

# Pearson Edexcel Level 3 GCE

## Geography

### Advanced Paper 3

Sample assessment material for first teaching  
September 2016  
**Resource Booklet**

Paper Reference  
**9GE0/03**

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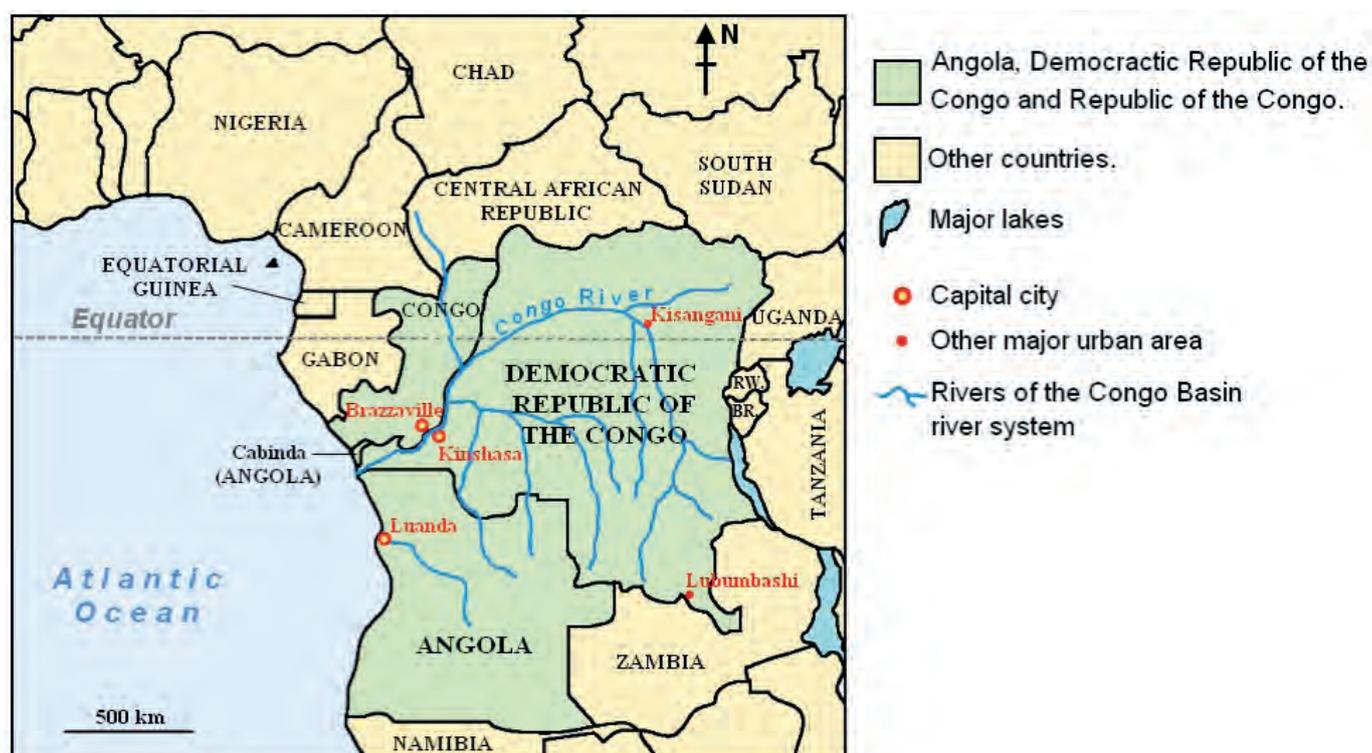
## Resource exploitation in the Congo Basin of west central Africa

### Section A: The region and its forests

The **Republic of Congo** (referred to here as Congo), **Angola** and the **Democratic Republic of Congo** (referred to as the DRC) are three countries in Africa within the Congo Basin (Figure 1). All were colonies in the past.

- **Angola** gained independence from Portugal in 1975 after a long war of liberation; civil war plagued Angola until 2002.
- The **DRC** was a Belgian colony until gaining independence in 1960, and was called Zaire between 1971 and 1997.
- The **Congo** was a French colony until independence in 1960.

