Geofile for AQA
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Population characteristics of countries at different levels of development

This **Geofile** looks at the demography of countries at different stages of economic development, to see how a population changes its behaviour as development progresses. Many factors affect demographic behaviour, including religion, status of women and the level of their education, so economic progress is far from being the only factor. Nevertheless, people do plan their families according to their personal wealth and economic circumstances. Economy affects death rates through spending on health, education and other services. The countries explored in this **Geofile** (Figure 1) have been selected to be representative of a variety of economic situations and stages in the Demographic Transition Model (DTM).

Afghanistan

Statistics from Afghanistan are notoriously difficult to obtain. Censuses are rarely conducted and when they are, their accuracy is highly questionable. The UN estimated the population at 23,897,000 in 2003, yet the CIA World Factbook quotes 28,717,213 for the same year, a significant difference. Other methods are used to collect and verify data, including satellite photographs and predicting from known baseline figures. What is certain is that Afghanistan's population is growing rapidly (Figure 3). It is typical of a Stage 2 country in the DTM and its economy is traditional, the first stage of the Rostow Model of Economic Development.

Birth rates remain high, while death rates, despite two decades of war, have decreased significantly (Figure 2). UN estimates suggest a growth rate of 3.88% per annum between 2000 and 2005. 43% of the population are aged under 15 and only 3% are 65 or over. There are 107 males for every 100 females. Infant mortality rate is the highest in the world, with 38% of newborns not reaching their first birthday in the most difficult rural areas. The national average is 16%, still

Figure 1: A summary of the countries under study

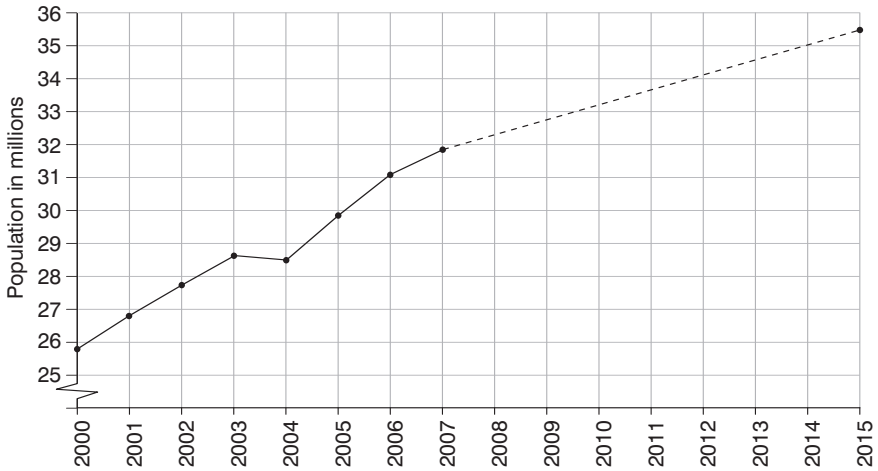
Country	Economic classification	Stage in DTM in 2008
Afghanistan	Very poor LEDC, held back by political instability	2
Bangladesh	LEDC, more stable, but with environmental limitations	3
Brazil	NIC, with religious factor important	3
USA	MEDC - world's largest economy	4
Germany	MEDC - well developed economically, EU senior member	5

Figure 2: A comparison of key statistics

Country	BR/1000	DR/1000	% NI/year	Life expectancy Male/Female	GDP/ capita $	HDI
Afghanistan	46.6	20.3	2.63	41.9/43.4	222	0.312
Bangladesh	28.9	8.3	2.06	61.0/61.8	2053	0.547
Brazil	19.7	7.1	1.26	68.1/75.5	8402	0.800
USA	14.5	8.3	0.62	74.3/79.9	41,890	0.951
Germany	8.7	10.6	-1.90	75.2/81.2	29,461	0.935

Sources: The Economist (2005) 'Pocket World in Figures'; www.ilo.org; UNDP Human Development Reports

Figure 3: Population growth in Afghanistan 2000–2015



Year	Population	Year	Population
2015 est.	35,473,000	2002	27,755,775
2007	31,889,923	2001	26,813,057
2006	31,056,997	2000	25,838,797
2005	29,928,987	1993	17,691,000
2004	28,513,677	1979	15,551,358
2003	28,717,213		

Sources of figures: CIA World Factbook; Encyclopedia of the Nations

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Figure 4: Children at play in Afghanistan

Source: http://richardmcguire.com/travel/asia/afghanistan/img0007.htm

incredibly high. The fertility rate is 6.69 children per woman, finished family size, which is high compared with other LEDCs (see Bangladesh and Brazil below) (Figure 4).

