

IGCSE

Bangladesh Studies

Study guide

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Introduction

The Edexcel International General Certificate of Secondary Education (IGCSE) in Bangladesh Studies is designed for schools and colleges. It is part of a suite of IGCSE qualifications offered by Edexcel.

About this guide

This study guide is for students who are taking the Edexcel IGCSE in Bangladesh Studies qualification. The guide supports you when you are studying the course content and explains how to improve your achievement. It covers examination Papers 1 and 2.

The guide for Paper 1 gives you information on all of the different sections on the history and culture of Bangladesh. Paper 1 tests your knowledge and understanding of different aspects of historical events and individuals that were important in Bangladesh.

The guide for Paper 2 gives you supporting maps, diagrams and tables to give you information and ideas. Paper 2 tests your knowledge and understanding of the topics and looks at whether you can use maps, diagrams and tables and understand their basic messages.

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Paper 1: The History and Culture of Bangladesh

Section 1 – Bengal before the Mughals

Hinduism and Buddhism in Bengal

Buddhism was the dominant religion in Bengal for more than 800 years. It was widely practised from the fourth century AD until the end of the twelfth century, and there were many Buddhist schools and monasteries. Buddhism was able to survive periods of persecution, such as during the reign of Shashanka in the sixth century, and from the seventh century onwards Buddhist rulers governed Bengal. The most important rulers were in the Pala dynasty, which came to power in the mid-eighth century and survived until the second half of the eleventh century.

The Pala dynasty governed Bengal very successfully. Although they were Buddhists, there was religious tolerance towards Hindus, who made up the majority of the people of Bengal. Brahmins were appointed to important civil posts and grants were given to Hindu temples which flourished during the period. The Pala rulers also appear to have looked after the welfare of their subjects. They provided tanks to supply water and built new towns. Ferries and roads were all supervised and there was a system of law and order throughout Bengal. There was a stable coinage and trade and commerce flourished. The exact nature of the administration is not clear, but lists of officials with responsibilities for these areas survive on copper plates. It was the efficiency of their administration, and their religious toleration, that enabled the dynasty to survive for so long.

Buddhist scholars from Bengal played an important role in spreading Buddhism to neighbouring countries such as Nepal, Sri Lanka, Tibet and Java. Visitors came to Buddhist schools in Bengal from all over the world and, during the Pala period, Bengal was the centre of the Buddhist world.

Evidence of the impact of Buddhism can be seen in the art and architecture produced during this period. The most outstanding example of Buddhist art is the Somapura Mahavihara at Paharpur, – the largest Buddhist site in India. Under the Pala dynasty, terracotta plaques, stone carvings and bronze sculptures were produced to a high standard. More than 400 paintings have been discovered in manuscripts; and similar works must also have been present in buildings. Poetry and literature blossomed, particularly in the tenth and eleventh centuries. Philosophical works and medical books were also produced at that time.

In the second half of the eleventh century, the Pala dynasty was replaced by the Sena dynasty. The new rulers were not Buddhist and royal support for Buddhism disappeared. Buddhist schools and institutions collapsed but Buddhism did survive in some areas, such as the Chittagong Hill Tracts. This survived the Mughal and British periods and re-emerged in 1887 in the form of the Chittagong Buddhist Association.

Task: Explain three ways that Bengal developed during the Pala Dynasty.

The spread of Islam

Sufis began to arrive in Bengal during the eleventh century. They believed that meditation was the way to achieve eternal life. Sufis taught that love of God was attainable through a spiritual guide and, consequently, Sufism was a peaceful movement. It tended to emphasise acceptance of conditions in life and recognition of authority. However, despite their rejection of violence, Sufis received a mixed reception. Shah Sultan Rumi was popular but Baba Adam Shahid was murdered. Sufis became much more influential after the arrival of Bakhtiyar Khalji in 1205.

Muhammad Bakhtiyar Khalji took advantage of the fact that the Sena dynasty had weakened Bengal and it was now easy prey for Turkish invaders invading from the north-west. Bakhtiyar Khalji was an adventurer from the Turkish tribe of Khalj. He tried to enlist as a soldier in the army of the Delhi sultan but was turned down because he was apparently too small. So he gathered a group of tribesmen and began to raid the borders of Bengal. He occupied Nadia and forced Raja Laksmanasena, the last king of the Sena dynasty, to flee. Within a year he controlled all the land north of the river Padma. Bakhtiyar Khalji did not attempt to conquer the rest of Bengal. Instead, he turned his attention to Tibet for reasons that are not clear. He launched an invasion in 1206 but suffered heavy losses in battle. He tried to retreat to Bengal but was murdered by one of his followers.

Despite his short reign, Bakhtiyar Khalji was a good administrator. He divided his kingdom into districts and appointed governors who were expected to maintain law and order, and support learning and culture. He issued coinage and built a new capital at Gaur.

Task: How did Bakhtiyar Khalji help the development of Bengal?

Sufis continued to arrive in Bengal during the thirteenth and fourteenth centuries, and throughout the Bengali Sultanate and the Mughal period. Shaikh Jalauddin Tabrizi built a mosque in Pandua and established a centre of learning. Hazrat Shah Jalal settled in Sylhet and attracted many disciples who later spread Islam throughout Bengal. Sufis played an important part in the development of literature during the Bengali Sultanate. Some were reputed to have miraculous powers and these were described in songs and stories. Sufis seem to have won a lot of converts to Islam during the thirteenth and fourteenth centuries. Hindus were attracted by the importance of brotherly love and equality. Buddhists were influenced by the idea of attaining God through love of His creation.

Task: Explain three reasons why Islam began to gain converts from the thirteenth century.

The Bengali sultans employed Sufis as ministers and officials. This was an important way of emphasising their right to rule as independent sultans. Sufis were regarded as saints and, therefore, if they backed the sultans, there was much less chance of a popular uprising. The Bengali sultans could, therefore, legitimise their rule and emphasise their independence from Delhi.

The Bengali Sultanate

After the conquests of Bakhtiyar Khalji, Bengal was still, in theory, a province of the Delhi Sultanate, but at the same time partially independent. A strong, united and independent Bengal did not emerge until the reign of Iliyas Shah, who came to power in 1342. Iliyas Shah fought a war against Alauddin Ali Shah from 1339, and in 1342 seized the throne of Lakhnauti. He then launched a series of attacks against other areas of Bengal and took control of Satgaon and Sonargaon in 1352. Iliyas Shah was the first ruler to establish a distinct identity for Bengal. He gave the name Bangalah to his new kingdom and the name Bengali to its people. Iliyas Shah can be considered to be the founder of Bangladesh. He took the title (amongst others) of Sultan-I-Bangalah. Despite this, Iliyas Shah was still described on his coins as the ‘right hand of the Caliphate’. He was therefore claiming to be part of a wider Islamic Empire. This may have been a gesture to avoid confrontation with Delhi, although events suggest that this would not have been necessary. This idea was to last into the fifteenth century.

Iliyas Shah launched further campaigns against Nepal and Orissa and established his authority in Bihar and as far as Benaras. His success led the Delhi Sultan, Firuz Shah Tuqhlqaq, to try and crush him. An army was sent from Delhi but it failed to defeat Iliyas Shah and a peace treaty was concluded. Iliyas Shah was confirmed as an independent Sultan of Bengal. The two sultans exchanged envoys and gifts from 1355 to 1358.

The administration of Bengal under Iliyas Shah was based on equality. Posts in the government were open to people from all creeds and castes. Raja Ganesh, an important Hindu landowner, became a senior official in the government in the early fifteenth century and his son, Jalauddin, became sultan in 1415. In fact, the Bengali Sultans began a trend of appointing Hindus to key positions, apparently believing that they were more likely to be loyal and efficient. Iliyas Shah appears to have adopted a tolerant approach to different religious faiths, in general terms, because, while he supported Sufis financially, he also appears to have provided money for saints and hermits of other faiths.

Iliyas Shah established an army from the local population rather than foreign auxiliaries and appointed governors to control districts. This was an important step in establishing his right to rule and in creating a distinctive Bengali administration. Gradually, the Bengali Sultans tried to emphasise that they were genuinely ‘Bengali’ as opposed to Mughal subahdars, who regarded themselves as foreigners. Iliyas Shah died in 1358, having founded an independent Sultanate that would last for more than two centuries.

Task: Explain three ways in which Iliyas Shah helped Bengal to become independent.

Iliyas Shah’s successors ruled Bengal until 1415, when Jalauddin Muhammad Shah, the son of Raja Ganesh, succeeded and ruled until 1435. The accession of Jalauddin marked an important change in the Bengali Sultanate. Iliyas Shah and his successors had wanted to establish their independence from Delhi and were still regarded to some extent as foreigners, Jalauddin and his successors regarded themselves as Bengalis and adopted Bengali customs to a greater extent. They were often referred to as ‘Rajas’, a Bengali expression, and used the symbol of the lion on their coins. Architecture began to make use of Bengali styles and the development of Bengali literature was encouraged. Nevertheless, Jalauddin, who had been born a Hindu, converted to Islam to make his position secure and asked for, and received, recognition from the Sultan of Egypt.

Jalauddin died in 1435 and the succession soon reverted to a descendant of Iliyas Shah. This dynasty ruled Bengal until almost the end of the fifteenth century and the accession of Hossain (Husain) Shah in 1494. He and his descendants ruled Bengal until the first Mughal attacks in 1538.

Hossain Shah

Hossain Shah had been the wazir of the previous sultan and had assassinated him in 1493. The following year, he was elected sultan by the leading nobles. Despite the rather dubious events surrounding his accession, Hossain Shah had a successful and seemingly unchallenged reign. He attempted to expand the territory of Bengal through a series of campaigns and there was prolonged warfare with Kamarupa, Assam and Orissa. He took possession of Chittagong which was held until 1538. However, his conquests, which expanded the borders of Bengal, were at considerable expense and cost. Opinions are divided as to whether his conquests can be regarded as a total success. Opinion is also divided about his policy towards Hindus. Whilst many important ministers and officials were Hindu, holding the posts of chief minister and commander of the bodyguard, there are also accounts of persecution of Hindus in some areas.

In fact, there appear to have been large-scale conversions from Hinduism to Islam during his reign and this may have resulted from local attacks. It is quite possible, however, that Hossain Shah was unaware of the extent of the persecution. What is certain is that he had great respect for Sri Chaitanya (1486-1533) the founder of Vaisnavism and supported his teaching and missions.

It was during the reign of Hossain Shah that the Portuguese arrived in Bengal for the first time and that diplomatic links between the two powers were established. His reign also saw an expansion of Bengali literature and the Mahabharata translated into Bangala for the first time. Despite Hossain Shah's achievements, as a result of which Bengal experienced one of its most successful periods, his successors were unable to maintain his conquests. Bengal was about to come into conflict with a far more powerful force and over the next 70 years would have to fight for survival.

These attacks on Bengal came from the Mughal Empire. Nusrat Shah, the son of Hossain Shah, faced attacks from the first Mughal Emperor Babar. He was assassinated in 1533 and his son Firuz Shah was also killed in the same year. Mahmud Shah seized power but lost control of Assam and found himself facing attacks from another major power, Sher Shah from Afghanistan. Bengal was in the middle of a power struggle. After 200 years of independence, the Bengali Sultanate was in serious trouble.

Task: Draw up a timeline of the important changes in Bengal from 1205 to 1533.

Section 2 – Bengal in the Mughal Empire

The first decisive attack came from the north. In 1538 Sher Shah conquered Gaur, the capital of Bengal, and then went on to defeat Humayun, the Mughal Emperor. For five years he dominated an empire covering vast areas of northern India. From this point, Bengal was, nominally at least, part of a foreign empire. However, Sher Shah's success was short-lived and he died soon afterwards. The balance of power swung back to the Mughals, but it was not until the reigns of Akbar (1556-1605) and Jahangir (1605-1627) that real attempts were made to extend Mughal control over the whole of Bengal. During the reign of Akbar, West Bengal was occupied and brought under control but East Bengal remained outside the Empire. Here, opposition to the Mughals was led by the Bara-Bhuiyans, who were local chiefs and zamindars (landowners). They became the military commanders of areas of Bengal. The word bara suggests that there were 12 leaders, but there is some doubt about this. The most important of the Bhuiyans was Isa Khan, who controlled the Bhati region of East Bengal. He defeated Mughal forces in 1578, 1584, 1586 and 1594, but after his death in 1599 opposition to Mughal attacks began to decrease.

Islam Khan

The final conquest of Bengal was achieved by Islam Khan. He was appointed subahdar (governor) of Bengal by Jahangir in 1608. He set up his first base at Rajmahal but realised that he would need a more central capital in order to wage successful campaigns against the Bara-Bhuiyans in Bhati in the east. Islam Khan therefore decided to transfer his capital to Dhaka. From here he planned to launch amphibious campaigns, using the network of rivers to get into the heartland of Bara-Bhuiyan territory.

In December 1608 he began his campaign and advanced into the Bhati area. He attacked the Bara-Bhuiyans in early 1610 and occupied Dhaka in the summer. The Bara-Bhuiyans, commanded by Musa Khan, the son of Isa Khan, tried to hold up the advance but were forced back. By the end of 1611, all opposition was at an end and Musa Khan had surrendered. Other areas of Bengal also accepted Islam Khan as subahdar.