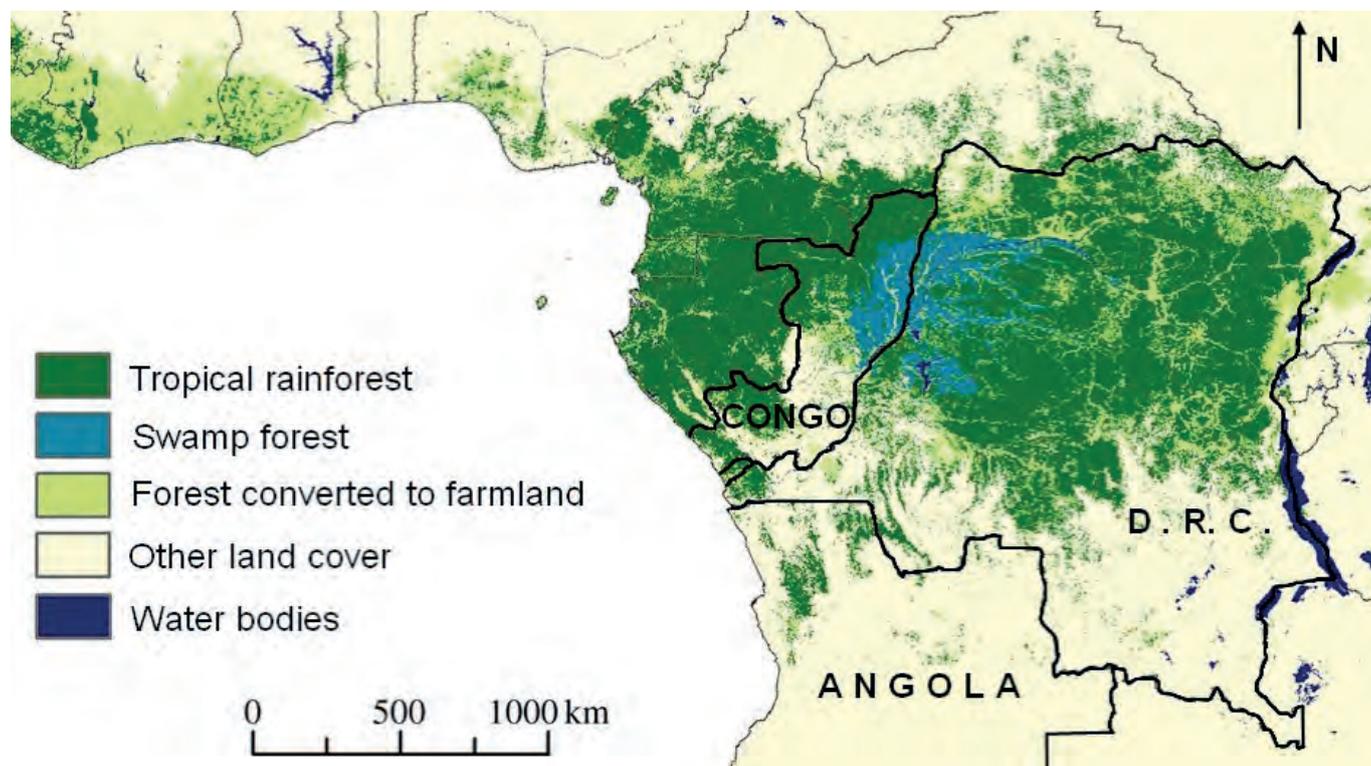
**Congo** and the **DRC** have capital cities (Brazzaville and Kinshasa respectively) on opposite banks of the Congo River.



**Figure 1: A map of the three countries and wider region**

Africa's tropical rainforests are concentrated in the area of the Congo Basin (Figure 2). Rainforests cover only 13% of Africa, but store 90% of all carbon stored in terrestrial ecosystems in Africa.

- The Congo Basin rainforests are the second largest in the world after the Amazon rainforest.
- Africa's rainforests support 60 million people directly, in terms of food supply, fuel wood, timber for construction and other products, medicine and fibres.
- By global standards, deforestation rates in the Congo Basin are low, and falling.
- Access to forests is difficult, due to poor road networks, and mining is seen as more profitable than tropical timber.