Afghanistan is relatively sparsely populated, at 42 persons/km^2. Most people are rural, 79%, and 20% are nomadic, making data even more difficult to collect. Of the 21% urban dwellers, most are in Kabul, the capital (2,536,000 people). The second city is Herat (349,000), followed by Kandahar and Mazar-e-Sharif (324,800 and 300,600 respectively - Central Statistics Office, Afghanistan). Urban population growth rates are even higher than the national average, at 6.9%, the result of high natural increase plus in-migration. The situation is complicated by people migrating in both directions between countryside and city to escape fighting.

War has been an almost constant feature of Afghan life for 20 years. It is estimated that three million have died in war since the last official census in 1988, while up to six million have crossed borders seeking safety in Pakistan and Iran. Some fled as far as the USA.

Afghanistan's demographic characteristics are unlikely to change until a long period of peace with external aid allows the economy to develop. Most rural people produce subsistence crops or are nomadic herders, yet the country has considerable agricultural potential, especially if more irrigation systems were to be employed. Today, the best land is used for growing poppies for heroin production.

The political and social systems operating in Afghanistan are responsible for holding it back economically and demographically. When the Taliban took over in 1996, educational and career opportunities for girls and women ended. In 2000 88.9% of the female population aged over 14 had no schooling at all, 5.9% had attended primary school and 4.0%, secondary school. Only 1.3% had been to university. The inverse correlation between female education and birth rate is well-known. Few job opportunities mean girls stay at home and cannot work outside it as adults. Under the Taliban, a woman's place was clearly in the home; girls' schools were closed and professional women (teachers, lecturers, doctors, etc.) were no longer allowed to work. Women had no access to medical care, as male doctors were not allowed to treat them.

This is an extreme example of lack of opportunity, the worst in the world today. The situation has improved since the Taliban government was ousted in 2001, but the current political situation still limits economic development. Without economic opportunity and a huge change in attitude regarding gender roles, the demographic situation in Afghanistan is likely to change little.

Figure 5 compares population pyramids for the five countries under discussion in 2000 and 2005. Afghanistan's (Figure 5a) is typically the shape of a country barely in Stage 2 of the DTM. Its base is wide and its sides taper in quite quickly. Life expectancy is short (Figure 2) but growth continues quite rapidly till 2025.

Bangladesh

Economically, Bangladesh is in the second 'preconditions for take-off' stage of the Rostow Model. Early in Stage 3 of the Demographic Transition Model, it has a low DR of 8.3 and relatively high BR of 28.9, presently dropping, but still with some way to go, and high compared with that of Brazil and the MEDCs. Nevertheless, it is much lower than Afghanistan's, which is at an earlier developmental stage in all respects. When Bangladesh's pattern over time is seen, progress is obvious.

In the 1980s Bangladesh's greatest problem was population growth. Its 1981 growth rate of 2.3% had increased to 2.6% by 1988. From 1901–1981 the population had tripled, and the youthfulness of the population (35.2% aged below 15 years) meant it would be very difficult to reverse the trend and get growth rates to fall. Official estimates of numbers in 2000 were around 140 million, and 150 million by mid-2007. Likely to grow to around 180 million by 2015, Bangladesh's population should then turn the corner of growth and start to become more stable. Birth rates have reduced from 47/1000 in 1961 to 28.9 in 2005; the average number of children per woman is now only 3.2.

This reduction in growth rate is shown in Figure 5b where, in the 2000 pyramid, the two youngest cohorts (age groups), 0–4 and 5–9, are narrower than those above. Yet by 2025 it is predicted that there will still be significant growth. However, economic and space pressures may alter people's reproductive behaviour more radically.

