

Write your name here

Surname

Other names

Centre Number

Candidate Number

**Edexcel GCE**

**Geography**

**Advanced**

**Unit 3: Contested Planet**

Tuesday 14 June 2011 – Afternoon

**Time: 2 hours 30 minutes**

Paper Reference

**6GE03/01**

**You must have:**

Resource Booklet (enclosed)

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 **TWO** questions in Section A and **ALL** parts of Section B.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*

### Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*
- The quality of your written communication will be assessed in **ALL** your responses  
– *you should take particular care with your spelling, punctuation and grammar, as well as the clarity of expression.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Spend approximately 80 minutes on Section A and 70 minutes on Section B.
- Check your answers if you have time at the end.

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## SECTION A

Answer **TWO** questions in this section.

You are reminded of the need to use examples to support your arguments.

You are advised to spend approximately 80 minutes on Section A.

### Energy Security

1 Study Figure 1.

(a) Suggest reasons for the changes to global electricity generation between 1973 and 2006. (10)

(b) Using named examples, assess the extent to which energy insecurity might lead to conflicts both within and between countries. (15)

(Total for Question 1 = 25 marks)

### Water Conflicts

2 Study Figure 2.

(a) Suggest reasons for the differences in water consumption for the countries shown. (10)

(b) Using named examples, assess the impact of using trans-boundary water sources on people and the environment. (15)

(Total for Question 2 = 25 marks)

### Biodiversity under Threat

3 Study Figure 3.

(a) Explain how the three scenarios shown could have very different consequences for biodiversity. (10)

(b) Using named examples, assess the advantages and disadvantages of **two** contrasting strategies for managing biodiversity. (15)

(Total for Question 3 = 25 marks)



## Superpower Geographies

4 Study Figure 4.

(a) Suggest reasons why this data has been used to produce the superpower index. (10)

(b) Explain how theories, such as Dependency Theory and World Systems Theory, can contribute to an understanding of changing patterns of global power. (15)

**(Total for Question 4 = 25 marks)**

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## The Technological Fix?

5 Study Figure 5.

(a) Explain some of the human and environmental consequences of the mobile phone life cycle. (10)

(b) Using examples, assess the contribution technology might make to improving the environment and peoples' quality of life. (15)

**(Total for Question 5 = 25 marks)**

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Put a cross in the box indicating the first question you have chosen to answer   
If you change your mind, put a line through the box   
and then put a cross in another box   
You will be asked to indicate your second question choice on page 11.

Chosen Question Number:

- Question 1  Question 2
- Question 3  Question 4
- Question 5

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**(Total for Question = 25 marks)**





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**(Total for Question = 25 marks)**

**TOTAL FOR SECTION A = 50 MARKS**



**SECTION B**

**Answer ALL parts of this section, referring to the advance information you have been asked to study.**

**You are reminded of the need to use examples from any part of your GCE Geography course to support your answers.**

**You are advised to spend approximately 70 minutes on Section B.**

- 6** (a) Outline the strengths and weaknesses of Morocco's decision to use tourism as a major development strategy. (14)
- (b) To what extent does environmental change threaten economic development and ecological wellbeing in the Maghreb? (12)
- (c) The Maghreb is at a political and economic crossroads. Evaluate the costs and benefits of the possible directions it could take for its future development. (14)

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**(Total for Question 6 = 40 marks)**