(Source: State and evolution of the African rainforests between 1990 and 2010, Published 22 July 2013 from <http://rstb.royalsocietypublishing.org/content/368/1625/20120300.figures-only>)

**Figure 2: A map of forest cover in central Africa**

## SECTION B

### Development, economic and trade data

The DRC and Angola are classified as Least Developed Countries (LDCs) by the United Nations, and are two of 34 LDCs in Africa.

- 70%+ of people in the DRC live on less than US\$1.25 per day (40% in Angola and 30% in Congo).
- Only two countries in Africa (Botswana and Cape Verde) have managed to 'escape' the classification, since the LDC country classification was introduced in 1971.
- While these countries are poor by global standards, they are rich in terms of natural resources.
- The mineral resources of the DRC have been estimated to be worth US\$24 trillion and both Congo and Angola have \$ billions of crude oil still to exploit.

Country	Income per person (US\$)	Population aged 0-14 (%)	Population with electricity (%)	Infant mortality rate (per 1000 live births)	Life expectancy	Average annual GDP growth (%) 2003-2013	Gini co-efficient (income equality)
Angola	5170	48	35	102	52	10.3	58.6
Congo	2590	43	37	36	58	4.5	47.3
DRC	430	45	15	86	49.5	6.2	44.4

**Figure 3: A table showing selected development indicators for the three countries, 2013-14**

## SECTION C

### Economic and trade data

This region of Africa produces resources that are important globally.

- In 2014 Angola was the world's 16th largest producer of **crude oil** and Congo the 39th.
- The DRC is the world's largest producer of **cobalt ores**.
- The DRC is the world's 8th largest producer of **copper ore**.
- The mineral **coltan** (or columbite-tantalite) is produced in the DRC and nearby Rwanda; the DRC is the world's 3rd largest source of coltan.

These metals are found in a wide variety of consumers products (Figure 4).



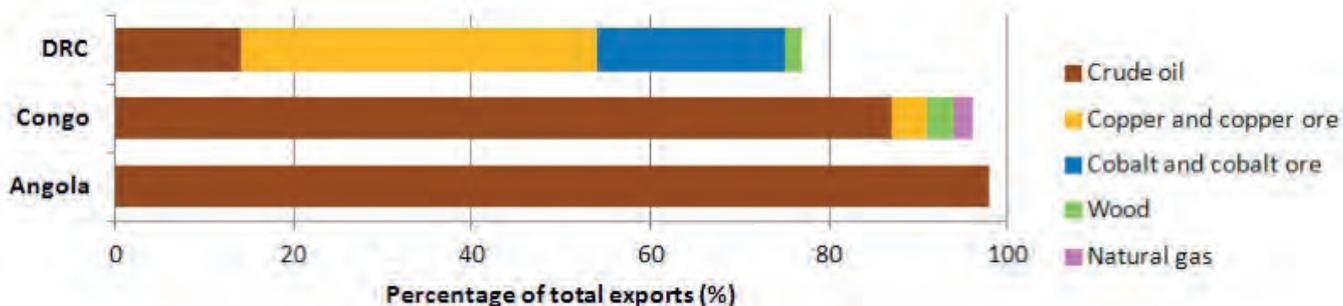
(Source:Image 19049807 – Sergeii Kolesnyk/123RF \ Image 19671147 – bloomua/123RF \ Image 14270106 - martm/123RF)

**Figure 4: Detail of three resources from Africa used in consumer electronics**

The region is connected to the wider global economy by its rich natural resources, which are exported globally (Figure 5).

- Raw materials make up a significant percentage of total exports.
- The largest import and export partners for the three countries are shown in Figure 6 and their main imports are shown in Figure 7.
- The price of mineral exports from the region is determined by global markets, on the basis of supply and demand.