Bangladesh is already one of the most densely populated countries in the world, with the vast majority of its inhabitants (79% in 1999) being rural dwellers, identical to the less developed Afghanistan. This is the country's most pressing problem. It has limited land from which to feed itself, and even that is reducing as river flooding and rising

sea levels wash away the edges of the chars (offshore islands), displacing thousands of people to places where they cannot find land to feed themselves, to the city slums of Dhaka.

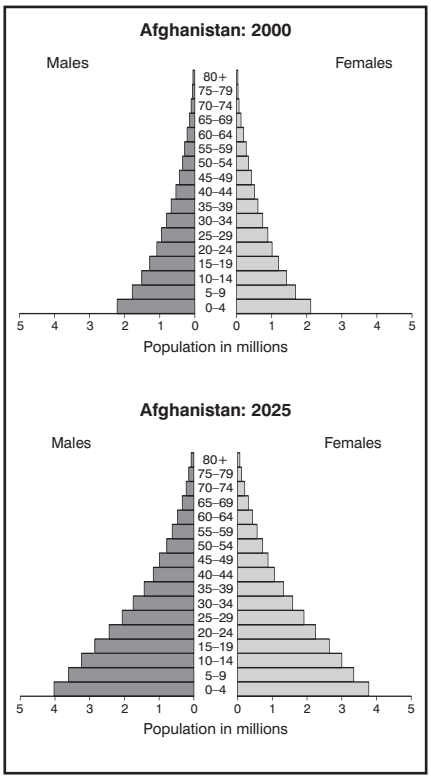
There is hope for Bangladesh. As its economy grows, so will opportunities. Its HDI (Human Development Index) is 0.547, placing it 140th out of 177 countries measured, higher than Afghanistan's (0.312 and 174th) but well behind any country classed as an NIC or MEDC.

Brazil

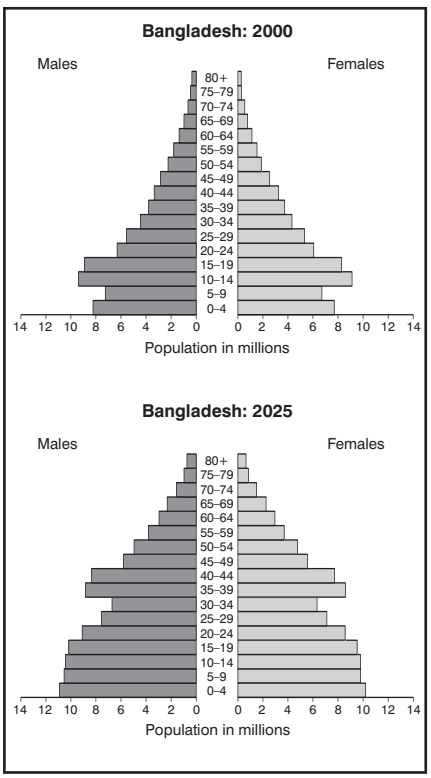
Brazil is classed as an NIC (newly industrialising country). It is still an LEDC rather than an MEDC, but it is developing fast and is in the process of transition. Like Bangladesh, it is in Stage 3 of the Demographic Transition, but is rather further through this.

Brazil's pyramids (Figure 5c) show a more mature demographic situation altogether. The 10–14 year old cohort is the first one to be narrower than those above it and the younger age groups follow. By 2025 this trend will have reduced the size of the 0–4 cohort (16.6 million in 2000) to 13.7 million. Brazil's population will almost double between 1975 (when it was108 million) and 2015 (210 million is predicted), but the 2005 figure of 186.8 million shows the growth rate is slowing down. The annual growth rate between 1975 and 2005 was 1.8%, but from the present to 2015, 1.2% is forecast. Only 27.8% of the population is younger than 15 years and finished family size has fallen to 2.3. This appears to show that the influence of religion fades as economic development takes place. Brazil is a Roman Catholic country, which traditionally encourages a higher birth rate.