**TOTAL FOR SECTION B = 40 MARKS**  
**TOTAL FOR PAPER = 90 MARKS**



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**Edexcel GCE**

# **Geography**

**Advanced**

**Unit 3: Contested Planet**

**RESOURCE BOOKLET**

Tuesday 14 June 2011 – Afternoon

Paper Reference

**6GE03/01**

**Do not return the Resource Booklet with the question paper.**

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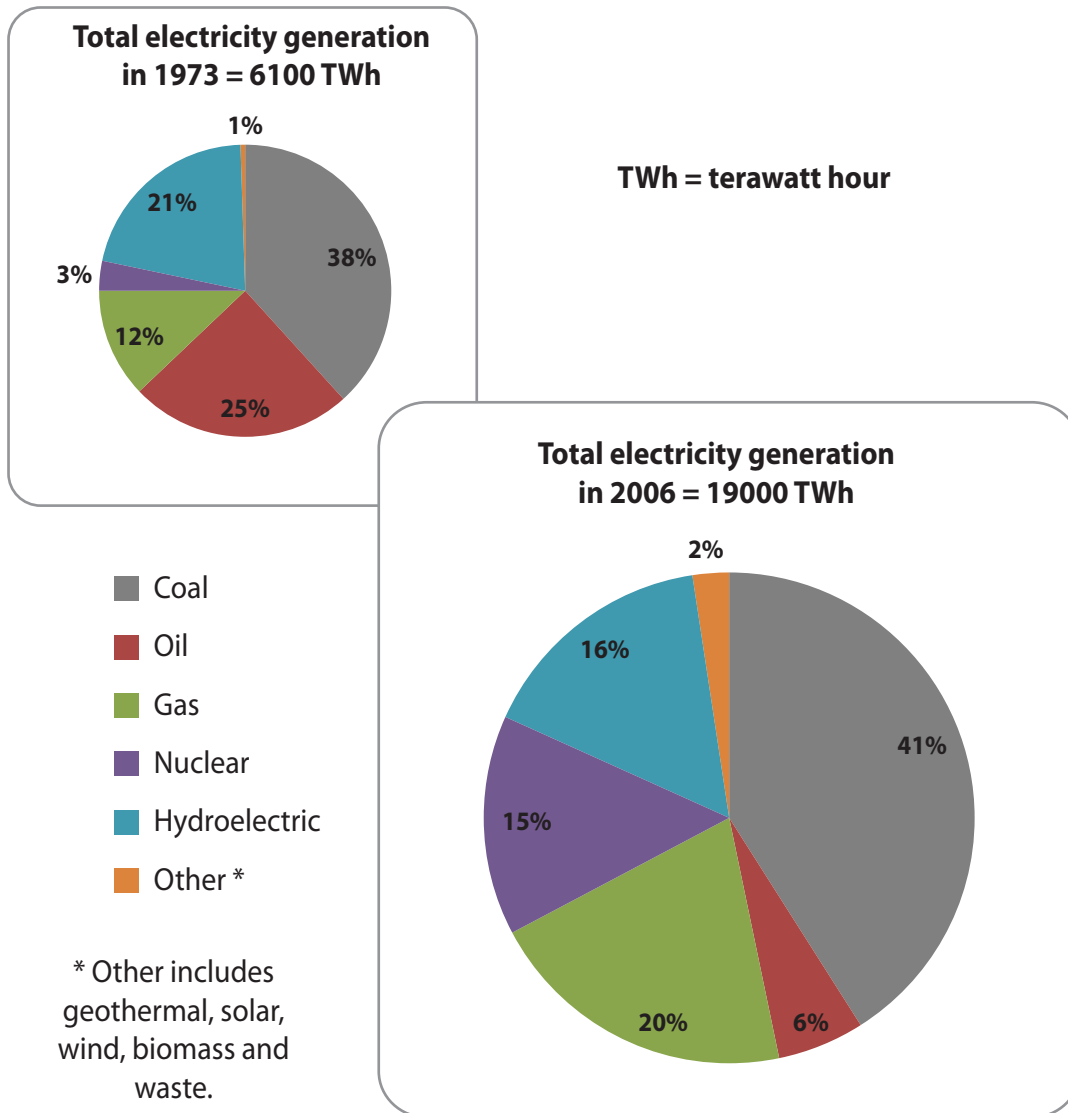


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## SECTION A

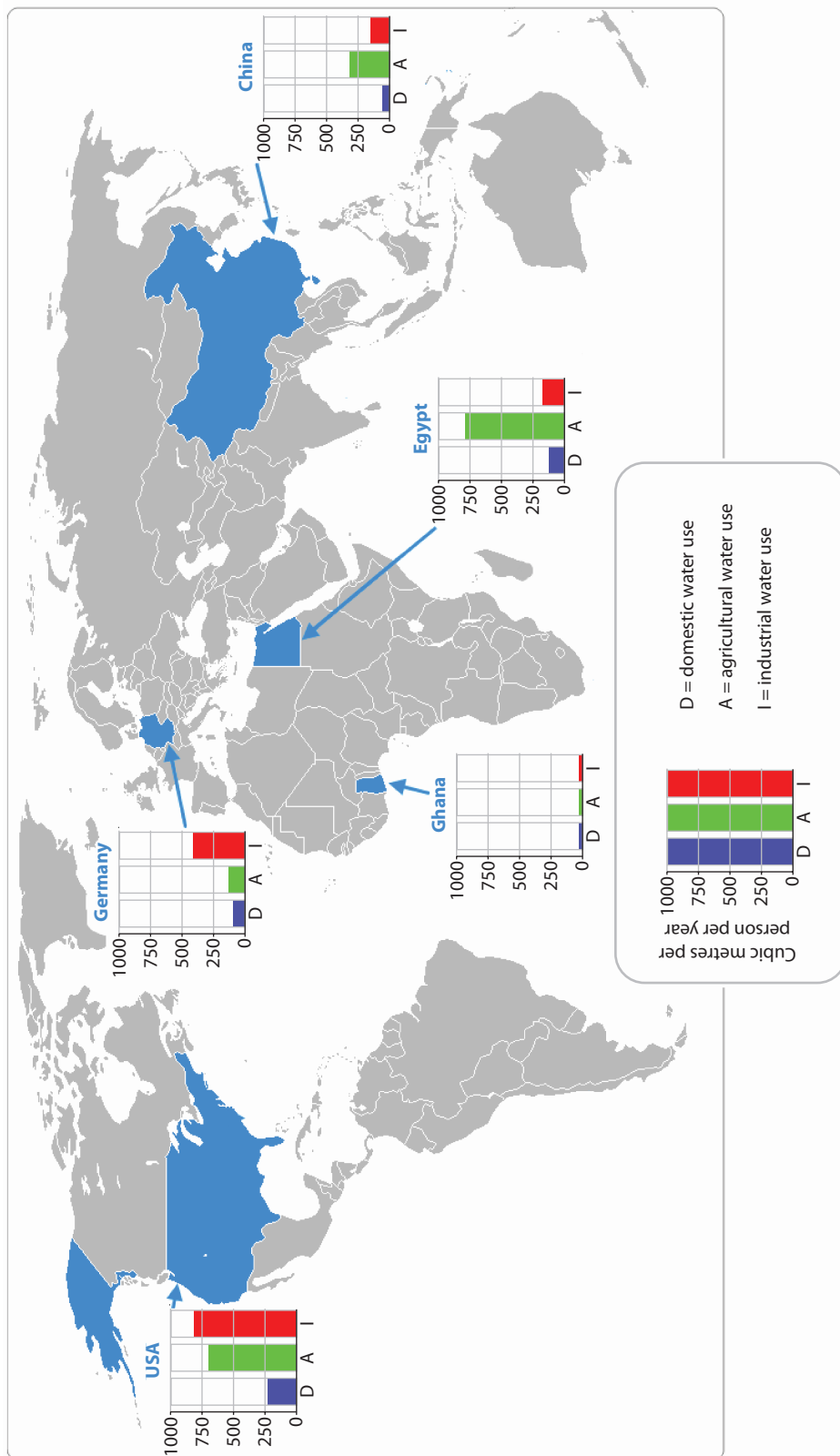
The following resources relate to Questions 1–5.