Previous attempts to subdue opposition in Bengal had failed because, once Mughal armies had left the area, local leaders who had submitted to Mughal rule went back on their promises. Islam Khan stopped this by not allowing leaders to return to their local areas. Once they had surrendered, they were forced to join the Mughal army and all their war materials were confiscated.

Having defeated the Bara-Bhuiyans, Islam Khan attempted to drive the Afghans out of their remaining areas of Bengal. In a series of campaigns he drove them from north-western Bengal. He also occupied the kingdoms of Kamarupa, Kuchbihar, and Kachkar which all became part of the Mughal Empire. In less than five years Islam Khan had succeeded in crushing Bengali resistance, something that Mughal generals had been trying to achieve for more than 30 years.

Not the least of Islam Khan's achievements was the recognition of the strategic importance of Dhaka. Centrally located, at the heart of the river network, it was an ideal place for a capital. It allowed military forces to travel easily into the troublesome eastern regions of Bengal and was perfectly placed for the development of trade. Islam Khan continued to centralise Mughal control of Bengal by establishing a uniform administration system. But he did not have long to enjoy his triumph or the grateful thanks of the Mughal Emperor in Delhi. He died in 1613 and was succeeded by his brother Qasim Khan.

Task: Explain three reasons why Islam Khan was able to conquer Bengal.

Despite Islam Khan's successes, Bengal was not an easy province to govern. There were constant revolts by zamindars and from 1624 the province was involved in a civil war within the Mughal Empire. There were also constant attacks from Arakan in the east and parts of the province were lost and recaptured on a regular basis. Nevertheless, Bengal was a valuable addition to the empire because it provided vast supplies of grain. In fact, the subahdars were constantly trying to expand the agricultural land by extending settlements. They often sent Sufis into new areas to convert the inhabitants and then encourage them to extend the land being used for agriculture.

Once Bengal had been completely occupied, Mughal administration was set in place. The governor of a province was the subahdar who was usually a trusted member of the ruling family or a senior civil servant. The powers of a subahdar were laid down in great detail and defined by the Emperor on his appointment. Subahdars were responsible for the government and defence of the province. Usually they were appointed for just two to three years to avoid them gaining a permanent foothold in the province. However, Bengali subahdars often held office for longer terms, six years on average. Subahdars were not responsible for finance or revenue collection. This was the responsibility of the diwan. This meant that responsibility for the administration of the province was split between two people. This was a further attempt to restrain the independence of provincial governors.

Dhaka and trade

Dhaka, which became the capital in 1610, developed into a major city and trading centre. Suburbs were built to house the growing number of civil servants and administrative officials, and banks set up to finance trading operations. There was a commercial centre for traders and even an area for Hindu scribes, who became more and more important as trade and commerce grew. Accurate records had to be kept and accounts and contracts drawn up. The fact that a whole area was set aside for scribes suggests that economic activity was well developed. As trade grew, so did the city of Dhaka. In the second half of the seventeenth century foreign visitors said that it stretched out along the banks of the rivers. One claimed that it was 40 miles (64 kilometres in circumference).

Dhaka had been an important trading centre before it became the capital, but from the mid-seventeenth century it blossomed. Traders came from Persia, Armenia, China, Malay, Java and Sumatra. In 1663 the Dutch established a factory and they were followed by the British in 1667 and the French in 1682. The most important trade was muslin. These fine cotton cloths were produced in villages, brought to Dhaka and then sold to Europeans at high prices. Most muslin was produced by the domestic system – groups of people, usually from the same family, working together. One would clean the raw material, another spin the thread and a third weave the cloth. If families were small, two or three might join together.

One European traveller described the Dhaka muslins as:

The finest and richest muslins are produced in this country, from fifty to sixty yards long and seven to eight hand-breadths wide, with borders of gold and silver of coloured silks. So fine, indeed are these muslins that the merchants place them in hollow bamboos, about two spans long, and thus secured, carry them throughout, Persia, Turkey and many other countries.

He went on to describe the other goods that were bought and sold in the markets of Dhaka, which included rice, silk, sugar, indigo, spices and butter.

Much of the development of Dhaka took place when Shah Shuja was subahdar (1639-1660), even though he moved the capital back to Rajmahal. He was the son of the Mughal Emperor Shah Jahan and he built the earliest surviving Mughal buildings in Dhaka including the Bara Katra and the Churihatta mosque. Under Shah Shuja, Bengal was apparently peaceful but in the late 1650s law and order began to break down. The main reason for this was Shah Shuja's attempts to seize the imperial throne when his father fell ill in 1657. His absence from Bengal was a serious problem and the administration was not completely restored until he was replaced by Mir Jumla in 1660. Mir Jumla was in office for only three years but he built forts, bridges and roads in Dhaka, and pacified the eastern frontier by re-conquering Kamarupa and forcing the King of Assam to make peace. However, during the campaign against Assam he fell ill and died. He was not replaced as subahdar until the following year and, by then, control of Bengal had lapsed once again.

Task: Why did Dhaka develop as a trading centre in the seventeenth century?

The zamindars, the local officials responsible for collecting taxes, were the main problem in Bengal. When the subahdar was absent for any length of time they easily became out of control. Zamindars were usually landowners and often inherited their posts. They therefore represented a tradition in Bengali society that had existed long before the Mughals or even the Bengali Sultans. Whenever Mughal control was relaxed, zamindars tended to step in. On the one hand this proved troublesome but, on the other, it did mean that a form of traditional authority survived in an area on the fringes of the Empire.

Shaista Khan

Mir Jumla's replacement was Shaista Khan, the last really effective subahdar of Mughal Bengal. Shaista Khan was the uncle of Aurangzeb, the Mughal Emperor from 1657 to 1707. He was a successful general who had already governed several provinces when he was appointed subahdar of Bengal in 1664 at the age of 63. Despite his age, he remained in office almost continuously for 24 years until 1688.

Shaista Khan's first action was to restore the administration of Bengal. Corrupt officials were dismissed and punished, illegal taxes were abolished and effective Mughal control was re-established. He then set about eliminating the trouble that had plagued the eastern border of Bengal for years. In 1665 he started a campaign to defeat Arakan and seize Chittagong. He had two main aims. One was to crush Arakan, the other was to eliminate the pirates who preyed on Bengali trade.

Shaista Khan began by isolating Arakan. He persuaded both the Portuguese to support him and the Dutch governor of Batavia to close his factories in Arakan. He then prepared an amphibious campaign of attack with Bhulua as the military headquarters. The island of Sandwip was seized and then used as a naval base. The attack began in December 1665 and was a complete success. Chittagong was besieged and taken at the end of January 1666. It became a province of the Mughal Empire. Arakan's fall prompted other rulers to submit and offer to pay tribute and Bengal was able to enjoy several decades of peace and prosperity.

It was during Shaista Khan's period as subahdar that Europeans began to arrive in Bengal in large numbers. He encouraged trade with them and tried to guarantee safe transport on roads and rivers. He constructed several major roads to support trade as well as to improve military transport. Europeans were granted privileges and allowed to trade on behalf of their companies. They were not, however, allowed to trade as individuals.

The English organisation trading in Bengal was the East India Company. It had first set foot in Bengal in 1633, establishing a factory at Hariharpur on the Mahanadi delta. The Company obtained an important position from the Bengal subahdar, Shah Shuja. It was permitted to trade in Bengal without any customs duties in return for an annual payment of Rs. 3000. It was this unique privilege which allowed the company, in time, to take control of Bengal. In the same year the English founded their factory at Hughli and another factory was opened at Kasimbazar in 1658. In 1668, a new factory opened in Dhaka, the capital of Bengal. The last factory was founded in 1690 in Kolkata.

Trade made Bengal, and Shaista Khan, very wealthy and he was able to build extensively. His most famous building is the Chotra Katra, which provided accommodation for merchants and travellers. This suggests how much Shaista Khan appreciated the importance of trade. He also built mosques and palaces and planned an embankment along the river Budiganga.

Bengal was also agriculturally very rich. This was one of the main reasons why the Mughal Empire wanted to conquer and hold onto it.

It is reckoned that during the Mughal period, the area of the province underused for arable farming doubled, providing vast supplies of wheat and other crops for the Empire. One traveller described journeying by rivers for 15 days and seeing on his right and left 'orchards, water wheels, prosperous villages and gardens, as if we were passing through a market'. Another noticed, on both sides of the Ganges, 'extremely fertile' fields producing a variety of crops. A third described how a particular variety of rice was 'sown and reaped three times in the same year without little injury to the crop'. Wheat and rice could therefore be sold very cheaply.

Shaista Khan died in 1688. As Mughal power declined in Delhi, his successors were unable to retain control of Bengal.

The last effective Mughal subahdar was Azimuddin (Azim-us-Shan) but the real ruler of Bengal from 1710 was Murshid Quli Khan, who founded the nawabi regime. For 50 years Bengal, although still technically a province of the Mughal Empire, once again became in practice virtually an independent state.

Task: Explain five ways that Bengal developed when Shaista Khan was subahdar.

Murshid Quli Khan

Murshid Quli Khan arrived in Dhaka in 1701 to serve as diwan to Azimuddin (Azim-us-Shan). He clashed with Azimuddin but was saved by the intervention of Emperor Aurangzeb. He was clearly successful in reforming the administration and finances of the province because he was promoted and honoured by Aurangzeb and allowed to rename his headquarters. Makhsusabad henceforth was known as Murshidabad.

When Aurangzeb died in 1707, the empire began to fall apart. Murshid Quli Khan was transferred to the Deccan, but returned to Bengal in 1710. By 1713 he was the most senior official in the province. From 1717 he virtually governed Bengal as an independent state. His main concern was to reorganise the finances. He carried out a survey of the province's resources, which included an assessment of the productivity of all agricultural land. He appointed new zamindars, often using Hindus because he believed that they would be more likely to be loyal to him. Failure to collect revenues or make returns on time could be punished with torture.

Murshid Quli Khan encouraged trade with European merchants and received payment in gold and silver in return for cotton cloths and silks. The financial market in Dhaka developed even further with the introduction of bankers, moneylenders and brokers. However, Murshid Quli Khan transferred the capital from Dhaka to Murshidabad. Nevertheless, he was responsible for several important buildings in Dhaka, including the Begam Bazar Mosque.

Murshid Quli Khan died in 1727 and was succeeded by a series of nawabs who ruled Bengal nominally as part of the Mughal Empire. However, they increasingly came to see themselves as independent of the Emperor in Delhi. The most important of the nawabs in the long term was Sirajuddaula, who was adopted as the heir of Alivardi Khan in 1752 and succeeded him in April 1756. Although Sirajuddaula was to reign for just over a year, his reign was to prove the most significant because it resulted in the British gaining control of Bengal. He was, therefore, the last independent ruler of Bengal for more than 200 years.

Task: Why did Bengal become virtually independent from 1717?

Section 3 – Bengal under British rule

Sirajuddaula found himself in a weak position when he became nawab in April 1756. Although he had been chosen as Alivardi Khan's heir, there were other claimants who were angry that they had been overlooked. The most important of these was Mir Jafar. He became even more angry when he was replaced as Paymaster of the Army (Bakshi). Sirajuddaula's accession also appeared to threaten the pre-eminent position that Murshidabad and its inhabitants had acquired in the previous 30 years. Most serious of all, Sirajuddaula wanted to restrict the British who had begun to abuse the trading privileges they had been granted by earlier nawabs. When the British refused to agree to his demands, he ordered an attack on Kolkata and drove the British out, imprisoning captives in what became known as the 'Black Hole of Kolkata'. Peace was soon restored and Sirajuddaula agreed to compensate the British for their losses, but a crisis was approaching. The British decided to take advantage of the divisions in Bengal and try to remove Sirajuddaula.

Robert Clive

The chief architect of the coup in Bengal was Robert Clive. After working as a clerk in the East India Company, he had joined the army and led the defence of Madras against French attacks in the early 1750s. His success was due to his brave leadership and readiness to take risks. When Kolkata fell to Sirajuddaula in 1756, he was given command of the army sent to recapture it. Clive retook Kolkata but then showed his political skill by forming a secret treaty with Mir Jafar. Clive realised that the East India Company's army was far too small to defeat Sirajuddaula and so he persuaded Mir Jafar to defect. This enabled Clive to win the battle of Palashi. Sirajuddaula was arrested soon afterwards by Mir Jafar's son. Clive had now won control of Bengal against overwhelming odds but was recalled to London in 1760.

Clive returned to Bengal in 1765 and began to reorganise the administration. Although the Mughal Emperor was virtually powerless, he persuaded him to accept 2.6 million rupees a year in exchange for Bengal and took the title of diwan for himself. This again showed Clive's political skill and it ensured that British rule of Bengal would not be challenged. Clive appreciated that he did not have the resources or knowledge to govern Bengal and, therefore, appointed a deputy, Syed Muhammad Reza Khan. He was responsible for the civil government and used traditional Bengali methods. Clive interfered as little as possible in the administration of Bengal and this reduced opposition to British rule. The East India Company took a share of the taxes but did not have to spend any time, effort or money collecting them. This became known as the Clive System or Double Government. Clive had showed both military and political skill in ensuring that the British won control of Bengal.

However, British control of Bengal was not totally successful. The Clive System enabled the East India Company and its servants to plunder the country's resources. As a result the economy and law and order collapsed. The famine of 1769/70, which destroyed one third of the Bengal population, was the result of the great ravage.