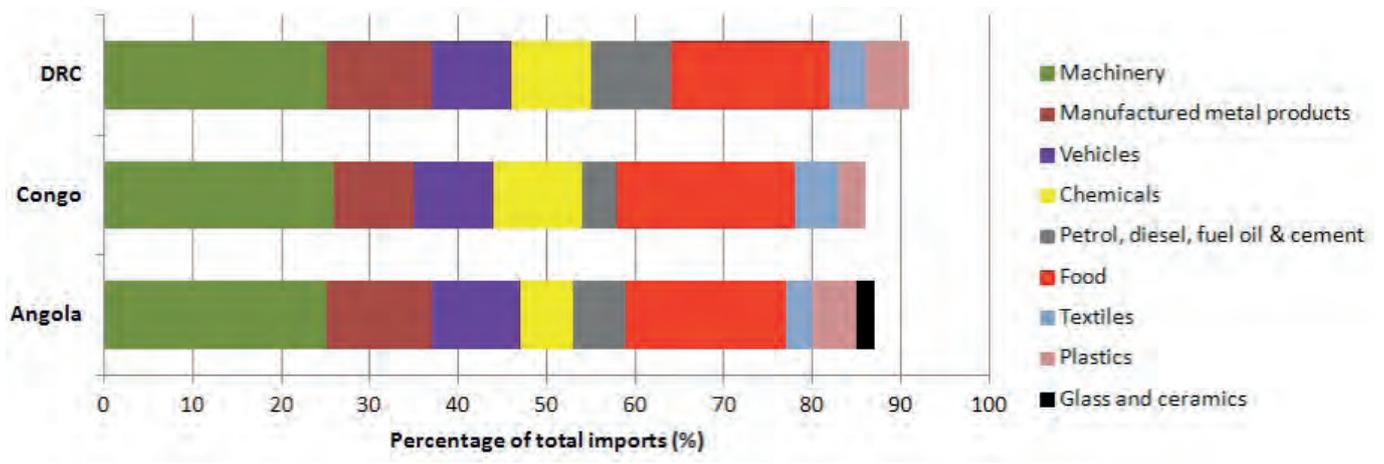
Like all commodities, mineral prices vary from day to day and year to year. Figure 8 shows changes in crude oil, cobalt and copper prices between 2003 and 2013.



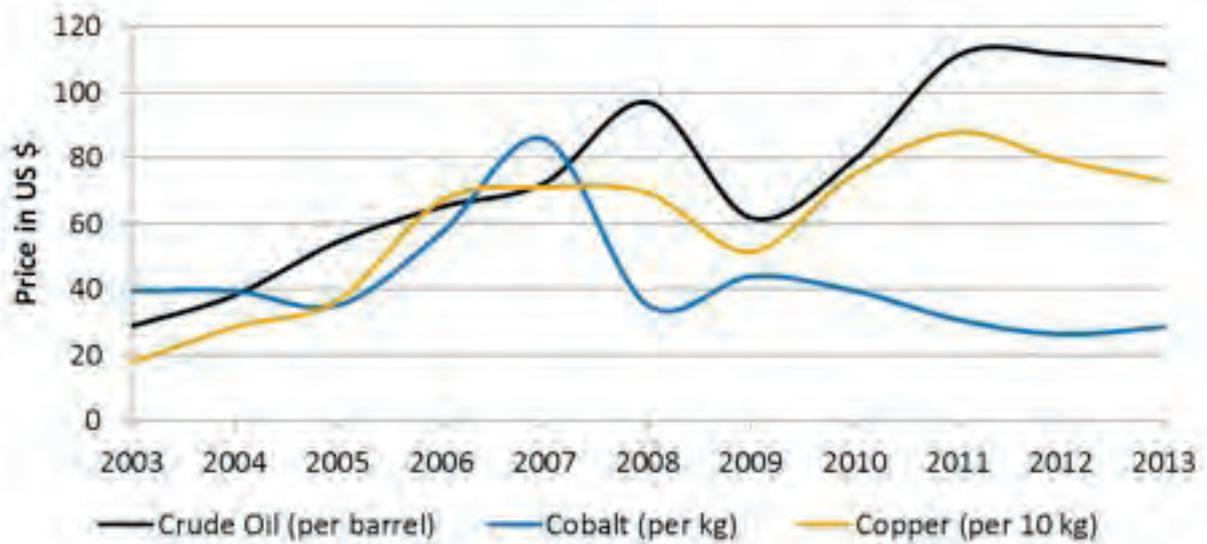
**Figure 5: A graph showing major exports for the three countries in 2012 (for exports over 2% of total exports)**