**Figure 1** Global electricity generation in 1973 and 2006



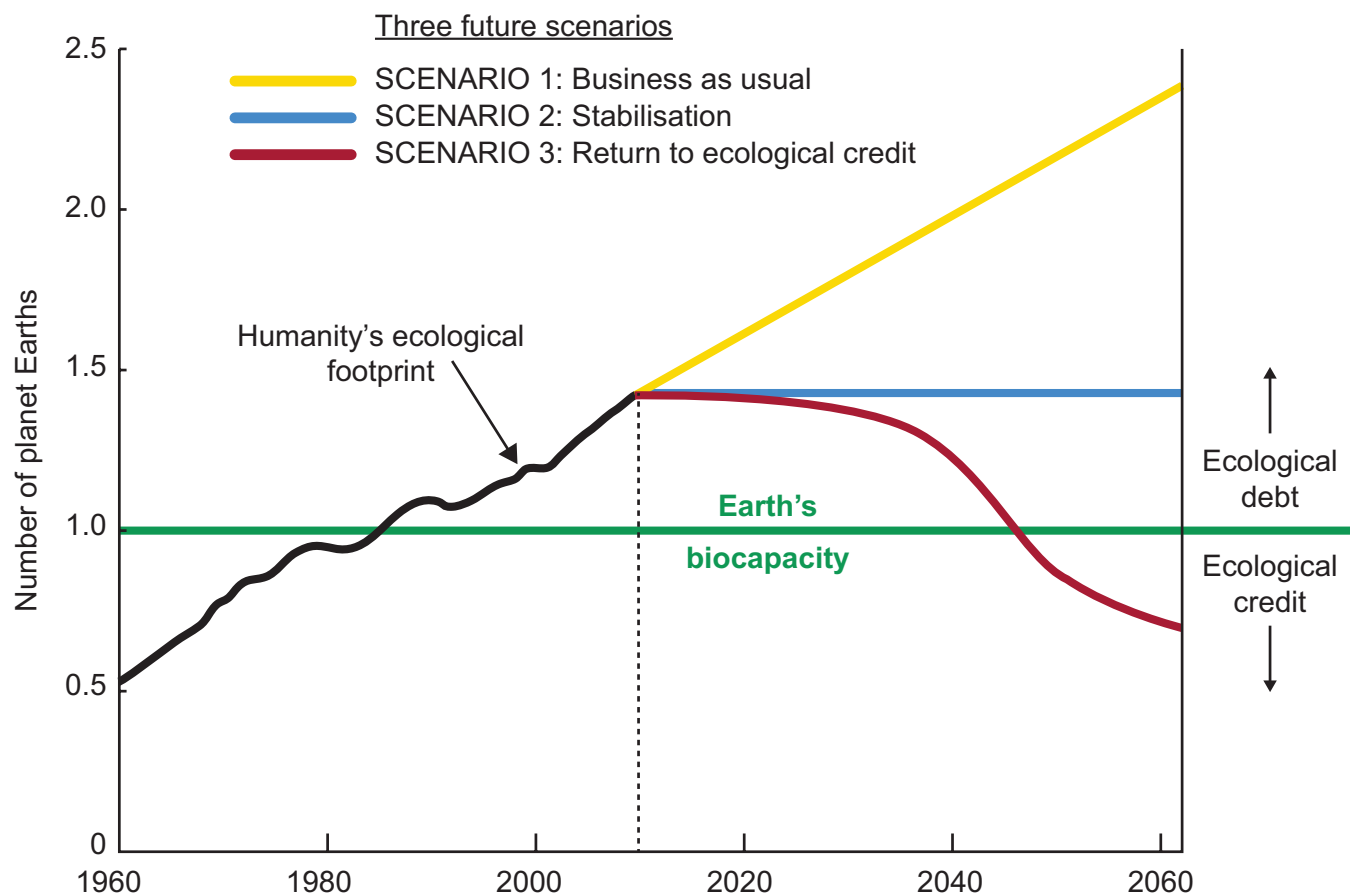
(Source: International Energy Agency, Key World Energy statistics 2008)