A devastating famine swept over Bengal between the reigns of Clive and Warren Hastings. The people of Bengal continued to suffer from maladministration, extortion, excessive greed of the administrators etc. Nearly 10 million people – about one third of the Bengal population – perished and the land turned into dense forests.

Task: Explain the importance of Robert Clive in the development of British rule in Bengal.

Below is an answer to this question. It is the Band 3 answer used in the marking exercise but it has been cut up and re-arranged. You can re-organise this answer into a form that makes sense as a way of practising essay writing.

1. Clive returned to Bengal in 1765 and began to reorganise the administration. Although the Mughal Emperor was virtually powerless, he persuaded him to accept 2.6 million rupees a year in exchange for Bengal and took the title of diwan.
2. Clive realised that the East India Company's army was far too small to defeat Sirajuddaula and so persuaded Mir Jafar to defect. This enabled Clive to win the battle of Palashi. Sirajuddaula was arrested soon afterwards by Mir Jafar's son. Clive had now won control of Bengal against overwhelming odds but was recalled to London in 1760.
3. The East India Company took a share of the taxes but did not have to spend any time, effort or money collecting them. This became known as the Clive System or Double Government. Overall, Clive had showed both military and political skill in ensuring that the British won control of Bengal.
4. Robert Clive played a very important role in the development of British rule in Bengal. After working as a clerk in the East India Company, he joined the army and led the defence of Madras against French attacks in the early 1750s. His success was due to his brave leadership and readiness to take risks.
5. He was responsible for the civil government and used traditional Bengali methods. Clive therefore interfered as little as possible in the administration of Bengal and this reduced opposition to British rule.
6. When Kolkata fell to Sirajuddaula in 1756, he was given command of the army sent to recapture it. Clive retook Kolkata and showed his political skill by forming a secret treaty with Mir Jafar.
7. This again showed Clive's political skill because it ensured that British rule of Bengal would not be challenged. He appreciated that he did not have the resources or knowledge to govern Bengal and, therefore, appointed a deputy, Syed Muhammad Reza Khan.

The Regulating Act, 1773

The East India Company's conquest of Bengal was also ruinous for the company itself. Before taking control of Bengal they declared handsome profits every year. Afterwards it ran at a loss. Parliament intervened to grant a loan and at the same time interfered in the company's affairs by enacting the Regulating Act, 1773.

The Act appointed a Governor-General, Warren Hastings, and a Council of four. There was to be a Supreme Court in Kolkata, which would have jurisdiction over all British subjects and their servants. All company officials were to be paid a salary and no one was allowed to accept gifts from Bengalis.

It was obvious that the British government was very concerned about corruption in the Bengal administration. Not only was giving presents to East India Company officials specifically banned in two of the main clauses, but the salaries of the Governor-General, the Councillors and the Justices were set at very high levels. Warren Hastings was to receive a salary of £25,000 a year which was unheard of in the eighteenth century. The Duke of Newcastle, reputedly the wealthiest man in Britain, had an annual income, from land, of £40,000 but he had to maintain numerous estates and great houses, as well as bear the expenses of being a government minister. Hastings's salary made him far better off. He clearly had a very important job to do.

Warren Hastings

Warren Hastings was not a newcomer to Bengal. He was an experienced administrator who 'knew the ropes'. He first arrived in Bengal in 1756 and, with the exception of a short period in Britain from 1765 to 1769, was there until 1773 when he became Governor-General. Hastings believed that Bengal was a naturally rich province with highly productive agriculture and skilled manufacturers who had suffered from misgovernment under the later Indian rulers and during the British takeover. It was his job to ensure that recovery took place. He believed that Bengal must be governed in the way its people were used to. Indian methods of government and law must be preserved. The British should aim 'to rule this people with ease and moderation according to their own ideas, manners, and prejudices'. In other words, Hastings appeared to understand the situation in Bengal and was prepared to work with Bengalis, and according to Bengal traditions of putting things in order.

In 1772, Hastings decided that the best way of finding out what Bengal could afford to pay was to invite competition for the right to collect revenue for a period of five years. Where the existing zamindars did not make adequate offers, higher bids would be accepted. This so-called 'farming' system was not popular and did not have the desired effects. After five years it was dropped. For the rest of Hastings's administration the East India Company negotiated revenue assessments year by year, usually with the zamindars.

By 1773, Hastings had appointed five provincial councils in Murshidabad, Burdwan, Dhaka, Dinajur and Patna which replaced district collectors. Hastings believed that the British must restore the law courts and justice system. He created new hierarchies of courts, both civil and criminal, under British supervision. The law administered by the courts was to be the law already in force in Bengal. Hastings set about obtaining translations so that Europeans administering it could understand it.

In 1773, Hastings's influence was restricted by the Regulating Act. The new councillors from Britain began to oppose Hastings's plans as they believed that Hastings was allowing the Bengal's resources to be wasted. For the remaining years that he was in Bengal, Hastings faced constant criticism and opposition from the councillors. The main problem was that the councillors had been sent from Britain. They were not used to the ways of Bengal and did not understand the province's traditions. They suspected Hastings was corrupt and was trying to make money on the side. They also objected to his military campaigns, which appeared to waste vast sums of money. In fact, India was being invaded by the Mahrathas, Hindu princes who overran the north and fought a series of wars with the British. The Mahrathas were finally defeated in the early nineteenth century at the battles of Laswaree and Assaye.

Warren Hastings showed his support for Bengali and Indian traditions by founding the Kolkata (Aliya) Madrasa in 1780. The Bengal Government took it over in April 1782. Bengalis were trained in Persian, Arabic and Muslim law and appointed to lower posts in government offices and courts of justices, particularly as interpreters of Muslim law. However, this move was not as generous as it appeared. Hastings was trying to appease opposition in Bengal by offering Muslims the possibility of employment opportunities.

Hastings returned to Britain in 1784 and was replaced two years later by Lord Charles Cornwallis. Unlike Clive and Hastings, Cornwallis had no knowledge or understanding of Bengal. His most famous achievement had been losing the American Colonies when he surrendered at Yorktown in 1781. Cornwallis arrived in India two years after the India Act had been passed. This act was an attempt to end the muddle and corruption that had existed since the British took control of Bengal in the 1750s.

Pitt's India Act, 1784

The main points of the Act were as follows.

- 1: A government minister would be responsible for checking the activities of the East India Company.
- 2: The Governor-General would work with a Council of three people and decisions would be based on majority voting.
- 3: There would be a permanent solution of the taxation problems.
- 4: Judicial and administrative systems would be set up.
- 5: All officials and military officers must disclose full details of property that they owned in India.
- 6: Anyone found guilty of corruption would be dismissed and imprisoned.
- 7: Gifts and rewards were banned under all circumstances.

Lord Cornwallis was sent out to implement the India Act, to stamp out corruption and to establish effective government in Bengal. He separated the company's trade from administration and established a highly paid and professionally disciplined civil service to run the province. A Board of Revenue was set up to control financial matters and district officials were placed under its direct supervision and control. A new authority, the Board of Trade, was established to look after the trading activities of the company, independent of civil administration. Cornwallis also set up four levels of law courts to deal with crime. A regular police system was developed to help the judiciary in administering justice and to maintain law and order.

There was no doubt that Cornwallis's reforms were effective, but he made one crucial mistake. He kept the administration completely in the hands of Europeans. He ignored the fact that before all rulers had shared powers and privileges with major local figures. Even during the early British rule, Bengali participation in the administration was quite extensive. Cornwallis set in place divisions between the British, Bengalis and Indians that were to last for more than 100 years and have extremely serious consequences.

Cornwallis's most important reform, the Permanent Settlement, was not finalised until 1793. This was an attempt to reach a final agreement with the zamindars about their status and responsibilities. Under the rules of the Permanent Settlement, zamindars and other landholders were declared as absolute owners of land. Their land was made freely transferable and inheritable according to Hindu and Muslim law. The revenue the government demanded from landholders was assessed in 1790 and declared fixed forever. The lands of any defaulting zamindars could be sold in public auctions in order to recover arrears.

Lord Cornwallis introduced the Permanent Settlement in the hope that the new system would encourage the zamindars to become improving landlords like their counterparts in Britain. It was expected that, in their own interest, they would encourage agriculture and uphold the interests of peasants. Cornwallis hoped that the Permanent Settlement would lead to an agricultural transformation in the country and then to an industrial revolution. Such a transformation never occurred.

Task: Explain three ways that Lord Cornwallis improved the administration of Bengal.

Clive, Hastings and Cornwallis

Task: Are the following pieces of information about Clive, Hastings or Cornwallis?

1. He worked as a clerk for the East India Company.
2. He set up a regular, paid police force.
3. He was appointed Governor-General in 1786.
4. He was accused of corruption by members of the Council.
5. He introduced the system of Double Government.
6. He won the battle of Palashi.
7. He separated the East India Company's trade from the administration.
8. He introduced the Permanent Settlement.
9. He declared that Bengal should be governed according to Indian methods of government and traditions.
10. He set up a professional, paid civil service.
11. He became Governor-General in 1774.
12. He refused to allow Bengalis to have jobs in the administration.
13. He captured Chandannagar.
14. He agreed to pay the Mughal Emperor 2.6 million rupees a year for control of Bengal.
15. He was appointed Governor-General of Bengal in 1764.
16. He introduced a tax-farming system in 1772.
17. He introduced a four-tier system of courts and justice.
18. He declared that Bengal was a British possession.

For each statement above, state who the information is about. For each person choose the piece of information that you believe was their most important contribution and explain it.

The development of the Bangla language

In the eighteenth century many people spoke Bangla, but it was not often used for writing. In the law courts and administration other languages, including Persian, were used. The main impetus for the development of Bangla in its written form came from missionaries who wanted to convert Bengalis to Christianity. The first type press was set up in 1778 but real progress was made when William Carey arrived in Bengal in 1793. He learned Bangla on the way out to Bengal and, in 1800, produced the first printed book in Bangla – the Gospel of Saint Matthew. Printing meant that the Bangla script had to be standardised. As long as books were written by hand there would always be differences in style. Standardisation meant that Bangla could be used much more effectively for administration.

Missionaries are often criticised for trying to change people's beliefs, but there had been a lot of missionaries in Bengal in the past, from many different faiths. Whatever the rights and wrongs of Carey's actions, he was primarily responsible for the first developments in Bangla. He became Professor of Bangla at Fort William College in Kolkata in 1801 and produced the first book of Bangla grammar. This enabled others to use Bangla as a literary language. Carey was also linked to the Serampore Press, set up in 1800, which printed books in Bangla. The Serampore Press published the first Bangla journal, *Masik Digdarshan* in April 1818.

By 1831 there were seven other journals published in Bangla. The first novels appeared in the mid-nineteenth century and from 1850 many scientific, historical, social and literary works were also produced. The work of Rabinandath Tagore will be discussed in *Section 8*, but his influence began in the second half of the nineteenth century.

The period from 1800 to 1860 is sometimes known as the ‘Bengal Renaissance’. The development of the Bangla language led to the creation of many societies, associations and organisations where Bengali nationalism was often discussed. From the 1860s, organisations aiming for independence from Britain began to appear. Most members of these organisations were Hindus. Muslims were largely unaffected. The number of people involved was also small. Nevertheless, the India League was set up in 1857, the Indian Association appeared in 1876 and the National Conference in 1883. Finally, the Indian National Congress was set up in 1885.

The War of Independence

In 1857, sepoys (Indian native soldiers) in the army revolted and attempted to bring an end to British rule. Bengal was affected by the fighting, although it was much less severe than in other parts of India. The most serious action took place at Chittagong. In November 1857, the Native Infantry of Chittagong released all prisoners from prison. They seized arms and ammunition, ransacked the treasury, set the Magazine House on fire and advanced on Tippera.

Plans were drawn up for the defence of Dhaka and reinforcements rushed in. However, by the end of the month most of the fighting had died down and several sepoys had been killed. Many were arrested and 11 were sentenced to death and executed. The sentences were carried out very quickly. Further trials took place in other areas and there were more executions. The sepoys received little support from the people of Bengal as a whole.

Landowners supported the British by supplying carts, carriages and elephants and informed the British about sepoy movements. They also organised local volunteer corps to resist the sepoys. The middle class also sided with the British, but the peasantry remained virtually untouched by the sepoy revolt.

The government of Bengal after 1858

The most important consequence of the events of 1857-8 was the end of the East India Company’s rule of India. After 1858 British India was governed by the Viceroy, who was appointed by the British Government. The Viceroy was the representative of the monarch, who after 1876, was known as the Emperor or Empress of India. The Viceroy had 700 personal servants and was paid a salary double that of the British Prime Minister. In Westminster there was a Secretary of State for India – no other part of the Empire had its own minister. The Viceroy’s salary and the post of Secretary of State showed how important India was to the British.

The Viceroy governed with the help of the Imperial Legislative Council, which was also appointed by the British Government and passed laws for India. To support him, the Viceroy had an administration of about 70,000 civil servants and soldiers. It was these positions that many young men from Britain went out to India to fill.

Bengal was governed by a Lieutenant-Governor who was responsible to the Viceroy in Delhi. Bengal was much larger than Bangladesh and included Bihar and Orissa. This made it one of the largest provinces in area and probably the largest in terms of population.

British control of Bengal and India was only possible because, for most of the time, the country was peaceful and the majority of Indians consistently supported the British. When the Indian National Congress (one of the movements that tried to end British rule) was set up in 1885, many protested their loyalty to Britain.

