetown KEN	7487
	Long Beach CAL	28
	Troy MO, Jackson TN	947
	Buffalo WV	1124
	Princeton IND	4204
	Huntsville AL	796
	San Antonio TEX	2415
	Lafayette IND	3184
Argentina	Zárate	3105
Brazil	Sao Paulo	3306
Mexico	Tijuana, Baja California	743
Venezuela	Caracas	2163
Czech Republic	Kolín	3364
France	Onnaing-Valenciennes	3732
Poland	Walbrzych	2078
	Jelcz-Laskowice	716
Portugal	Lisbon	340
Turkey	Arifiye, Sakarya	2894
The UK	Derby	4043
Russia	St Petersburg	774
Kenya	Mombasa	254
South Africa	Durban	7343

Country		No. of employees
China	Tianjin Jinfeng	385
	Tianjin Fengjin	763
	Tianjin FAW	1898
	Tianjin Forging	235
	Tianjin FAW	12 407
	Changchun	783
	Tianjin FAW	216
	Guangzhou	1300
	Sichuan	2374
	Guangzhou	6321
India	Bangalore	4433
	Bangalore	1050
Indonesia	Cikampek, W Java	5069
	Karawang	7790
Malaysia	Shah Alam	2516
	Rawang	7183
Pakistan	Karachi	1879
Philippines	Sta. Rosa Laguna	1421
	Sta. Rosa Laguna	1375
Thailand	Gateway, Samrong and Ban Pho (Chachoengsao)	12 651
	Samrong	
	Chonburi	2251
Vietnam	Hanoi	1408
Australia	Altona, Victoria	4586
Bangladesh	Chittagong	83

Table 8.7 Toyota's manufacturing centres around the world

Toyota in Japan

Toyota's core production centre is in Toyota City, on the east coast of Japan's main island of Honshu (near Nagoya). Toyota has 12 separate factories in the area, which employ a total of more than 43 000 people. The factories work together to make the components, and then assemble the various models. The company has developed great strength in technological skill and research and development, and has a highly motivated workforce.

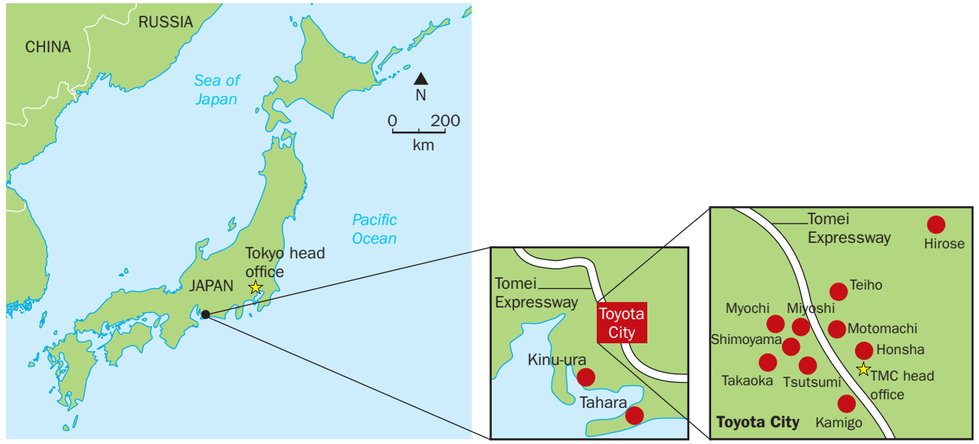


Fig. 8.15 The location of the Toyota City production centre in Japan, plus its individual factories

Factory	Products	Annual vehicle production
Honsha	Forged parts, hybrid system parts	
Motomachi	Assembly	80 000
Kamigo	Engines	
Takaoka	Assembly	267 000
Miyoshi	Transmission-related parts, cold-forged and sintered parts, engine-related parts	
Tsutsumi	Assembly	374 000
Myochi	Powertrain-related suspension cast parts, powertrain-related suspension machined parts	
Shimoyama	Engines, turbochargers, catalytic converters	
Kinu-ura	Transmission-related parts	
Tahara	Assembly and engines	321 000
Teiho	Mechanical equipment, mouldings for resin, and casting and forging	
Hirose	Research and development and production of electronic control devices	

Table 8.8 The Toyota City production centre in Japan

Steel for use in the vehicle manufacturing process is produced nearby at Nagoya, and further away at Kimitsu. The land in this area is flat – an issue in mountainous Japan.

The completed vehicles are shipped to the densely populated Kanto District, which includes Tokyo-Yokohama. Previously the port at Kinu-ura was used, but today the vehicles are transported 29 kilometres to Nagoya Port, from where a fleet of four specialist vessels is used to ship the vessels approximately 350 kilometres to Kanto District.

Toyota also has plants in northern Honshu (Tohuku) and on the islands of Hokkaido and Kyushu.

Fig. 8.16 The locations of Toyota's Japanese factories outside Toyota City

Factory	Products	Annual vehicle production
Kyushu	Assembly, engines, hybrid system parts	285 000
Hokkaido	Transmissions, aluminium wheels, assembly	80 000
Tohoku	Electronic controlled brakes, suspensions, axles, torque converters	

Table 8.9 Toyota's factories in other Japanese regions

7 Explain the factors affecting the location of the motor vehicle industry in Japan.

9 Food supply

This chapter covers the following Cambridge IGCSE® and O Level topics:

- **3.2 Food production**
- **part of 3.7 Environmental risks of economic development**

- Do you know where all the food you eat comes from and how it's produced?
- Why is it that some people in the world do not get enough food?
- How does this affect their lives?
- Where do these food shortages occur and what can be done about them?
- Five thousand years ago, the world's population was estimated to be around 30 million. By April 2017 the population was estimated to have reached 7.5 billion.
- Will we be able to keep on producing more and more food to feed all of these extra people, or will the world's population have to stop growing?
- What effects would increasing the food supply have on the environment?