**Figure 2 Water use for five countries in 2005 by sector**



(Source: FAO aqua stats)

**Figure 3 Three future ecological footprint scenarios**



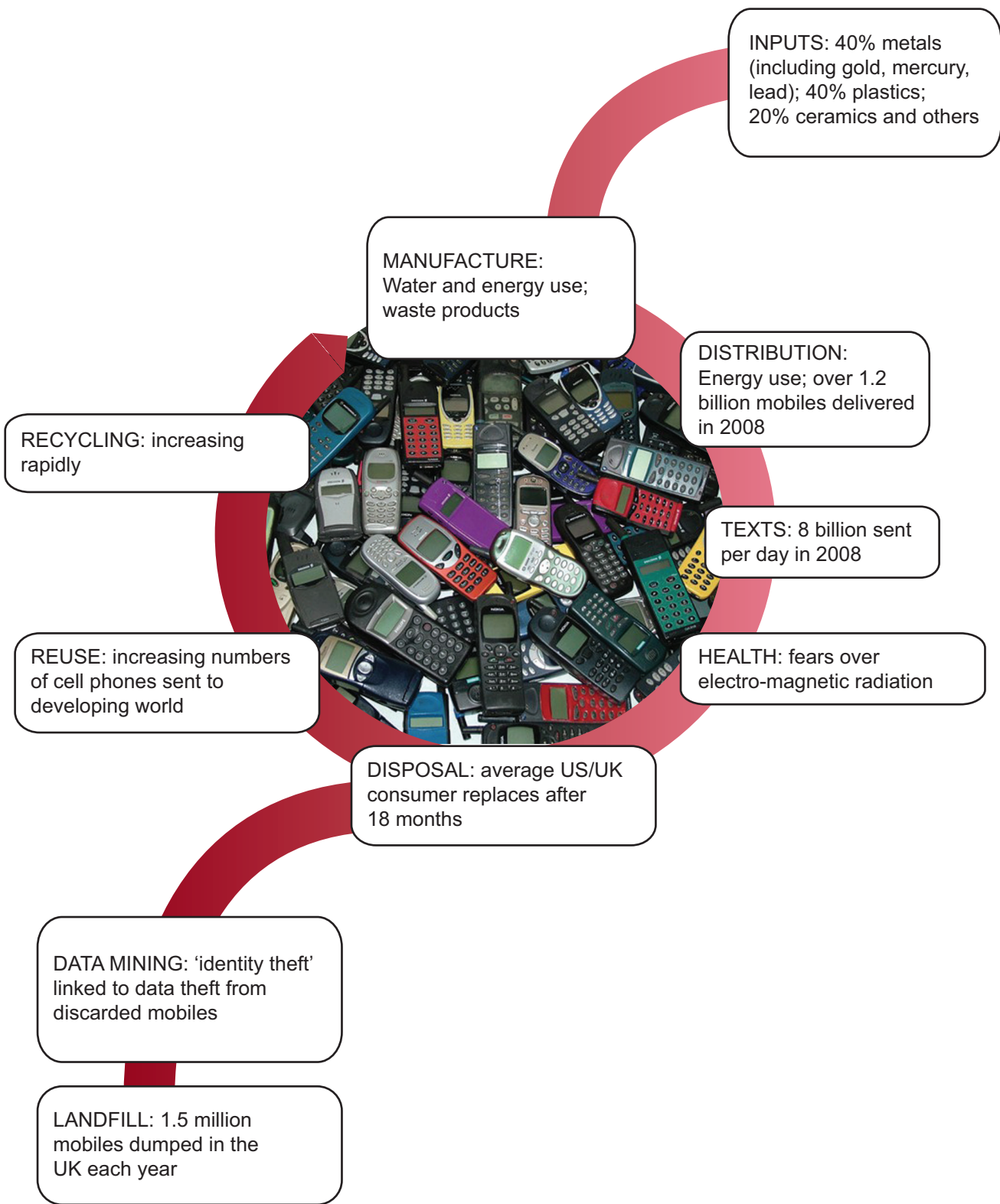
Earth's biocapacity represents the total ecological footprint the earth can support without irreversible damage to the planet.