The Congress Movement

The Indian National Congress (INC) was set up in 1885 by an Englishman. It was intended to be a forum for educated, English-speaking Hindus to discuss and express any grievances against the British. It was a way of 'letting off steam'. At first, the Indian National Congress was active only at its annual gatherings. Its delegates were mostly upper caste Hindus and its leaders came from the legal profession. They did not support radical political or social change and were merely interested in having a say in government administration and the structures of political life. Until 1905 these moderate leaders confined themselves to political agitation by 'prayer-petition-protest'. At first Muslims were not attracted to the INC in significant numbers.

Sir Sayyed Ahmad advised Muslims to distance themselves from the INC in the interest of furthering Muslim solidarity.

The moderate leaders of the INC did not oppose British rule at first but, in the early years of the twentieth century, the situation began to change. 'Extremists' became influential in the INC and, in 1906, demanded Home Rule for the first time. In 1907 the INC's annual meeting turned into a struggle between moderates, who wanted to continue with the old policies, and work with the British and extremists, who wanted to adopt a more aggressive approach. The main cause of disagreement was the British decision to partition Bengal in 1905.

Section 4 – Bengal from Partition to Partition, 1905-1947

The first partition of Bengal, the birth of the All India Muslim League and the annulment of partition

In 1905 the Viceroy, Lord Curzon, announced that he intended to partition Bengal and create two separate provinces. The main reason was that the existing province was too large to be governed as one province. It had a population of 78 million and included Bihar and Orissa.

Curzon's proposal was to split Bengal into two sections. One of the new provinces would be called Eastern Bengal and Assam, with headquarters at Dhaka. The western half would include Bihar and Orissa.

Hindus opposed partition because it appeared to create a Muslim-dominated province. They also believed that it was an attempt to undermine the nationalist movements. Muslims tended to support partition because, in the new eastern province, it freed them from Hindu control.

As a result of partition the All India Muslim League was established in Dhaka in 1906. The League's objectives were to look after the interests of Muslims, promote their loyalty towards the British Government and improve Muslim relations with other Indian communities, particularly Hindus. Until the 1930s, however, the League was a comparatively small organisation and many Muslims supported Congress.

Despite Muslim support, partition led to serious unrest in Bengal and other areas of India. There were outbreaks of rioting and violence, a massive petition and boycotting (swadeshi) of British goods. A terrorist movement began in Bengal which resulted in several murders. The protests led to the decision being reversed in 1911, but the damage had been done. Although the British accepted that partitioning Bengal had not worked, they had introduced the element of communalism into Indian politics. This was to become an increasingly important issue and one that would have serious consequences in the future.

British attempts to reform the government of India

The Morley-Minto Reforms, 1909

The Morley-Minto Reforms were as a result of the protests against partition. They were the first real attempt to involve Indians in the government and administration of India. The men behind the reforms were the Secretary of State for India, John Morley, and the Viceroy, Lord Minto. The main aim of the reforms was to give Indians greater representation. Lord Minto also wanted to stamp out the violence and unrest that had broken out after the partition of Bengal. He himself had been the subject of an assassination attempt in early 1909.

The reforms led to the Indian Councils Act of 1909, which increased the number of members of the Imperial Legislative Council, the body that advised the Viceroy, to 60. Of the 60 members, 27 were to be elected. Indians were allowed to sit on the Imperial Legislative Council for the first time.

Direct elections for seats on provincial (local) legislative councils were introduced and for the first time some had a majority of elected members. This gave Indians a greater voice in provincial government.

Muslim organisations campaigned for special representation of Muslim interests, which led to separate representation for Muslims and other minority groups.

There were six Muslim representatives on the Imperial Legislative Council, as well as others on some provincial councils. This was the first time that specific representation was given to 'communal' or religious groups.

Despite the changes, many Indians criticised the Morley-Minto Reforms for not giving Indians any real influence in the running of the country. Very few Indians could actually vote, less than two per cent of the population overall. The Reforms also tended to divide Hindus and Muslims by treating them as separate communities. This established the principle of 'communalism', or communal representation, in Indian politics. This was the idea that different religious groups should be treated as different political groups. Once introduced, this was very difficult to change, and it eventually led to the second partition of Bengal in 1947.

The Government of India Act, 1919

During the First World War, most Indians supported Britain. They believed that in return they would be allowed self-government when the war ended. Indian hopes were raised even more on 20 August 1917 when Sir Edwin Montagu, Secretary of State for India, made the Montagu Declaration.

The **Montagu Declaration** was intended to increase the number of Indians in every branch of the administration, and the gradual development of self-governing institutions, with a view to establishing responsible government in India as an integral part of the British Empire.

To Indians this suggested that major changes were about to take place and that the British Government accepted that Home Rule was not far off. They were even more encouraged when Montagu and the Viceroy, Lord Chelmsford, toured India in 1917-18 and listened to local opinion. They produced a report in August 1918 suggesting reforms of the Indian government. However, when the war came to an end, the expected reforms did not happen. Instead, the British introduced the Rowlatt Acts in March 1919 and in the following month the **Amritsar Massacre** took place. More than 2000 Indians were shot in the Jallianwala Bagh by Gurkha troops under the command of Brigadier-General Dyer.

When the reforms were announced in the Government of India Act, December 1919, many Indians believed they had been betrayed.

The Government of India Act, 1919 – the Dyarchy

The first Government of India Act set up the system known as the 'Dyarchy', which divided power between British and Indian representatives.

An Executive Council was set up to advise the Viceroy. It included the Viceroy himself, the commander-in-chief of the army and six other members, including three Indians.

The Imperial Legislative Council was renamed the Imperial Legislative Assembly and increased to 146, with 106 elected members. This was to be the Lower House of Parliament.

A Council of State was set up, with 61 members, to review laws passed by the Assembly.

The British members of the Council dealt with areas such as defence, foreign relations and taxation, which were called the reserved ministries. The Indian members dealt with education, sanitation and agriculture, which were called the transferred ministries.

In the Indian provinces, an Executive Council appointed by the Governor would be responsible to a Legislative Council elected by popular vote.

Provincial governments would now have both Indian and British ministers.

These changes would have been almost unthinkable 20 years before. But in 1919, after the Rowlatt Acts and Amritsar Massacre, it was too little too late.

In fact there were **important weaknesses** in the act. Only 2.8 per cent of Indians could vote. The Provincial Assemblies soon found that they did not have enough money and could not carry out their duties. By far the most important weakness of the act was that Congress did not accept it. Before the First World War this would not have been a major problem as Congress had little influence but, in 1919 and 1920, Congress had become a national movement. In future, the British would have to get the support of Congress for any changes they wanted to make to the way that India was governed.

Congress refused to take part in the general election of 1920 and mounted a campaign of opposition led by Mohandas Gandhi. There were many arrests until a police station was attacked in 1922 and 21 Indian policemen were burnt to death. Gandhi called off the protests and, after two years in prison, retired from public life.

In Bengal, opposition to the Government of India Act came in from the **Khilafat Non Cooperation Movement** in which both Muslims and Hindus participated. This was part of a pan-Islamic movement set up by one of the last Sultans of Turkey. The movement encouraged non cooperation with the British authorities in all respects

During the observance of the first Khilafat Day on 17 October 1919, most Indian-owned shops remained closed in Calcutta, prayers were offered at different mosques, and public meetings were held all over Bengal. The conference decided to observe 19 March 1920 as the Second Khilafat Day.

19 March 1920 as the Second Khilafat Day

On 19 March 1920 the Second Khilafat Day was observed in Bengal. In Calcutta, life almost came to a standstill and numerous Khilafat meetings were held in Dhaka, Chittagong and Mymensingh. This was the first significant anti-British mass movement in which Hindus and Muslims participated on equal terms. In Kolkata, volunteer organisations were set up to train volunteers and enforce boycotts of foreign goods, courts and government offices.

The Khilafat movement became less influential after 1924 because Muslim leaders believed that cooperation with the British was the best way of achieving home rule.

The Government of India Act, 1935

In 1927, the **Simon Commission** was appointed to review the Government of India Act. Until then, the Muslim League had supported boycotting the Act, but **Muhammad Ali Jinnah** decided to cooperate with the Commission. He saw it as an opportunity to push forward Muslim interests in India. His decision was supported in Bengal, and Jinnah even went so far as to move a meeting of the Muslim League from Lahore to Calcutta to gain a majority for his changed plan. This divided the League but created support for Jinnah. The Commission's report showed that the Act was not working.

In 1929, Jinnah decided to go further and he published his **Fourteen Points**. These did not demand a separate Muslim state, but did call for greater representation of Muslims. They also put forward Jinnah's idea of a federal India – strong provincial governments and a weak central government. This would allow Muslims to control the areas where they were in the majority, such as Hyderabad, Bengal and the Punjab.

In 1930, Gandhi launched his second campaign of non cooperation by beginning the **Salt March**. Once again there were mass arrests but this time the British government reacted differently. The Labour Party had been elected in 1929 and it decided to call the **Round Table Conferences** to reach a settlement. There were three conferences but they ended in failure. As a result, the British Government decided to pass a second Government of India Act.

The Act created a central parliament in Delhi with two chambers, both consisting of elected and appointed members. The elected members were all Indian. 250 seats were reserved for Indian constituencies and 125 for the Indian princes.

India was divided into 11 provinces, each of which had a legislative assembly and a provincial government. These provinces would control almost all policies, with the exception of defence and foreign affairs. The legislative assemblies would be mostly Indian.

Each province would have an appointed governor who retained the power to act in an emergency, for example to protect the interests of minorities, or maintain law and order.

The Viceroy would still be appointed by the British Government at Westminster and be responsible for defence and foreign affairs. However, the Viceroy would have to follow the advice of an Executive Committee (a committee of advisers), which was mostly Indian.

The Act kept the idea of communal representations and some seats were reserved for Muslims and other groups. Altogether, 938 seats out of 1525 were reserved for minorities.

Task: What important events happened in the following years?

1905, 1906, 1909, 1911, 1914, 1919, 1927, 1935

Task: The Government of India Acts 1919 and 1935, which is which?

Write the correct numbers of these statements in the chart on the following page.

1. There would also be a central parliament in Delhi with two chambers, both consisting of elected and appointed members.
2. The Assembly contained 250 seats for Indian constituencies and 125 for the Indian princes.
3. Large numbers of Indians could vote for the first time.
4. The Viceroy would have to follow the advice of an Executive Committee, which was mostly Indian.
5. Provincial governments would now have both Indian and British ministers.
6. A Council of State was set up, with 61 members, to review legislation passed by the Assembly.
7. Each province would have an appointed governor who retained the power to act in an emergency, for example to protect the interests of minorities, or maintain law and order.
8. In the Indian provinces an Executive Council, appointed by the Governor, would be responsible to a Legislative Council elected by popular vote.
9. An Executive Council was set up to advise the Viceroy. It included the Viceroy himself, the commander-in-chief and six other members, including three Indians.
10. Only 2.8 per cent of Indians could vote.
11. The British members of the Council dealt with areas such as defence, foreign relations and taxation; the Indian members dealt with education, sanitation and agriculture.
12. India was divided into eleven provinces, each of which had a legislative assembly and a provincial government.
13. The provinces would control almost all policies, with the exception of defence and foreign affairs.

14. The legislative assemblies would be mostly Indian.
15. The Viceroy would still be appointed by Westminster and be responsible for defence and foreign affairs.
16. The Imperial Legislative Council was renamed the Imperial Legislative Assembly and was increased to 146, with 106 elected members. This was to be the Lower House of Parliament.

Now put the statement numbers into the correct columns.

1919		1935
	Viceroy	
	Central Government	
	Parliament	
	Ministries	
	Provinces	
	Elections	

Congress and the Muslim League

Nehru rejected the Government of India Act because he wanted a complete break from Britain, not what he saw as a 'half way house'. He took the act as evidence that the British did not intend to give India complete independence. Congress also objected to the act because it reserved seats for minority groups, such as Muslims and the Indian Princes. Congress wanted strong central government of a united India and it did not want the power of a future government limited in any way. However, the majority of Congress leaders wanted to make the most of the opportunity that the act offered. In the 1937 elections Congress won 715 out of a total of 1585 seats and took power in eight states, but only after a statement that there would be no interference from governors.

The Government of India Act was an important turning point in relations between Congress and the Muslim League. Until 1927 the two organisations had often worked together but from then they began to drift apart. In the 1930s Jinnah had become increasingly annoyed because he believed that Congress was refusing to work with him to gain independence.

In 1935 the Muslim League also rejected the Government of India Act because it did not give enough power to Muslims. Congress would control most of the provinces and there would be no protection for Muslim minorities. However, Jinnah was prepared to use the act, which he believed could work in the favour of Muslims. He expected that Congress would cooperate with the Muslim League and allow it a share of the government posts in provinces where there was a Hindu majority. Congress refused to give any posts to the League and Nehru, on behalf of Congress, rejected any offers from Jinnah.

There were **two** main reasons for Congress's actions. The first was the poor performance of The Muslim League in the 1937 elections. It won only five per cent of the total Muslim vote and only 22 per cent of the seats reserved for Muslims. As a result, many Congress leaders believed that The League was not a serious opponent. The second reason was much more significant. Congress wanted to create a strong united India, not a weak federal state.