Imports from: (US\$ billions)	Country	Exports to: (US\$ billions)
South Africa \$1.6  China \$ 0.8  Belgium \$ 0.4 	<b>DRC</b>	China \$ 3.3  South Korea \$0.2  Finland \$0.2 
France \$ 0.7  China \$ 0.5  Brazil \$ 0.3 	<b>Congo</b>	China \$ 3.9  France \$ 0.9  Australia \$ 0.7 
China \$3.9  Portugal \$ 3.8  South Africa \$ 1.6 	<b>Angola</b>	China \$ 28.7  India \$6.9  South Africa \$2.8 

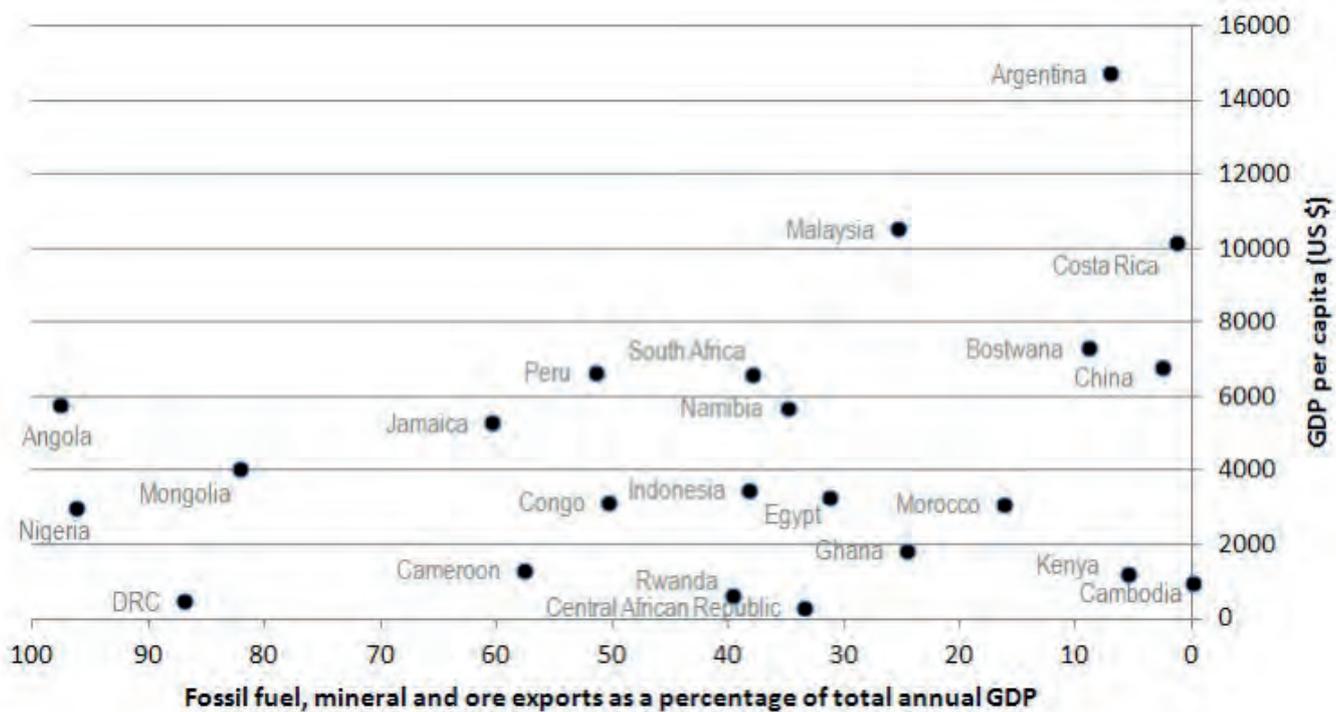
**Figure 6: A table showing the three largest import sources and export destinations for the three countries in 2012**