(Source: Based on WWF Living Planet report, 2008)

**Figure 4 A possible superpower index**

Data for 2006/07	USA	EU	China	Russia	India	Brazil
Population (millions)	300	490	1300	145	1100	180
<b>RANK</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>2</b>	<b>5</b>
GNP (\$ trillion)	\$13	\$16	\$3.2	\$1.2	\$1.1	\$1.3
<b>RANK</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>6</b>	<b>4</b>
TNC headquarters (out of global top 500 TNCs)	162	163	24	4	6	5
<b>RANK</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>5</b>
Patent filings for scientific and technological innovations	391,000	308,000	129,000	29,000	8,100	4,750
<b>RANK</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Oil reserves (billion barrels)	21	Negligible	16	60	Negligible	12
<b>RANK</b>	<b>2</b>	<b>5.5</b>	<b>3</b>	<b>1</b>	<b>5.5</b>	<b>4</b>

**Figure 5 The mobile phone life cycle**



## SECTION B

The following resources relate to Question 6

### BRIDGING THE DEVELOPMENT GAP

#### WHICH WAY FOR THE MAGHREB?



The Maghreb is a region of North Africa (Figure 1). In Arabic 'Maghreb' means the 'west' or 'place where the sun sets'. The Maghreb is made up of five countries (Figure 2), though culturally it is reasonably homogenous sharing a common religion (Islam) and heritage. Almost the entire Maghreb region was under **French colonial** control until shortly after WWII when the Maghreb countries gained their independence – Libya in 1951, Morocco in 1955, Tunisia in 1956, Mauritania in 1960 and Algeria in 1962. Many people in this part of North Africa are Berbers. Couscous is the staple food.

Figure 1: Countries of the Maghreb



Since independence the Maghreb has been plagued by tensions and conflict including:

- the invasion of the former Spanish colony of **Western Sahara** by Morocco and Mauritania in 1975. Western Sahara has effectively been occupied by Morocco since 1979 when Mauritania withdrew
- tense foreign relations between Libya and the western world based on accusations of state-sponsored terrorism, although relations have thawed in recent years

- tense Algerian-Morocco relations over territorial disputes
- civil war in Algeria 1992–2002
- military coups in Mauritania in 2005 and 2008.

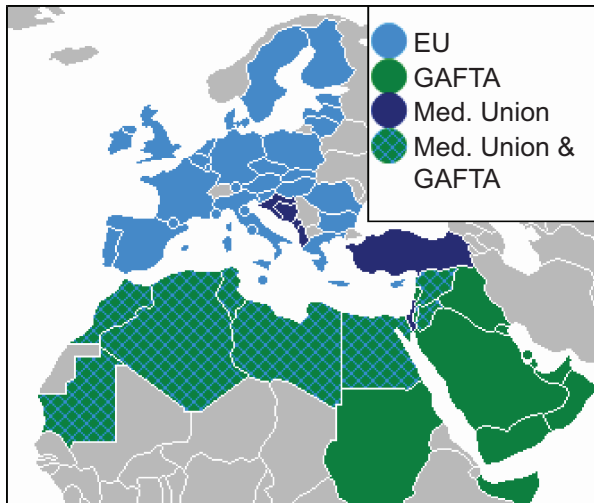
Figure 2: Country comparison data

2008–09 data	Libya	Tunisia	Algeria	Morocco	Mauritania
Population (millions)	6.3	10.5	34	34.9	3.1
Median age	23.9	29	26.5	25	19
HDI	0.84	0.76	0.75	0.65	0.56
GDP per capita (\$ PPP)	14,000	7,900	7,000	4,000	2,100
% urban population	78	67	65	56	41
Literacy rate (%)	83	74	70	52	51
<b>Percentage (%) of employment in:</b>					
Agriculture	1	11	8	45	12
Industry	62	28	63	20	47
Services	37	61	29	35	41

In 1989 the five countries of the Maghreb set up the **Arab Maghreb Union (AMU)** but this attempt at economic and political union has generally not been successful due to major policy differences between the member states. The Maghreb is being pulled in several directions:

- in 2005 the setting up of **GAFTA** (Greater Arab Free Trade Area) was the first step to create a free trade bloc spanning the Arab world (Figure 3, page 8)
- the EU Barcelona Process, and in 2007 the proposal by the French Government of a '**Union for the Mediterranean**', appears to pull the Maghreb in Europe's direction (Figure 3)
- all Maghreb countries are members of the African Union except Morocco, and all except Algeria are members the fledgling **Community of Sahel-Saharan States** which aims to create a free trade area across the northern half of Africa.