This disagreement led to the first real split between Congress and the Muslim League. Jinnah was furious at how Congress had treated him and was determined to build up the Muslim League. In the next two years support for the League grew rapidly and, in the late 1930s, the League began to campaign for a **separate Muslim state**.

Until the late 1930s there were many Muslims in Congress. An important effect of the attitude of Congress leaders was to persuade many Muslims to resign and join the Muslim League. This increased Jinnah's support and made him a much more important figure in India. However, Jinnah was not universally popular in Bengal. In 1936 a rival Muslim party, Krishak Praja (KPP), was formed in Dhaka. The KPP programme included abolishing the zamindari system, making peasants absolute owners of land, reducing the rent rate, giving interest free loans to peasants, digging canals all over the country, making the river navigation free by eliminating weeds and introducing free primary education. This programme was evidence of the basic differences between Bengal and the Muslim League. The League tended to represent well-educated Muslims from north-west India where there was an established middle class. Many Bengalis depended on agriculture and came from peasant backgrounds. These differences were to become very important after Pakistan became independent.

In the 1937 election in Bengal, Congress won 52 seats, The Muslim League 39, KPP 36, and various splinter groups and independent students won the rest of the 250 seats. Of the 36 KPP members elected, 33 were from East Bengal. The KPP was, therefore, an East Bengal peasant party. However, in many ways this was the high water mark for the KPP. From 1937 its influence began to decrease as The Muslim League became more influential. From 1937, The Muslim League increasingly represented the majority of Muslims in Bengal. In the 1946 general election the KPP won only four seats against The League's 114.

The impact of the Lahore Declaration and the Pakistan Movement

In September 1939, the Viceroy Lord Linlithgow announced that India had declared war on Germany, without consulting the Indian Assembly. The Muslim League backed the declaration and supported the British Government throughout. This gave Jinnah the opportunity to make further claims for a separate Muslim state.

In March 1940, Jinnah spoke about a Muslim state for the first time. This became known as the Lahore Declaration. He adopted the name 'Pakistan' which meant 'Land of the Pure', and which was also an acronym of the names of the provinces of north-west India: Punjab, Afghan Frontier Province, Kashmir, Sind and Baluchistan. Significantly, he did not include Bengal in the new name. The League became a much more powerful force during the war and increased its membership to more than 2,000,000.

The Lahore Declaration

'The Hindus and Muslims belong to two different religious philosophies, social customs and literature. They neither inter-marry, nor dine together and indeed they belong to two different civilisations, which are based on conflicting ideas. To join together two such nations under a single state, one as a minority and one as a majority, must lead to growing discontent and the final destruction of such a state.'

The Hindu Press described the Lahore Resolution as the 'Pakistan Demand'. The 1940 resolution did not mention Pakistan and spokesmen of the League were far from clear about what was intended. The Hindu Press helped the Muslim leadership by suggesting the idea of a separate state. On 15 April 1941, the so-called Pakistan Resolution was incorporated into the constitution of the Muslim League.

The Pakistan slogan spread rapidly among Indian Muslims and there were obvious reasons for this. To the Muslim peasants of Bengal and the Punjab, Pakistan was being presented as the end of Hindu zamindar exploitation. The Secretary of the Bengal Muslim League promised to abolish rents in 1944. Pakistan would also allow the small, Muslim business class to develop, free from Hindi competition. At long last Bengalis would be in control of their own destiny.

The reaction of Congress to the outbreak of war

Congress reacted quite differently to the outbreak of war. Congress leaders believed that Indians should have been consulted before war was declared and, therefore, decided to restart civil disobedience. Nehru and nearly 1700 leading members of Congress were arrested in 1940. Congress leaders also refused to accept the offers of dominion status after the war from the Cripps' Mission in 1942. Instead, they launched the 'Quit India' campaign, which led to widespread disturbances. About 30,000 troops had to be sent to restore order and there were more than 1000 deaths. The British retaliated, as they had done in the past, by arresting leading members of Congress, including Gandhi. Most remained in prison until 1944. Nehru was imprisoned until 1945. Congress virtually ceased to exist from 1942 to 1944.

On the other hand, the Muslim League expanded rapidly during the Second World War. Even in the late 1930s it was still a relatively minor organisation. In the 1937 elections it had performed very badly winning only five per cent of the Muslim vote. By supporting the British throughout the war, and refusing to back the protests of Congress, the League became much more influential and won a lot more members. During the war the League had its first opportunity to win British backing for a separate Muslim state, Pakistan.

By 1945, the Muslim League was a force to be reckoned with. It had grown to 2,000,000 members and in the provincial elections of 1945 it won 90 per cent of the Muslim seats.

This meant that Congress could no longer disregard the League as it had tried to do in the late 1930s. It also meant that the British now regarded the League as equal to Congress when it came to negotiating the future of India.

However, even within the Muslim League, it was expected that after the war Britain would withdraw from India. The Indian Army had remained loyal to the British throughout the war, as had many middle class Indians. Once the war ended, support for Britain began to disappear.

Subhas Chandra Bose and the Indian National Army

The most extreme opposition to British rule during the Second World War came from Subhas Chandra Bose. He was born in West Bengal and was President of the Bengal Congress Committee and Conference in the late 1920s. He became a friend and colleague of Jawaharlal Nehru. In 1939 he resigned from Congress because he opposed Gandhi's non-violent methods. He formed the Forward Bloc, which used militant methods to gain independence.

When the Second World War broke out, Bose declared his support for the Axis (Germany, Italy and Japan) powers. He was arrested by the British, but escaped and fled to Nazi Germany. After the outbreak of war in the Pacific, the Germans sent him to Singapore. There the Japanese allowed him to recruit Indian prisoners of war to form the Indian National Army. He was able to recruit about 20,000 Indian volunteers to join him and fought in the Japanese attempts to invade India from Burma. In 1943 Bose formed the Provisional Government of Free India but, in 1945, was killed in a plane crash in Taiwan.

There was little real support for the Indian National Army in India. After the war the leaders were arrested, put on trial for treason and then sentenced to transportation for life. Congress was outraged and protested strongly and the sentences were hurriedly changed to dismissal from the army.

Despite the failure of the Indian National Army, many Indian soldiers who had fought against the Japanese returned home with new ideas of independence. Under Japanese rule, nationalist movements had begun in many areas of south east Asia, and troops returning to India brought these ideas with them.

Congress and The Muslim League

Task: Describe the differences between the two organisations by completing the table below.

Congress		Muslim League
	Leaders	
	Members	
	Methods	
	Aims for India	
	Attitudes to the British	
	Second World War	
	Success?	

The Indian Independence Act and the second partition of Bengal

When the Second World War ended in August 1945, many important changes had taken place since 1939. Financially, Britain was exhausted. A **Labour Government** had been elected in July 1945. The members of the Labour Cabinet, led by Clement Attlee, did not believe that Britain had a right to govern the Empire. They wanted to give India independence as quickly as possible

The situation was also very different in India. In February 1946 there was a **mutiny** in the Indian navy in Mumbai which spread to the Indian army. The mutinies made the situation even clearer – Britain could not govern India.

Since 1940, the Muslim League had become much more important and now wanted a separate Muslim state. Congress still wanted a united India. The British Government's solution was to send the **Cabinet Mission to India** to try and reach a compromise. It suggested that the provinces should be grouped together, some with a Hindu majority and some with a Muslim majority. These would run the day-to-day affairs of the provinces and would control all areas of policy except for foreign affairs, defence and communications. These areas would be controlled by central government, which would be formed from representatives of the provincial groups. A new Assembly would be elected in Delhi.

Both parties accepted the plan grudgingly. **Elections** for the new Assembly took place with Congress winning 205 seats and the Muslim League 73. But, after the results were announced, Congress went back on its decision and rejected the plan. Nehru may have been surprised by the success of the Muslim League in the elections. He stated that 'Congress was not bound by a single thing'. When Congress refused to accept the Cabinet Mission's plan, the Muslim League also withdrew support. So the situation was back to square one.

Jinnah was angry that Congress had turned down the Cabinet Mission's proposals. He believed that Congress had broken an agreement to accept it and decided to try and pressurise Congress and the British. He called for **Direct Action** on 16 August 1946. Unfortunately, some of his supporters interpreted this as a call for violence. In Kolkata there were about 5000 deaths.

Both Congress and the Muslim League were appalled by the violence and agreed to join the Viceroy's interim government. The British Prime Minister, Clement Attlee, decided to try to force the two sides in India to reach a compromise. He fixed a date for the **British withdrawal from India** and announced that they would leave no later than June 1948.

To speed up British withdrawal a new Viceroy, **Lord Mountbatten**, was appointed in February 1947. He was the last Viceroy of India. Mountbatten was chosen because he had served in India and south east Asia during the Second World War and understood the situation in India. When Mountbatten arrived he found that communal violence between Muslims and Hindus was growing and became convinced that a united India was impossible.

Instead he presented a plan for **partition** to Nehru and Jinnah on 3 June 1947. He announced that two countries would be created – India and Pakistan.

The most difficult task was dividing India itself, as it meant deciding on the border between India and Pakistan. Mountbatten set up the **Radcliffe Commission**, headed by Sir Cyril Radcliffe, a British judge, to fix the border between the two countries.

Radcliffe completed his work on time and Pakistan became independent on 14 August 1947, and India the following day. But the decisions of the Radcliffe Commission left 5,000,000 Muslims in India and 5,000,000 Hindus in Pakistan. The movement of refugees from India to Pakistan and from Pakistan to India led to widespread violence. At least 600,000 people were killed in the Punjab alone. Trains carrying refugees were stopped and thousands slaughtered. There was almost nothing that the authorities of the two new countries could do about it. Bengalis did not get what they had expected in the Radcliffe Award. The Pakistan Movement had assumed that all of Bengal would become part of the new state.

In fact, Radcliffe divided Bengal and left 5,000,000 Muslims in West Bengal which remained part of India. Murshidabad, once the capital of Bengal, was left in the west.

Task: Explain five reasons why India was partitioned in 1947.

Section 5 – Undivided Pakistan

Constitutional differences between East and West Pakistan

Bengali Muslims had looked forward to the creation of Pakistan because they believed that Bengal would be a virtually independent state within its framework. This would enable them to escape the dominance of a Hindu upper class that had existed for hundreds of years.

Bengali Muslims were encouraged because they believed that their numerical strength would give them a majority, or at least a controlling minority, in the new state. Consequently, they gave whole-hearted support to The Muslim League's campaigns immediately after the Second World War.

When Pakistan came into existence on 14th August 1947, the hopes of Bengali Muslims appeared to have been justified. The new **Pakistan Constituent Assembly** had one member for every 1,000,000 people giving East Bengal a majority in the Assembly. It was only when the Assembly met and started work that it became clear where the real power lay. In fact, Pakistan was governed under an amended version of the Government of India Act, 1935. Muhammad Ali Jinnah took the post of Governor-General and appointed Liaquat Ali Khan as Prime Minister. The choice of the title 'Governor-General' was very strange because it reminded all Pakistanis of the colonial past, but it was Jinnah who held most of the power. When he died in 1948, the Prime Minister became more important but the Assembly did not gain any more influence.

The problem was made more serious because there were very few Bengalis in Pakistan's administration and army. They made up only five per cent of the army and there was only one Bengali senior officer. There were almost no Bengalis in the civil service. Consequently, Bengalis had little influence over the government of Pakistan.

The Constituent Assembly did however have one important role. It had to produce a constitution for Pakistan. In 1950, it produced a report recommending a **two-chamber parliament** with a Prime Minister appointed by the president.

This sounded fine until Bengalis read the 'small print'. In the Lower House of Parliament members would be elected according to population, meaning Bengal would have a majority. However, in the Upper House each of the five provinces would have equal representation. This meant that the four western provinces would dominate Bengal. The president would also have the power to suspend the constitution and declare a state of emergency.

Even before independence, there were plenty of signs of **differences between East and West Pakistan**. Only the names of the western provinces had been used when the name 'Pakistan' had been created. The main leaders of The Muslim League came from West Pakistan and most of the Pakistan Movement's major decisions had been taken in West Pakistan. However, the differences between the two parts of the new country became much more obvious after independence.

For six years, East Bengal was not referred to as East Pakistan but was simply one of the five provinces of the new nation. As such, it was outvoted by the four western provinces. This was despite the fact that East Bengal's population greatly outnumbered the combined population of the other four provinces. When the draft constitution was published in 1950, the extent of the opposition in Bengal forced Liaquat Ali to withdraw it and replace it two years later with a second proposal. This time east and west were given parity. This second proposal proved unpopular in the western provinces because it seemed to give too much influence to the agricultural East Bengal. This draft was also dropped.

Linguistic and cultural differences between East and West Pakistan

Drafting a constitution raised another important issue. What would be the national language of Pakistan? There were three practicable choices. The most obvious choice was Bangla, which was spoken by 56 per cent of Pakistanis. A second possibility was Punjabi, which was spoken by 28 per cent. A third, compromise, possibility was English, but this was rejected.

Unfortunately, almost nobody in the west spoke Bengali, so accepting this as the national language would have meant handing Pakistan over to Bengalis. There were similar objections to Punjabi and, by a process of elimination, Urdu was chosen. This was a remarkable decision because Urdu was spoken by only three per cent of Pakistanis, with only one in 12 being Bengali, but it was Muhammad Ali Jinnah's choice. In a series of speeches he warned Bengalis of the dangers of opposition and accused them of disloyalty if they continued to champion Bengali. In one speech he stated:

'The state language must be Urdu, a language that has been nurtured by 100 million Muslims of this sub-continent, a language understood throughout the length and breadth of Pakistan and above all, a language which, more than any other provincial language, embodies the best that is in Muslim culture and Muslim tradition and is nearest to the language used by other Muslim states.'