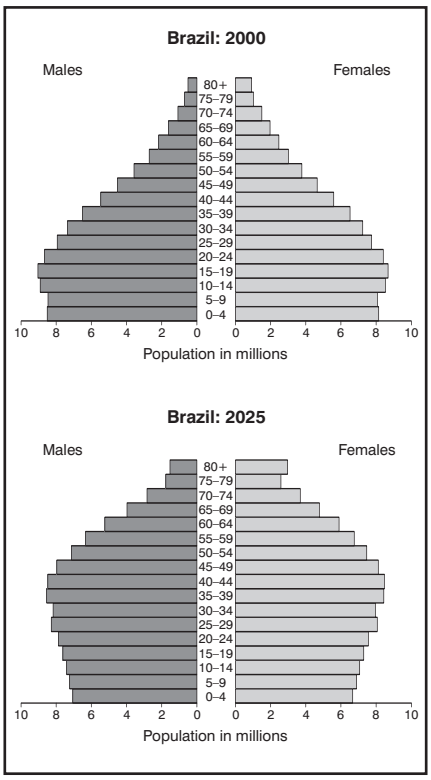
Figure 5: Pyramids for key countries, 2000 and 2025 prediction



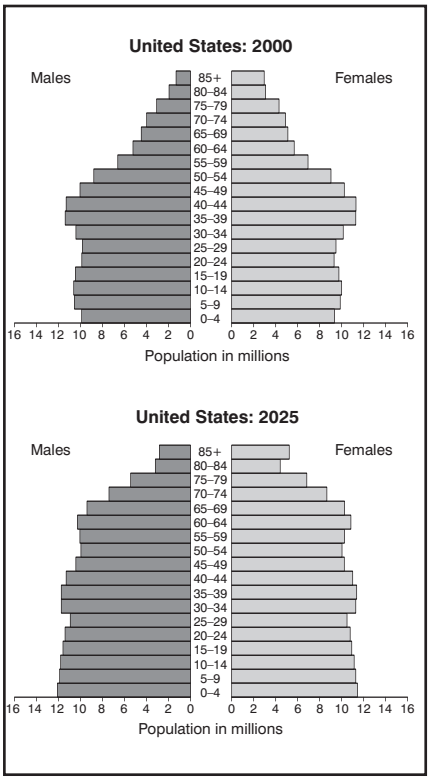
(a) Afghanistan



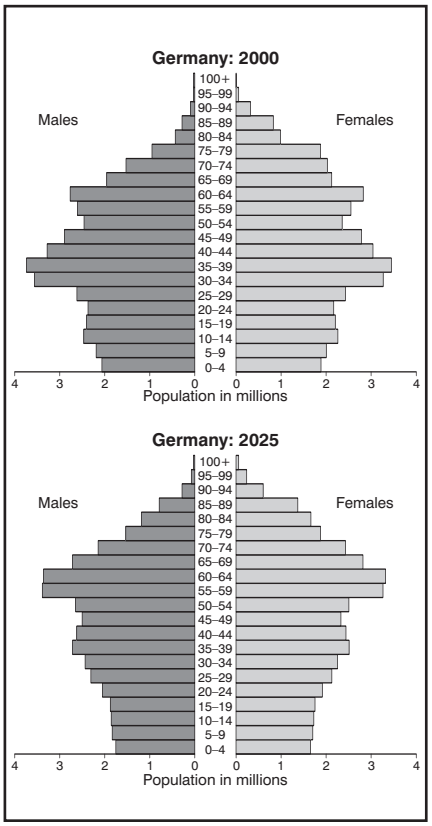
(b) Bangladesh



(c) Brazil



(d) United States



(e) Germany

Source: US Census Bureau, International Data Base

The apex (top) of the population pyramid is worthy of comment too, as significant changes are taking place there. The elderly (6.1% of the population in 2005) are a much more significant group than in Bangladesh or Afghanistan (3.5% and 2.2% respectively). This will be more so by 2025. Today in Brazil, male life expectancy is 68.1 years and female, 75.5. This is 71.7 years on average. This represents quite a wide gap between the genders.

Brazil's economic progress indicators are positive. Its HDI is 0.800, significantly above those already discussed (Figure 2), and it has risen steadily since this indicator was first measured in 1975 (Brazil's was then 0.649). 7.5% of people have less than $1 a day to live on, but in Bangladesh the correspinding figure is 41.3%. There are no statistics available for Afghanistan, but it is likely to be higher still.