**Figure 3: GAFTA and the Union of the Mediterranean (Med. Union)**



Economic development in the Maghreb has been characterised by relatively steady growth in the last few decades. However there are a number of barriers to development and investment:

- the association of the area with terrorism and Al Qaeda, especially in Algeria
- the low percentage of women in the work force, on average below 50%
- the persistence of male youth unemployment
- reliance on certain exports e.g. 95% of Algeria's exports earnings are from oil. Other countries rely on oil, textile and phosphate exports. Iron ore forms 50% of Mauritania's exports and the country is heavily reliant on marine fishing.

Many Maghreb countries have seen reductions to their total external debt in recent years (Figure 4), partly as a result of debt relief initiatives such as **HIPC** and partly because high commodity prices have improved revenues.

**Figure 4: Total external debt as a % of GDP 2004–2008**

Country	2004	2005	2006	2007	2008
Algeria	25.6	16.7	4.8	3.8	2.6
Libya	16.7	12.3	10.1	8.0	5.1
Mauritania	210.8	132.9	94.1	96.1	58.9
Morocco	29.1	24.2	23.9	23.8	20.1
Tunisia	69.1	62.3	59.9	57.6	50.4

(Source: African Statistical Yearbook, 2009)

The Maghreb has long been a source of economic migrants seeking better opportunities in Europe. This has led to a significant brain drain and loss of young workers. The most common destinations are France and Spain. Some Maghreb countries are reliant on **remittances** (Figure 5).

**Figure 5: Migration and Remittances**

World Bank data	Emigrant population 2005 (millions)	% of tertiary educated who have emigrated (2000)	Remittances (2007) (\$ billions)	Remittances as % of GDP (2007)
Algeria	1.78	6.5	2.9	2.2
Libya	0.09	3.8	0.02	0.03
Mauritania	0.1	23.1	0.002	0.1
Morocco	2.72	10.3	5.7	9.5
Tunisia	0.63	9.6	1.7	5.0

Several Maghreb countries have attempted to diversify their economies through **tourism** (Figure 6). This has been possible because of the proximity of the region to Europe as well as an excellent 'holiday' climate, varied landscape and interesting culture. The five Maghreb countries boast 28 **World Heritage sites** between them including Carthage, the Medinas of Fez and Marrakesh, Cyrene and the Kasbah of Algiers.

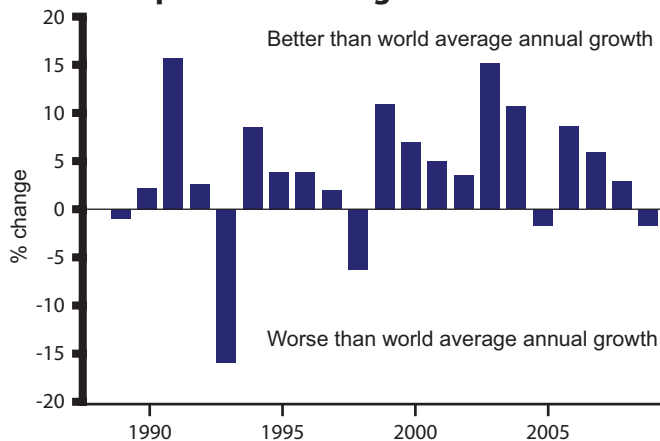
**Figure 6: Tourism and the economy**

WTTC data	Tourism as % of GDP 2009	Tourism employment (% of all) 2009
Algeria	5.0	4.4
Libya	8.6	8.8
Mauritania	No data	No data
Morocco	16.2	14.0
Tunisia	16.7	15.6

North Africa as a whole (which includes Egypt) is second only to the Caribbean in terms of tourism's overall contribution to economic activity. The Maghreb countries are aware that tourism is an intensely competitive industry but one that has not shown particularly strong growth in recent years (Figure 7, page 9).



**Figure 7: Travel and tourism growth in North Africa compared to world growth 1989–2009**



(Source: adapted from WTTC Travel and Tourism Economic Impact North Africa report, 2009)

### Tourism development in Morocco

Morocco is attempting to reinvigorate its tourism economy by large-scale development. **Vision 2010** was launched in 2001. This is a major development project expected to cost upwards of \$2.2 billion. Its aims are:

- to increase tourist numbers to 10 million by 2010 (including 7 million international arrivals)
- to create 160,000 new hotel beds – 130,000 at coastal resorts and 30,000 in cultural destinations. This would increase Morocco’s total to 230,000
- to increase the value of tourism revenue to around \$40 billion per year
- to create 600,000 new jobs in the tourism sector
- to increase tourism’s share of national GDP to 20% by 2010.

A key part of Vision 2010 is the development of **six coastal resorts** under **Plan Azur** (Figure 8a and 8b), to be developed by private property development companies. As well as these large-scale resorts, investment in urban cultural tourism is planned to take place at more traditional cultural attractions across Morocco. This will focus on encouraging private sector investment in new and refurbished hotels and visitor facilities to increase the quality of the tourism product and compete with European city-break destinations. As part of Vision 2010 Morocco has undertaken a large-scale economic liberalisation of air travel, including an Open Sky agreement with the EU signed in 2006.