This speech revealed a fundamental difference between Jinnah's aims and those of Bengali politicians. Most Bengalis were looking for autonomy. They wanted to get away from Hindu control. However, Jinnah was looking for something quite different.

He wanted Pakistan to assume a major role in the Islamic world. Consequently, in the west, Islamic principles became more and more important, whereas in Bengal, where there had always been minority religions and an intermingling of faiths, there was less emphasis on religion in politics.

The foundation of the Awami League and the Language Movement

The Language Movement and Ekushey are also covered in Section 8. You are advised to take this into account when preparing for the examination. Questions may be set on this area in either Section 5 or Section 8 in the examination and students may make use of the coverage. Questions will not be set on the Language Movement and Ekushey in both sections in the same year.

The issue of Urdu as the national language was very important in Bengal. The **East Pakistan Muslim Students' League**, with **Sheikh Mujibur Rahman** as one of its leaders, began to campaign against Urdu and also demanded autonomy for Bengal. Sheikh Mujibur was arrested in March 1948 for organising a protest strike. This helped to create united opposition to the Pakistan government and the draft proposals for the constitution. In June 1949, the **East Bengal Muslim Awami League was created**, which was the first political opposition party in Bengal.

The Awami League produced a **42-point manifesto**, which was actually an alternative constitution. Defence, foreign affairs and the currency would be left in the hands of the Pakistan government, but all other issues would be dealt with at provincial level. Bangla would be recognised as one of the official languages of Pakistan. These proposals, together with the opposition inside Bengal, were the reasons for the withdrawal of the constitutional proposals in 1950.

However, the Pakistan government pushed ahead with establishing Urdu as the national language. In January 1952 the Prime Minister, **Khwaza Nazimuddin**, announced that Urdu would be the only official language. This led to widespread protests in Bengal, which culminated in a **student protest** on 21 February 1952. The police opened fire on the protestors and at least seven students were killed when they refused to disperse.

The reaction to the killings was immediate. People began to gather at the Dhaka Medical College Hospital. All over the country, schools and colleges held protest meetings, rallies and processions. To bring the situation under control, the government enforced a curfew and sent the army into Dhaka. Defying the curfew, on 22 February students, alongside ordinary people came out onto the city streets to protest against the killings. On the night of 23 February, the students constructed a **shahid minar** (martyrs' memorial) on the spot where the students had been killed. Three days later the police demolished the memorial.

A longer-term effect of the killings was an increase in militancy in Bengal. A **Youth League** had been set up in 1951 and began to attract increasing support. There were also left-wing groups and Communists. In 1954, most of these different groups came together to form, or at least support, the **United Front**, whose purpose was to fight the provincial elections in March 1954. It adopted a 21-point programme which demanded provincial autonomy and Bangla as an official language. The election results were hardly in doubt.

The United Front won 223 of the 237 Muslim seats (the Muslim League winning only 10) and had an overall majority of 151. In a meeting of the National Assembly, Bangla was recognised as one of the national languages of Pakistan.

The United Front's victory led to widespread protests against the Pakistan government. However, these allowed the Governor-General, Ghulam Muhammed, to accuse the United Front of losing control of law and order and, in May 1954, he appointed a major-general as governor of the province. The new governor dismissed the United Front and began to rule Bengal directly himself.

In October 1954, Ghulam Muhammed went even further. He dismissed the Constituent Assembly when it tried to limit his powers and declared a **state of emergency** in March 1955. He also declared that East Bengal would now be known as East Pakistan and the four western provinces as West Pakistan. In September 1955 West Pakistan became 'one-unit', combining the four provinces to counter balance the east. West and East Pakistan would now be equals. This would make it far more difficult for the east to gain any influence.

The new arrangements were included in the **constitution** which was finally published in March 1956. There would be a federal parliament with 150 representatives from the two Pakistans. The president would be elected by the national and provincial assemblies and advised by the Prime Minister and the Cabinet. The president would, therefore, be the most powerful person in Pakistan. Central government would control trade and commerce, finance and foreign affairs, with the provincial assemblies having little influence. Elections were planned for November 1957 but were postponed twice. They actually never took place because, in October 1958, General Ayub Khan seized power in a military coup.

President Ayub Khan

On seizing power, Ayub Khan declared all political parties illegal. Control was passed to the military. This reduced the influence of East Pakistan and Bengalis still further because the army was predominantly from West Pakistan. Ayub Khan did make some efforts to appear more inclusive. The numbers of Bengalis in the civil service increased from 24 per cent in 1958 to 36 per cent by 1966, but this had little effect in government as a whole. He also introduced the **Basic Democracies** in 1959, which were tiers of local councils. This was an attempt to satisfy demands for local autonomy which, in real terms, had minimal effect in Bengal.

Ayub Khan's real aims were explained in a statement in 1962.

'The basic weakness in the political system was that there was no focus of power. We adopted a foreign system of parliamentary rule without understanding the requirements of the system or having the necessary conditions in which it could operate.'

In the 1962 constitution, therefore, even more power was concentrated in the hands of the president.

Political parties were allowed to re-emerge in 1962 to take part in a general election to elect a parliament to approve the new constitution. Ayub Khan won the 1962 election and a second in 1965 but he failed completely to undermine Bengali demands for autonomy.

In fact, by 1965 it was clear that Bengal was becoming progressively worse off. To all intents and purposes, Bengal was little more than a second-class province being run for the benefit of West Pakistan.

The Lahore Conference and the Six-Point Programme

In February 1966, opposition leaders in West Pakistan held a conference in Lahore attended by Sheikh Mujibur Rahman and other Bengali politicians. He brought with him and published the Six-Point Programme.

1. There should be a Federation of Pakistan with parliamentary government controlled by an Assembly directly elected on the basis of universal adult franchise.
2. The federal government should deal with defence and foreign affairs. All other areas of policy should be controlled by the provinces.
3. A separate tax and monetary policy should be adopted for East Pakistan.
4. The provinces should deal with taxation and revenue collection and should be entitled to a share in the state taxes.
5. There should be two separate accounts for the foreign exchange earnings of the two Pakistans. There should be free trade between the two Pakistans for all Pakistani goods.
6. East Pakistan should have a separate militia or paramilitary force.

Sheikh Mujibur Rahman was attempting to end West Pakistan's economic dominance and return to the real intentions of the founders of Pakistan as he understood them.

The West Pakistani opposition leaders were horrified. They believed that Sheikh Mujibur Rahman was trying to break up Pakistan. To Ayub Khan, Sheikh Mujibur was now little more than a traitor to Pakistan. In January 1968, Sheikh Mujibur Rahman was arrested and accused of being implicated in the Agatarla conspiracy. He was held without trial.

Task: Draw up a timeline of important events in Bengal from 1947 to 1966.

Task: Essay exercise – Why did opposition to Pakistani rule grow in Bengal in the 1950s and 1960s?

Decide the most appropriate order for the following. You also need to write notes on the importance of each.

1. Ekushey February
2. The Founding of the Awami League
3. The Six-Point Programme
4. The Lahore Conference
5. The Language Movement
6. The formation of the United Front
7. The Constitution of Pakistan

Section 6 – The Struggle for independence and the creation of the People’s Republic of Bangladesh

The Lahore Conference, despite its almost immediate collapse, was a turning point in relations between East and West Pakistan. For the first time there was an almost complete breach between the two. This change took place after two key events occurred in the early 1960s. One was Ayub Khan’s takeover of the Muslim League. He joined the organisation in 1963 and was elected leader soon afterwards. Traditionally, there had always been some support for the League in East Pakistan, but it now became clear that it was under the president’s control. Ayub Khan’s actions were due to his need to win a majority in the 1965 general election, which he could do without the backing of a major political party.

The second event that led to change was the death, in 1963, of Huseyn Suhrawardy. He had been Prime Minister of East Pakistan, and briefly of the whole country in 1956-7, and was a supporter of national rather than regional solutions to problems. As long as Suhrawardy was alive, Sheikh Mujibur Rahman stopped short of pressing for a complete break with West Pakistan. He said:

‘As long as Suhrawardy is alive, I cannot raise any demand for East Pakistan alone. We have to think on an All-Pakistan basis. I may be for autonomy, but not for independence.’

By 1966, Sheikh Mujibur Rahman felt free to act and the Six-Point Programme was the natural result.

In one respect, however, the Lahore Conference did have permanent results for all of Pakistan. It focused the opposition to President Ayub Khan. Although he had seized power in a military coup in 1958, he had sought democratic backing for his regime through general elections in 1962 and 1965. The results of the 1965 general election had been disappointing and his popularity continued to fall in the following years. The Lahore Conference showed the extent of opposition. It singled out Sheikh Mujib as his most dangerous political opponent in the whole country, not just in East Pakistan. Furthermore, it showed that there was mounting opposition to his rule in West Pakistan.

Opposition came to a head in 1968. The arrest of Sheikh Mujib in January and the farce of the Agartala trial had exactly the opposite effect for which Ayub Khan had hoped. There were widespread disturbances and protests in East Pakistan and Sheikh Mujib achieved hero status. Even in West Pakistan he was seen as a major opponent of the existing regime.

Legal action against Sheikh Mujib was dropped after eight months but by then the damage had been done. In February 1969, Sheikh Mujib and all the other accused were released. At a public rally at Dhaka Racecourse, now Suhrawardy Udyan, Mujib was publicly honoured with the title Bangabandhu (Friend of Bengal). In November 1968 demonstrations against Ayub Khan broke out in West Pakistan and then moved to the East. A coalition, the Democratic Action Committee, was formed to coordinate action. From January 1969 a series of ‘Protest Days’ were organised which led to clashes between students and police. At first, Ayub Khan attempted to crush the opposition by force and there were a number of deaths resulting from police action. In February, however, he offered to negotiate with the opposition political parties but, when this was rejected, he made one last attempt to retain power by offering to resign in March 1970. When this failed, he resigned on 25th March and handed over power to General Yahya Khan.

Although East and West Pakistan had been united in opposition to Ayub Khan, once he had resigned, the differences between the two Pakistans began to re-emerge. Yahya Khan realised that this was still the issue and decided to solve the problem by holding an immediate general election. He declared that he regarded himself as a transitional leader and that he intended to hand over power to the elected Assembly once a new constitution had been agreed. There are two possible explanations for his actions. The first is that he genuinely believed they would solve the crisis facing Pakistan. The second is that he believed the divisions between East and West were insurmountable and that a 'hung' Assembly would allow him to retain power through military rule. Whatever his motives, the date for the election was set for 7th December 1970.

The impact of the 1970 National Assembly election

On 12-13 November 1970, a cyclone struck East Pakistan. It was the most violent, recorded cyclone in the history of Bangladesh. Officially, the number of people killed was 500,000 but it could have been much more. The Pakistan government did little to help the survivors or support the provincial government in dealing with the situation. Yahya Khan arrived in Dhaka two days after the cyclone but left almost immediately. Whether this was a deliberate act or simply the result of incompetence is uncertain. The overall result of the damage was that Sheikh Mujib was able to blame Lahore. The message was simple. If West Pakistan was not prepared to help East Pakistan in its hour of greatest need, why should East Pakistan cooperate with West Pakistan. He called for a massive vote for East Pakistani Students.

The result of the election was never in doubt. The Awami League won 167 of the 313 seats in the National Assembly, making it the largest single party by far with an overall majority of 21. In East Pakistan Awami League Students lost only two seats. In West Pakistan, the Pakistan People's Party, led by Zulfikar Ali Bhutto, won 88 seats and was the second strongest party in the National Assembly. Bhutto became an influential figure in Pakistan's national politics.

Sheikh Mujib was now entitled to be appointed Prime Minister of Pakistan and, if appointed, the Six-Point Programme would be his main aim. Bengalis would now be satisfied with nothing less than autonomy. Sheikh Mujib wanted the National Assembly to meet as soon as possible. This much was clear to Yahya Khan, who had to decide how to act now that his gamble of calling an election had backfired completely. At first he appeared to have accepted the election result. He met Sheikh Mujib in Dhaka in January 1971 and referred to him as the future Prime Minister of Pakistan. But at the same time he delayed calling the National Assembly until 3rd March.

Yahya Khan's main difficulty was his lack of political experience. Consequently, he relied increasingly on the advice of Zulfikar Ali Bhutto. Bhutto realised that once the Assembly met his position would be very weak because the Awami League's overall majority would give Sheikh Mujib power. He tried to persuade Yahya Khan not to call the Assembly until a draft agreement about Pakistan's future constitution was in place.

He appears to have succeeded because, on 1st March, Yahya Khan announced that the meeting of the National Assembly was to be postponed. This led to widespread protests in East Pakistan and Sheikh Mujib called for a general strike. It even appeared that a declaration of independence for Bangladesh was a possibility.