**Figure 7: A graph showing major imports for the three countries in 2012 (for imports over 2% of total imports)**



**Figure 8: A graph showing crude oil, cobalt and copper prices 2003-2013**



**Figure 9: A scattergraph of natural resources exports versus income per person (2013)**

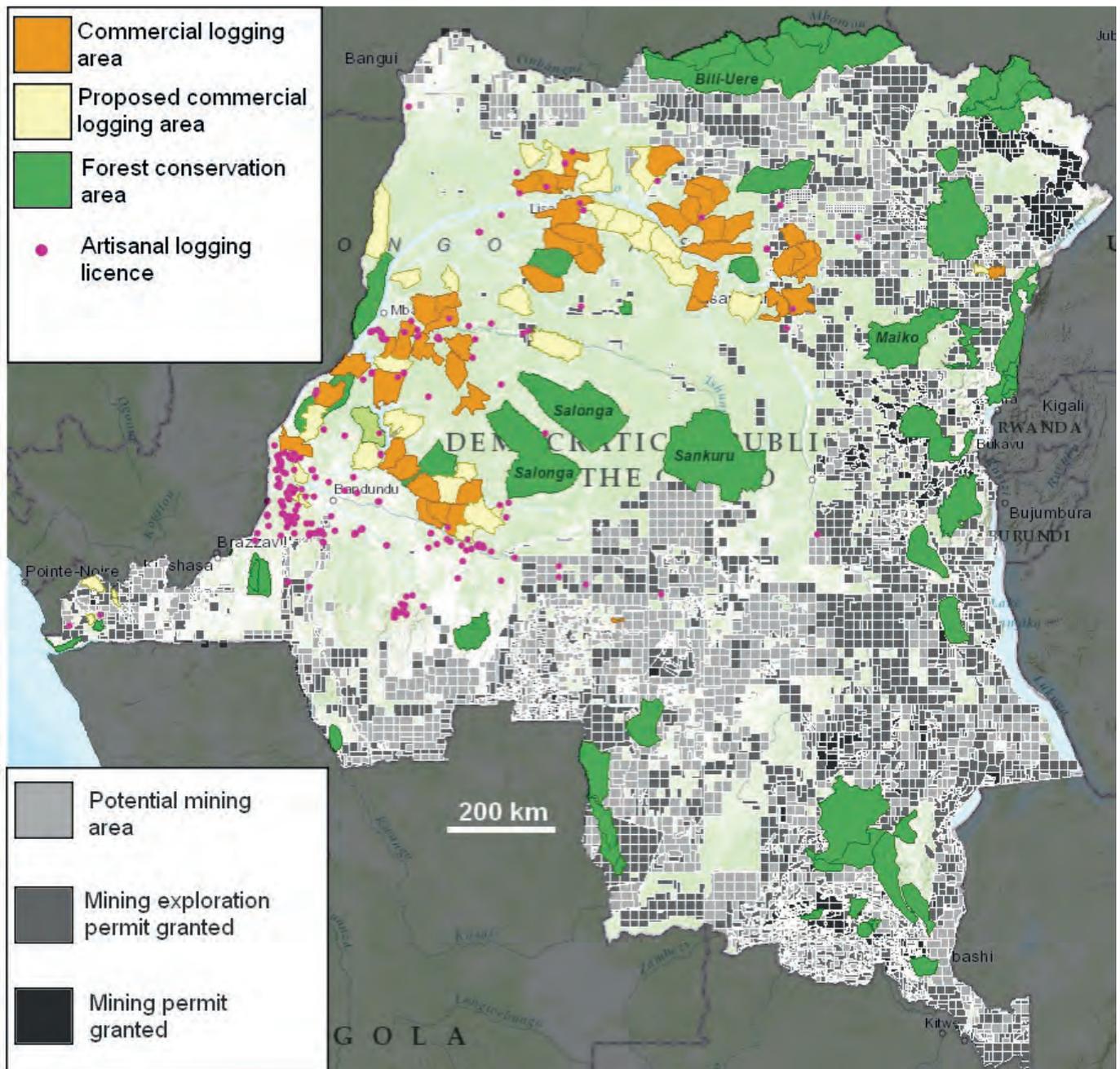
## SECTION D

Although abundant natural resources might be considered a blessing for a country, the concept of the 'Resource Curse' is that abundant natural resources sometimes prevent economic development rather than promote it.