**Figure 8a: Vision 2010 and Plan Azur**



**Figure 8b: Details of the six Plan Azur coastal resorts**

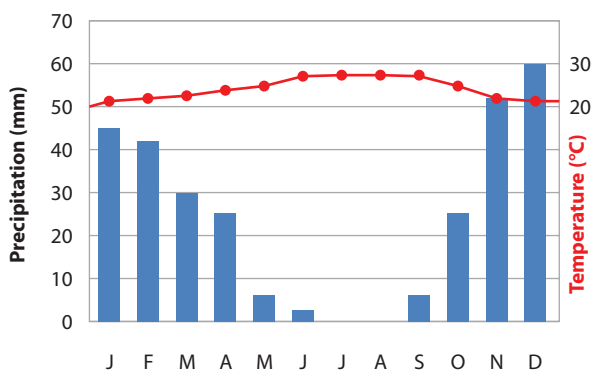
- 1 Saida:** Over 700 hectares, up to 17,000 hotel beds and 3,000 villas, three golf courses and a marina. Developed by Spanish property developer Martinsa-Fadesa.
- 2 Khemis Sahel:** The development, called Port Lixus, is being constructed by Belgium company Thomas and Piron and French company Colbert-Orco. Two golf courses, a marina, 7,500 hotel beds and villas are being constructed.
- 3 El Haouzia:** A 5-star hotel resort, called Mazagan, developed along 15 km of coastline being built by Kerzner Group (based in the Bahamas), which also developed The Palm Dubai.
- 4 Mogador:** 4 km from the World Heritage Site of Essaouira, this golf resort with over 8,000 hotel beds is being developed by French company Accor.
- 5 Taghazout:** Colony Capital (USA) is developing a seven hotel, two golf course beach resort along 5 km of coastline.
- 6 Plage Blanche:** Located where the Sahara meets the sea, the site is yet to attract a developer.

This has encouraged low cost airlines such as Ryanair and Easyjet to increase flights to Morocco and there has been an expansion in air transport:

- 11.3 million international scheduled passenger arrivals in 2008, compared to 6.4 million in 2002
- an increase in airlines flying to Morocco from 22 in 2002 to 44 in 2008.

In 2004 Royal Air Maroc founded its own low cost airline, **Atlas Blue**, which now flies between Menara International Airport in Marrakesh and many European destinations. **Mohammed V International Airport** in Casablanca is currently undergoing an expansion to increase its capacity to 10 million passengers per year.

**Figure 9: Climate graph for Agadir**



**Environmental issues**

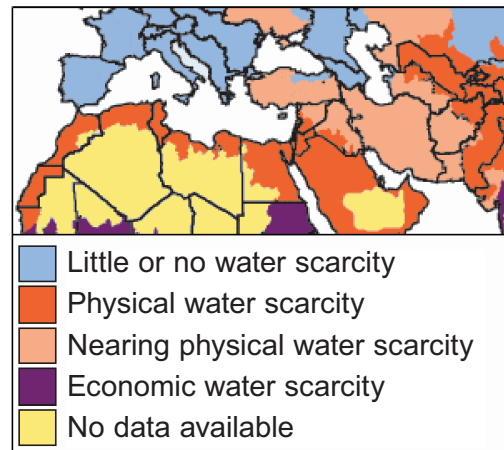
Much of the Maghreb region is arid or semi-arid and this means it is in a challenging position in terms of water supply (Figure 10). Many Maghreb countries rely on groundwater. In the past some, like Libya, have over-abstracted coastal groundwater allowing salt water incursion to pollute aquifers. There is a growing reliance on **fossil groundwater** in some locations such as Libya. In order to increase freshwater supplies significant investment in **desalination** is occurring. For instance, Algeria has a programme to open 14 desalination plants by 2010 capable of producing some 2.3 billion cubic metres of potable water per day.

As most urban, agricultural and industrial development in the Maghreb is concentrated in a narrow coastal strip, there are fears that the problem of **desertification** will grow as urbanisation and irrigated farming continues to expand. Much of the area is vulnerable to desertification as shown in Figure 11.