Yahya Khan was forced to announce that the National Assembly would meet on 25th March and flew to East Pakistan for discussions with Sheikh Mujib on 15th March. These talks lasted for a week and were inconclusive at first. The main point of difference was whether the National Assembly should meet as a united body or as two separate bodies representing the two Pakistans. Finally, Sheikh Mujib agreed to a proposal by Bhutto that the Awami League could take power in East Pakistan and the Pakistan People's Party would take power in West Pakistan. Unfortunately, this was a trap. It convinced Yahya Khan that Sheikh Mujib and the Awami League wanted East Pakistan to break away from the West and form an independent state. On 23rd March he announced the further postponement of the meeting of the National Assembly. On 25th March he flew back to Lahore having ordered the Pakistan army to crush the rioting and protests taking place in East Pakistan.

Task: Explain five reasons why the War of Liberation began in March 1971.

The War of Liberation

It seems that preparations for military action had been taking place for some weeks. The normal number of Pakistani troops in East Pakistan had been 25,000, but during March the number had increased to 60,000. Yahya Khan also appointed General Tikka Khan as the new military governor of East Pakistan. He would be far more prepared to use maximum force against Bengalis.

Operation Searchlight began at midnight on 25th March. Dhaka was isolated and attacked. The headquarters of the East Pakistan Rifles were surrounded along with police barracks and other military buildings. Dhaka University and the Hindu quarter then came under attack from mortars and shelling. To prevent news of the action reaching the outside world, foreign reporters were herded into the International Hotel in Dhaka, forced to hand over their notes and then expelled from the country the following day. In West Pakistan, the press tried to portray the military actions as an attempt to put down Hindu oppression. Reports of the numbers killed in the initial attacks vary from 15,000 to 50,000. From Dhaka, Pakistani forces spread outwards across Bengal.

On 26th March, Sheikh Mujib was taken prisoner and later tried and convicted of treason. He was sentenced to death. On the same day as his arrest, Major Ziaur Rahman announced, from a radio station in Chittagong, that Bangladesh was independent. This was the beginning of the War of Liberation. Soldiers, who had escaped from Dhaka, and units from other areas of the country, formed the Mukti Bahini. These actions encouraged Pakistani forces to massacre helpless civilians and the genocide of Bengalis began. When the Pakistan Army was unable to cope, paramilitary forces were set up to terrorise the people of Bengal. By December 1971, estimates of the number of people killed varied from 300,000 to 3,000,000.

On 10 April, a government in exile, Mujibnagar, was formed by members of the Awami League in Calcutta. It formally proclaimed the independence of Bangladesh on 17th April. However, in the first weeks and months of the conflict these organisations could do little to prevent the wave of atrocities. As waves of refugees attempted to flee the country, the Prime Minister of India, Indira Gandhi, expressed her full support for the Bengalis and ordered the border with India to be opened to allow people to escape. As many as 10,000,000 people fled and refugee camps were set up in neighbouring Indian states.

It soon became clear that the Mukti Bahini could not defeat the Pakistan army using conventional warfare. Consequently, guerrilla tactics were adopted in many parts of Bengal but even this was insufficient to stop the Pakistan military. It was clear that international intervention would be needed if the killings were to stop.

In April 1971, India began to send military supplies to Mukti Bahini, but Indira Gandhi refused to recognise the newly proclaimed government of independent Bangladesh. Relations between India and Pakistan had been tense in recent years and there had been a short war between the two countries in the 1960s. She wanted to avoid making matters worse.

Yahya Khan threatened war between the two countries if India became more involved but, at the same time, tried to reach some sort of compromise. Tikka Khan was replaced General by A A Niazi and Abdul Malik, a Bengali, was appointed Governor of East Pakistan.

The crucial event in the war took place in November when a joint command was established between Mukti Bahini and the Indian army. This committed India to intervention in East Pakistan. On 4th December the Indian army invaded East Pakistan and quickly surrounded the 90,000 Pakistani troops. India recognised the new People's Republic of Bangladesh on 6th December. General Niazi surrendered on 16th December 1971.

Task: Why were Pakistani forces forced to surrender in December 1971?

Immediate problems faced by Bangladesh

There was great rejoicing at the surrender of the Pakistani forces and the creation of the People's Republic of Bangladesh but this could not hide the fact that the new state faced major problems. The country had not recovered from the cyclone of November 1970 when the War of Liberation began. Nine months of fighting had left the country ravaged. The economy was in ruins, many people were homeless and millions of refugees returned to try to restart their lives. Law and order had broken down and transport and communications were almost destroyed. However, when Sheikh Mujibur Rahman returned from prison in early 1972, he received a hero's welcome.

The Bangladesh Constitution

Sheikh Mujib's first task was to create a constitution for Bangladesh, which came into force in December 1972. It adopted the four basic principles of the Awami League: nationalism, secularism, socialism and democracy. Legislative power was given to a 330-seat assembly. 300 members were to be elected by universal suffrage every five years, the remaining 30 seats were to be reserved for women MPs elected by the Assembly. The prime minister had to be an MP and would be appointed by the president, who would have a largely ceremonial role. Ministers would be chosen by the prime minister and also appointed by the president. At least 90 per cent of ministers had to be MPs while the remainder could be 'experts'. The president would, however, assume further powers during a caretaker government and oversee general elections after the Assembly had been dissolved. The legal system was based on the British model, with a Supreme Court as the highest level. There were five levels of local government. The lowest two, unions and villages, were to be run by elected officials, the upper three levels by civil servants.

The 1973 general election

The first elections under the new constitution were held in March 1973 and the Awami League won with a massive majority. Sheikh Mujib introduced reforms to tackle the problems facing the people of Bangladesh but found himself overwhelmed by the scale of these problems. He attempted to tackle the breakdown of law and order by creating Rakshi Bahini. This was a paramilitary force that was used to recover smuggled weapons and deal with hoarders and black marketers. Units would surround villages and search them for contraband, but they were often accused of using violence and torture and there appeared to be little or no control over their actions. Eventually the force became very unpopular and with it the government. Corruption and black marketeering became widespread. A Special Powers Act was passed in 1974 to allow the government to arrest and hold suspects without trial.

Sheikh Mujib also had little success in tackling the problems of the homeless and starving and famine killed thousands. In desperation, as law and order disintegrated, he attempted to carry out a 'second revolution'.

In December he proclaimed a state of emergency and used his majority to limit the Assembly's powers, and those of the judiciary. He gave greater power to the president and set up a one-party system, the Bangladesh Krishak Sramik Awami League (BAKSAL). This did little to increase his popularity and, as reforms failed to take effect, he was seen as being directly responsible for the country's difficulties. In August 1975, he was murdered, along with many members of his family, by army officers.

Section 7 – Bangladesh since 1975

Political changes since 1975: the development and role of political parties

After the murder of Sheikh Mujib in August 1975, General Ziaur Rahman (Zia) seized power in a military coup. He pledged support for the civilian government headed by President Sayem, but then insisted that the president dissolve the Assembly and declared martial law promising fresh elections in 1977. Zia began a new economic programme and tried to reorganise the civil service and the administration. He became president in 1977 when Sayem retired and assumed the title of Chief Martial Law Administrator. He introduced a 19-point programme and began to dismantle martial law. Press freedom was re-established and the law courts were made independent.

In order to tackle the breakdown of law and order, Zia increased the police force from 40,000 to 70,000 and the army from 50,000 to 90,000. Training and discipline were improved. However, opposition to his rule led to a number of attempted coups.

Zia introduced a new definition of Bangladeshi nationalism. He stated that it was impossible to define nationalism in terms of culture or origin and, instead, emphasised a territorial definition regardless of belief and gender. At the same time he added references to Islam in the Bangladesh Constitution.

In June 1978, Zia was elected president with 76 per cent of the vote and in November 1978 removed the restrictions on political parties in time for elections in February 1979. The two most successful parties were the Awami League and the Bangladesh National Party (BNP), which had been founded by Zia. The constitution was amended to reduce the powers of the president and return them to the prime minister.

Zia's domestic policies aimed to develop agriculture, industry and education. Agriculture was encouraged by subsidising farmers to enable them to increase production and overcome Bangladesh's food shortage. This policy also included the construction of canals to irrigate summer crops. Industry was encouraged by de-nationalisation and private enterprise. Illiteracy was tackled by a mass education programme. The results were record grain harvests in 1976-8 and Gross Domestic Product (GDP) growth at an average of 6.4 per cent in 1975-8. GDP is the total national income from within a country.

In May 1981, Zia was murdered by army officers. Despite an interim government and a general election which the BNP won, the army took power in March 1982 in another coup led by General H M Ershad. He assumed the post of president and Chief Martial Law Administrator. Opposition parties refused to participate in local elections so Ershad held a national referendum in 1985 and won overwhelmingly due to a low turnout. He encouraged political parties to take part in politics and set up his own party the Jatiya Party. National Assembly elections were held in May 1986 and Jatiya won with a small majority over the Awami League led by Sheikh Hasina Wajed, the daughter of Sheikh Mujib. The BNP, led by Begum Khaleda Zia, the widow of Ziaur Rahman, boycotted the elections.

In 1986, Ershad retired from the army and stood in the presidential elections. The Awami League and the BNP refused to put up candidates because martial law was still in effect. Once elected, Ershad ended martial law but, in 1987, pushed through an act which forced military representation on all local councils. All opposition parties united and walked out of the National Assembly. Many politicians were arrested and this led to widespread strikes and protests. Ershad dissolved the Assembly and called for new elections in March 1988, in which the main opposition parties refused to take part. Consequently, the Jatiya Party won comfortably, gaining 251 out of the 300 seats. The Assembly continued and passed a constitutional amendment making Islam the state religion. In 1989, local elections took place with less violence than in the past, but opposition to Ershad's rule increased. On 6th December 1990 he resigned as president and fresh elections took place after a caretaker government lasting two months. On his resignation, Ershad was arrested and charged with corruption. He was found guilty and imprisoned until January 1997. The general election of February 1991 was the first, for many years, to be fought by all the major parties in Bangladesh. The BNP gained 140 seats and was the largest party in the National Assembly. In coalition with Jamaat-I-Islam it formed the government and Begum Khaleda Zia became prime minister. Constitutional changes returned the powers of the prime minister and president to the situation in 1972. This marked the return to parliamentary government after years of presidential rule.

Begum Khaleda Zia's policies focused on the need to develop education. Primary education was made free and compulsory for all. Girls were given the possibility of free education to class 10 and grants for further education. She also encouraged tree planting as a means of stabilising soil and preventing erosion.

Opposition to the elected government began to form in 1994 with accusations that a by-election had been rigged. Protests continued until the planned Assembly elections in February 1996, which were boycotted by the main opposition parties and won by the BNP. This led to many protests and it was decided that fresh elections would be held in June. In the meantime, a caretaker government would be installed. Begum Khaleda Zia handed over power to the caretaker government on 30 March. In the June 1996 elections, the Awami League was successful, winning 178 seats against 113 for the BNP and 33 for the Jatiya Party. Sheikh Hasina became prime minister.

Task: Draw up a timeline of important events in Bangladesh since 1975.

Bangladesh in world affairs

Despite its inexperience and domestic difficulties, Bangladesh governments have been part of many multi-national organisations and have keenly supported the United Nations. Bangladesh was admitted to the United Nations in 1974 and its representatives have twice served on the Security Council. The President of the General Assembly in 1986 was from Bangladesh. Thousands of Bangladeshi military personnel have contributed to UN peacekeeping operations, serving in Somalia, Rwanda, Mozambique, Kuwait, Bosnia and Timor. In 1994, Bangladesh was one of the first countries to answer President Clinton's request for troops for a multi-national force to be sent to Haiti. The Bangladeshi contingent was the largest after the US forces.

Bangladesh is a member of the Group of Eight Developing Countries and has taken leading roles in international conferences dealing with population, food, development and women's issues. Bangladesh is also a leading member of the Organisation of Islamic Countries and hosted the foreign ministers meeting in 1982. Bangladesh was one of the founder members, indeed the principal instigator, of the South Asia Association for Regional Cooperation. This was inaugurated at a summit in Dhaka in 1985. The main aim of this organisation is regional cooperation in a wide range of issues.

Bangladesh has developed close relations with a number of foreign countries. Relations with India have been mixed. During the War of Liberation, India accepted refugees and provided important military aid. After the war India provided relief and aid with reconstruction, but in the 1980s relations deteriorated. However, an important agreement on water sharing was signed in 1996.

Relations with Pakistan stabilised in 1974 when the two countries recognised each other. This followed earlier agreements on the return of refugees and prisoners of war. In 1976, formal diplomatic relations were established. The leaders of the two countries exchanged visits in the late 1980s and early 1990s.

The USSR gave Bangladesh considerable aid in the years after independence and, subsequently, financed the construction of power stations and helped with the development of the oil, natural gas and electricity industries. China provided aid for the Bangladesh-China Friendship Bridge near Dhaka and also built two power stations at Chittagong.

Contemporary issues in Bangladesh

This section of the specification is intended to encourage you to take an active interest in contemporary events and current issues in Bangladesh. It is not anticipated that your teachers will cover these issues actively in class. Rather, you will be expected to follow them yourself on a regular basis.

Questions will focus on issues such as the media, education, popular culture, music, the role of women, the press, agriculture, industry, social and political issues.

You will be able to use your knowledge and understanding of recent events in your answers. At least two of the topics will always be chosen from the list given in the specification.

If you 'describe accurately' you will be awarded Band 2 in the mark scheme. If you can explain the importance of the contemporary issue in Bangladesh you will be awarded Band 3 in the mark scheme. Generalised answers that do not refer to any specific cultural examples will usually be awarded Band 1.