- Resource-rich countries may rely on exporting raw materials, often cheaply, preventing the development of manufacturing and service industries.
- Investment, whether local or foreign, may focus on exploiting resources rather than invested in other sectors such as manufacturing or services.

Some natural resources in the region are, or have been, examples of **conflict minerals**.

- Minerals extracted in a conflict/war zone with the profits used to fund the conflict.
- Control of mines and mining areas is a key goal within the conflict.
- Even today, many mining areas are controlled by military groups in eastern DRC as part of the ongoing Kivu Conflict between the government of the DRC and rebel Rwandan Hutu forces.
- In Angola both oil and diamonds played a key part in funding the civil war between 1975 and 2002.



(Source: Taken from: <http://www.wri.org/applications/maps/forestatlas/cod/index.htm#v=atlas&l=fr>)

**Figure 10: A map showing logging, mining and forest conservation areas in the DRC**

Artisanal mining	TNC mining and oil drilling
<ul style="list-style-type: none"> <li>• Up to 12 million independent miners work in the <b>DRC</b>, 20–30% of whom may be children.</li> <li>• Coltan and cobalt are mined on a small scale with basic hand tools in open pits.</li> <li>• Successful miners can earn US\$50 per week, more than can be earned from either farming or timber cutting.</li> <li>• A complex chain of trade moves ores to warehouses many of which are Chinese owned.</li> <li>• The minerals are used by global electronics TNCs.</li> </ul>	<ul style="list-style-type: none"> <li>• French and Italian TNCs Total and Eni extract 70% of oil production in <b>Congo</b>.</li> <li>• In <b>Angola</b> the government oil and gas company Sonangol has joint-venture operations with TNCs Total, Chevron, ExxonMobil, BP, Statoil, and Eni.</li> <li>• Chinese companies Sinopec and the China National Offshore Oil Corporation are increasingly active.</li> <li>• In the <b>DRC</b> mining companies from Australia, the UK, USA and Canada extract copper and other minerals.</li> </ul>
	
<p>(Source: <a href="http://www.fairphone.com/2014/10/02/research-trip-visiting-tin-tantalum-and-tungsten-mines/">http://www.fairphone.com/2014/10/02/research-trip-visiting-tin-tantalum-and-tungsten-mines/</a>)</p>	<p>(Source: © Christopher Poe)</p>
<p><b>Artisanal mining in the DRC</b></p>	<p><b>Offshore oil rig, Angola</b></p>

**Figure 11: Photos of Artisanal miners and TNCs**

<p><b>View 1: Angolan oil</b></p> <p>Next to the sleek skyscrapers and luxury apartments (<i>in Luanda</i>), ramshackle shantytowns and crowded slums spread for miles in every direction, housing millions of people living on less than \$2 a day. In many cases, even basic necessities like water and electricity are lacking.</p> <p><b>(CNN report on Angola, 2012)</b></p>	<p><b>View 2: Coltan mining in the DRC</b></p> <p>Illegal mining exploits child labour as well as destroying the habitats of many species such as chimpanzees and gorillas that are already in grave danger due to poaching and deforestation.</p> <p><b>(The Jane Goodall Institute, 2014)</b></p>
<p><b>View 3: China in Africa</b></p> <p>It is rather difficult to answer whether Chinese-African relationship is a win-win or one-sided deal. There is no doubt that Chinese cooperation with Africa is a well-thought-out, wise and strategic decision of the Chinese government and Chinese market players. But what is in it for Africa in the long run?</p> <p><b>(Economics Student Society of Australia, 2013)</b></p>	<p><b>View 4: African economic growth</b></p> <p>Economic growth in Sub-Saharan Africa continues to rise from 4.7% in 2013 to a forecasted 5.2% in 2014. This performance is boosted by rising investment in natural resources and infrastructure, and strong household spending. Growth was notably buoyant in resource-rich countries.</p> <p><b>(World Bank, 2014)</b></p>

**Figure 12: A table showing some views about resource exploitation in the region**

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