Already much of the terrestrial ecology in the region is under threat (Figure 12). The Maghreb contains many important **ecoregions**, many of which are under threat from human activities, including:

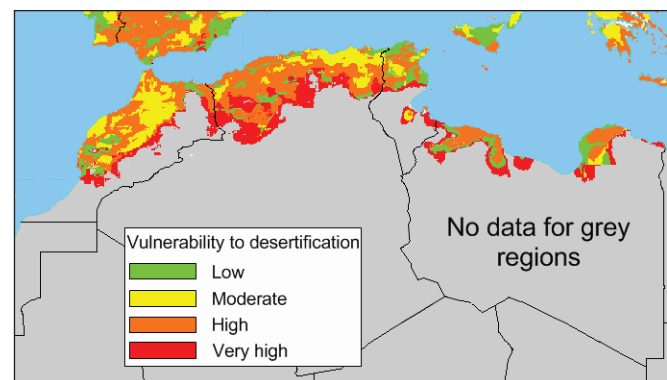
- *North Saharan steppe and woodlands*
- *Atlantic coastal desert*
- *Mediterranean woodlands and forests.*

**Figure 10: Water scarcity**



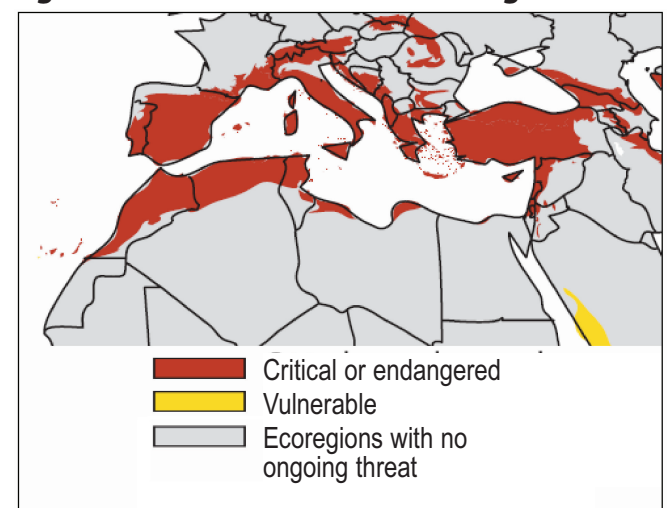
(Source: IWMI Comprehensive Assessment of Water Management in Agriculture, 2006)

**Figure 11: Desertification vulnerability**



(Source: UNEP GEO-3)

**Figure 12: State of terrestrial ecoregions**



(Source: UNEP GEO-4)

## Views on the Maghreb

### View 1

Of each US\$100 spent on vacation by a tourist from a developed country, it is estimated that only around US\$5 stays in a developing country's economy. Other estimates of leakage include a study of Thailand where 70% of all money spent by tourists ended up leaving the country.

**Leap Local tourism website**

### View 2

They [experts on terrorism] say North Africa, with its vast, thinly governed stretches of mountain and desert, could become an Afghanistan-like terrorist hinterland within easy striking distance of Europe. That is all the more alarming because of the deep roots that North African communities have in Europe and the ease of travel between the regions.

**New York Times, 20 February 2007**

### View 3

The groundwater situation in Maghreb countries has been marked by continuous decreases of aquifers levels. This decrease has been caused by the joint effects of drought, climate change and socio-economic development. The consequences of over exploitation of water reserves have been a reduction in river outflows, drying springs and sea water intrusion. The Souss aquifer in Morocco has decreased by 40 m during the last ten years and the Mitidja aquifer in Algeria by 20 m [1996–2006].

**Climate change and its impact on water resources in the Maghreb region, WWC 2009 by Abdelfadel and Driouech**

### View 4

French President Nicolas Sarkozy is on a state visit to Tunisia to meet President Ben Ali, to clinch bilateral deals on civil nuclear energy projects, aviation contracts and the Mediterranean Union project. Shortly after he took office, Sarkozy visited Algeria and Tunisia to promote his vision for a Mediterranean Union, aimed at strengthening economic ties and cooperating on immigration issues and the war on terror.

**France 24 news website, 2008**

### View 5

It is in the Maghreb countries' interest to facilitate trade among themselves as well as with the European Union. To this end, stronger efforts are needed to coordinate economic, institutional and legal reforms within the region, for instance by strengthening the secretariat of the Arab Maghreb Union and its regional cooperation mechanisms.

**Rodrigo de Rato, Managing Director, International Monetary Fund, 2005**

### View 6

It would be good for the rest of the continent to sell to each other, but you need infrastructure and a common market. We now have a market of one billion inhabitants. Progress has been slow, but progress has been made and things are moving faster. The first step is regional, and then you move to a continental market. The key is taking down barriers to foster economic growth.

**Jean Ping, Chair of the African Union Commission, 2009.**

### Internet sites for further research:

- Morocco's tourism development strategy can be explored in depth at:  
[www.tourisme.gov.ma/english/2-Vision2010-Avenir/1-en-bref/enbref.htm](http://www.tourisme.gov.ma/english/2-Vision2010-Avenir/1-en-bref/enbref.htm)
- The WWF (in partnerships with National Geographic) has detailed information on the ecoregions of the Maghreb:  
<http://www.worldwildlife.org/science/ecoregions/item1847.html>
- Trends in tourism in North Africa are available from the World Travel and Tourism Council  
[www.wttc.org](http://www.wttc.org)
- <http://www.north-africa.com/> is a North African news website

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