Brazil is highly urbanised. This is common in Latin American countries, but today's figure of 84.2% is far above the 1975 level of 61.7%. By 2015, 88.2% of Brazilians will be town/city dwellers. This reflects the growing economic opportunities found in urban areas as the country develops.

USA

America is the largest and most developed economy in the world. It has the highest GDP/capita (Figure 2) and is in the 'high mass consumption' phase of the Rostow Model. Demographically, the USA is in Stage 4. Its HDI is not as high as one might expect, being only twelfth, and having fallen four places between 2006 and 2007.

The third largest country in the world after China and India, the USA has 301,139,947 people (estimated for July 2007). Growth is quite high, due partly to natural increase, but mainly because of immigration. The US recruits 600,000 new citizens this way annually. 329 million people will live there by 2015. Immigrants tend to have a higher birth rate than the MEDC in which they settle. It is therefore highly unlikely that the USA will enter Stage 5 demographically, where BR drops below the level of DR, unless its immigration policy changes radically. Growth rate has been 1% and will decrease slightly to 0.9%. 20.8% of Americans are aged below 15 years; this level is declining only very gradually.

12.3% of the US population are 65 years or older, and this shows clearly on the pyramid in Figure 5d. The 85+ age group will be particularly large, 8 million people (5.5 million women to 2.5 million men), or 2.7% of the total nation by 2025. This is an important trend once a country enters Stage 4. The US pyramids show quite straight sides, particularly the predicted one for 2025. This reflects long life expectancy, in this case 77.9 years. Total births per woman have remained steady at 2.0 since 1970, but while the Caucasian and Black birth rates have fallen slightly, Hispanic families remain larger. Many of today's immigrants are illegal Mexicans from just over the border. They are Catholic and maintain their tradition of having larger families – they have migrated from a Stage 3 LEDC. 80.8% of Americans are urban, and this is still growing. Most immigrants settle in cities. This is one of Ravenstein's Laws of Migration and it holds true today.

Germany

Germany is another example of an MEDC, almost as well developed economically as the USA with its GDP/capita of $29,461, but at a different stage of the DTM. When this theoretical model was devised to explain patterns of population growth, it included four stages. The fifth stage has subsequently been added to take account of natural decrease caused by very low birth rates and slightly raised death rates. An emphasis on lifestyle, women achieving high-powered positions at work and an ageing population, are factors that have brought about these changes. Countries in Stage 5 dominate in Eastern Europe today, though, ironically, that has been due to a lack of confidence in the economy and women being forced to work to make ends meet. Western European countries in Stage 5 alongside Germany are Sweden, Italy, Greece and Austria, with Spain, Portugal and Denmark coming very close.

Having 82.7 million inhabitants makes Germany the largest European country. It is one of the best examples of a Stage 5 country in the Demographic Transition process, as it has been in this situation for a particularly long time. Even as long ago as 1970 the number of children per woman was only 1.6, and today the figure is as low as 1.3, well below replacement rate (the number of children born to each woman to maintain zero growth, i.e. to replace the existing population). A BR of 8.7 and a DR of 10.6 results in natural decrease of 1.9% per annum (or a negative NI, of -1.9% per annum). This is despite Germany having a significant Turkish minority, with a tradition of larger families. This group has now been settled in Germany so long that their demographic behaviour has harmonised with that of the native population.

Population aged under 15 is only 14.4% in Germany (2005), contrasting with those 65+ at 18.8%. The population pyramid for 2000 was already recessive (narrowing at the base) and that becomes more so by 2025. It should become more straight-sided by 2050, but with fewer Germans! Society has already made changes to account for its changing structure, particularly the increasing proportion of elderly. Notice how the 2025 pyramid for Germany includes a bar for 100+. This age cohort will be more significant by 2050.

Conclusion

This **Geofile** has discussed only five countries. There is almost infinite scope for including others. An excellent set of statistics websites can be found by typing 'Human Development Report 2007/2008' into a search engine., followed by your chosen country.

Focus Questions

1 Using Figure 5, describe the shape of each pyramid and explain the differences for each country between the 2000 and 2025 structures.

2 For each 2000 pyramid, explain which characteristics make it typical of its DTM stage and its economic classification.

3 Short essay: 'To what extent does demographic behaviour reflect economic development? Use case studies from this Geofile and some you have researched yourself.'