Task: Write details of two important contemporary issues in Bangladesh.

Section 8 – The heritage, language and culture of Bangladesh

The influence of religion on art and culture

Religion has had an enormous influence on art and culture in Bengal and Bangladesh. Most surviving examples of art from the Bengali Sultanate and the Mughal period are religious in nature. There are few surviving examples of architecture from before the Bengali Sultanate. During the Sultanate distinctive forms of art and architecture were developed, largely because sultans were keen to establish their individual identities and to emphasise their independence from the Delhi Sultanate.

Many examples of Jami and Waqtiya mosques survive. The distinctive style of sultanate architecture is that buildings were constructed of brick, sometimes with stone facings. There were octagonal towers at the corners and a bow-shaped roof. Jami mosques almost always have a royal gallery. Waqtiya mosques were smaller and usually had a cupola. The style of sultanate mosques was unique in India and survived into later centuries despite the changes of the Mughal period.

Mughal architecture tended to be less distinctive than that of the sultanate. This was principally because Mughal subahdars were representatives of the Mughal Emperor and, consequently, were more likely to want to display their loyalty and allegiance to the Empire by using the imperial styles.

Many mosques, and other buildings, were constructed during the Mughal period and the style survived into the nineteenth century. The Mughal subahdars also allowed the building of Hindu temples, many of which survive.

There are similar religious influences on art and literature. Many inscriptions survive from the sultanate and Mughal periods, either in temples and mosques or in museums. During both periods, Hindu poets were encouraged and many books were written. However, whereas Bengali Sultans learned and used Bengali, Mughal subahdars did not. As a result, Persian became the language commonly used in government and administration.

In answers to questions on this part of *Section 8*, you are encouraged to refer to local examples of architecture that you have visited rather than attempt a general account of religious influences. You should use your own knowledge and understanding of religious influences on novels, plays and poetry.

If you ‘describe accurately’ you will be awarded Band 2 in the mark scheme. If you can explain the importance of your chosen aspect of art or culture in Bangladesh you will be awarded Band 3 in the mark scheme. Generalised answers that do not refer to any specific examples of culture will usually be awarded Band 1.

Task: Describe an example of religious influence on a building.

The Language Movement, Ekushey February and UN Mother Tongue Day

The Language Movement and Ekushey are also covered in *Section 5*. You are advised to take this into account when preparing for the examination. Questions may be set on this area in either *Section 5* or *Section 8* of the examination and students may make use of the coverage. Questions will not be set on the Language Movement and Ekushey in both sections in the same year.

The Language Movement was the struggle to gain recognition of Bangla as one of the national and official languages of Pakistan. Almost as soon as Pakistani independence had been declared, there were unofficial moves to promote Urdu as the state language. In late 1947, the Pakistan Education Minister ordered sections of the Pakistan government to prepare the way for the introduction of Urdu. In February 1948, it was proposed that members of the Constituent Assembly should speak in Urdu or English only. An amendment tabled by a member from East Pakistan asked for Bangla to be used as well. When the proposal was rejected there were protests in Bengal.

In early 1948, a committee was formed to fight for Bangla to be recognised as a state language. This was the beginning of the Language Movement. Protests were held against the fact that Bangla letters were not used on any official Pakistani documents, stamps or coins. The protests had little effect and Muhammad Ali Jinnah reiterated the government position that Urdu alone would be the state language of Pakistan used at meetings in Bengal.

The Awami League was formed partly as a result of the Language Movement and championed the cause of Bangla. Its position appeared to improve after the deaths of M A Jinnah in September 1948 and Liaquat Ali Khan in October 1951, who had been major supporters of Urdu. In January 1952, the Prime Minister, Khwaja Nazimuddin, offered Bengalis a compromise. He announced that Bangla would be the provincial language of Bengal, but that Urdu would be the only national language. This offer was rejected immediately and strikes began at Dhaka University. An All-Party Language Action Committee was formed which called a hartal for 21st February.

In response, the government banned all meetings and demonstrations, but students at the university decided to ignore the ban and go ahead with their protests. Several thousand students took part on 21st February and when the police used baton charges to disperse them, they responded by throwing missiles at the police. After using tear gas, the police opened fire on the students killing at least seven people. On 23rd February a Martyrs' Memorial was erected on the site of the killings and this was replaced by a permanent memorial in 1963.

The Language Movement kept up the pressure and in 1954 the Constituent Assembly voted that Bangla should be one of the national languages of Pakistan. Finally, the National Assembly unanimously adopted Bangla and Urdu as the national languages in 1956. In November 1999, UNESCO declared that 21st February should become UN Mother Tongue Day (International Mother Language Day).

It stated that languages are at the heart of UNESCO's educational aims and that the sacrifices made for the Bangla language on 21st February 1952 should serve as an inspiration for those concerned about preserving linguistic and cultural traditions.

Folk literature, music and culture in Bangladesh

This section encourages you to take an interest in traditional forms of cultural activities in Bangladesh. Questions will be set on the folk literature, music and culture of Bangladesh. You can answer these questions using your knowledge and understanding of any relevant aspect of these areas. You do not need to show an overall understanding of any of the topics. For example, you could refer to folk songs or tales, or folk festivals or dances. If you ‘describe accurately’ you will be awarded Band 2 in the mark scheme. If you can explain the importance of your chosen aspect of culture in Bangladesh you will be awarded Band 3 in the mark scheme. Generalised answers that do not refer to any specific examples of culture will usually be awarded Band 1.

Task: Describe and explain the importance of an example of folk literature, music or culture.

Tribal culture (Hill Tracts, Garo and Santhal)

Hill Tracts

The Chittagong Hill Tracts changed hands many times until they were conquered by the Mughals in 1666. The British occupied the Hill Tracts in 1760 and in 1860 they became part of the province of Bengal. The name ‘Chittagong Hill Tracts’ is of British origin. The Hill Tracts are the only mountainous area of Bangladesh and have several distinctive features.

In 1900 the Chittagong Hill Tracts Regulation created a taxation system using local chiefs as agents. This was unusual at the beginning of the twentieth century and was due to the late addition of the Hill Tracts to British India and the remoteness of the area. The peoples of the Chittagong Hill Tracts are also unusual in Bangladesh in other ways. Firstly, most of the tribes are of Mongolian origin. Secondly, the majority of the population is Buddhist. This was recognised in 1887 when the Chittagong Buddhist Association was formed.

In 1947 the Chittagong Hill Tracts became part of Pakistan. After the War of Liberation, they became part of Bangladesh. However, relations between the peoples of the Hill Tracts and the Bangladesh government were often poor and there was a long period of protest and violence. Finally, in December 1997, agreements were signed by the Bangladesh government and the leaders of the Hill Tracts.

The Garo

The Garo are a traditional agricultural people. Although the great majority are Christian, they retain many of their traditional beliefs, such as animism. Before the British arrived, the Garo did not own land. It belonged to a tribe collectively. The British introduced landownership as a means of persuading the Garo to convert to Christianity. About 50 per cent of the Garo now own or farm holdings.

The Garo’s traditional beliefs and culture were dominated by agriculture. Among the gods worshipped were the sun, moon, rivers, rain and harvests. Annual festivals were held to pray for good harvests and fertility of the soil, and the celebrations at these festivals were very colourful. Young men and women wore distinctive costumes and meals included local wine and meat dishes.

Garo society is matriarchal. Children belong to their mother’s family and are treated as assets of the mother. Daughters are valued because sons leave home when they marry. As a result, the rate of literacy is higher amongst women than men and, overall, is higher than the national average in Bangladesh.

The Garo language is called Achchik Katha and is now written using Bangla symbols. There are surviving folk tales and longer ballads, but most Garos now speak Bangla in addition to their own language. Inevitably, Garo society is under pressure to change but almost all Garos still work on the land and there is resistance to attempts to undermine their matriarchal society.

The Santhal

Santhals were some of the earliest settlers on the Indian sub-continent. Originally they were almost entirely agricultural but now tend to work as poorly-paid labourers although some are well educated. Santhal society is still traditional and is divided into 12 clans. Unlike the Garo, Santhals are patriarchal, although women are involved in farming and earning a living for the family. Local areas are dominated by village headmen.

Traditionally, Santhals were animists and worshipped the sun. They believed that the soul was immortal and that good and evil would decide the passage to the afterlife. They held festivals throughout the year. One festival thanked the gods for an abundant harvest, while another celebrated the flowering of blossoms at the beginning of spring. Festivals involved singing, dancing, music and feasts. The main foods of the Santhal are rice, fish and vegetables but eggs are a delicacy and alcoholic drinks, produced from rice and honey, are important at festivals.

The Santhal language is widespread but has no characters, therefore it has no literature. There are, however, many songs and folk tales which have been passed on by word of mouth. Many Bangla words have been adopted into Santhali and most Santhals now speak Bangla as well as their own language. Efforts are being made to raise the literacy level of the Santhals, which at present is very low.

Rabindranath Tagore

Rabindranath Tagore was born in Kolkata in 1861 and became the first Bengali writer to achieve a worldwide reputation. He was a poet, prose writer, composer, painter, essayist, philosopher, educationist and social reformer. It is as a poet that he gained worldwide fame. He was awarded the Nobel Prize in 1913, the first Asian writer to have been awarded this distinction.

Tagore travelled widely, visiting Britain, the USA, Canada and Japan. He studied constantly and consequently his works and ideas changed with his experiences. He produced countless poems, songs, short stories, novels, essays, plays, musical dramas, dance dramas, travel narratives, letters, and innumerable speeches that he delivered at home and abroad.

One of Tagore's constant themes was a distrust of formal education. In 1901 he established a school in Santiniketan with five students. Rabindranath's son Rathindranath was the first student and the poet's wife Mrinalini looked after student welfare. Life in Santiniketan School was modelled on the life led in ancient Indian forest hermitages. It was a simple life where the disciples were very close to their master.

After a trip to the USA, the school was transformed into a centre for higher studies. Tagore's aim was to establish a complete system of education that would combine Indian philosophy with the best international education. He included music and painting as well as more traditional forms of study and research.

Tagore also established a centre for agricultural and rural development called Sriniketan in the village of Shurul, two miles away from Santiniketan. Schemes were set up for developing cattle farming, weaving and agriculture.

Cottage industries were also set up. The project tried to improve the lives of local villagers by setting up a library, hospital, cooperative bank, irrigation systems and local industry.

Rabindranath Tagore's poetry and songs deal mostly with spiritual love and are often devotional. They express the harmony of nature and life. In his prose works, Rabindranath Tagore adopted a very different approach. He tackled social and political issues and explained his educational ideals, which involved blending traditional Vedic methods with modern techniques. Above all, he was concerned to develop the ideal of the universal brotherhood of man.

Towards the end of his life, Rabindranath Tagore began to study scientific issues and wrote a number of essays on biology, physics and astronomy, but his greatest achievements were in his poetry.

Kazi Nazrul Islam

Nazrul Islam was born in West Bengal in 1899 and was the national poet of Bangladesh. He was known as the 'rebel poet' because he opposed all forms of repression. His poems were more powerful and striking than those of Rabindranath Tagore and he set the scene for modern poetry written in Bangla.

Nazrul Islam first gained public attention in 1921 with his poem about the rebel hero *Vidrohi*. He attacked the British occupation of Bengal and India in his poetry and was arrested and his writings banned. He was imprisoned in 1922 and went on hunger strike for 40 as a protest. Many of his poems dealt with contemporary issues, particularly social and political problems. However, he drew on both Hindu and Muslim traditions and avoided communal divisions.

In addition to writing poetry, Nazrul Islam also influenced Indian classical music by writing songs in Bangla and by turning traditional songs into modern music. In the 1920s he became involved with the HMV recording company and produced recordings in Bangla. By 1950, HMV had produced 567 Nazrul Islam records. In 1929, he made his first radio broadcast from Kolkata. In 1934, he appeared as a film actor for the first time and also wrote songs for the sound track. Nazrul Islam continued to work in films until 1945. At the same time, he was also involved in 20 stage plays in Kolkata, including many of his own.

In 1942, Nazrul Islam suffered a serious illness and lost his voice and memory. This left him unable to work. He returned to Bangladesh in 1972 and died in 1976. He was buried on the campus of Dhaka University.

Begum Sufia Kamal

Begum Sufia Kamal was born in 1911. Her family was rich and aristocratic but her life changed completely in 1925 when she visited the ashram of Mohandas Gandhi. She began to dress in a simple sari and involved herself in the welfare of women. She showed some of her poems to Kazi Nazrul Islam when she met him in 1926 and, on his recommendation, had some published.

Sufia Kamal joined several women's organisations in the late 1920s and, in 1931, became the first Muslim to be elected to the Indian Women's Federation.

When her husband died in 1932, she became a teacher in Kolkata and worked in a free primary school for girls until 1941. During the Direct Actions riots in 1946, she set up a shelter for victims. In 1947, Sufia Kamal became the first editor of *Begum*, a women's magazine and in 1949 helped to found the magazine *Sultana*. By this time she had returned to Dhaka and was heavily involved in attempts to promote reconciliation between Hindus and Muslims after the independence of Pakistan in 1947.

Sufia Kamal now became involved in attempts to defend Bengali culture. She took part in the Language Movement and in celebrations of the centenary of Rabindranath Tagore's birth in 1961. Increasingly, her main interests were in the social, educational and political difficulties faced by women, and the poor and destitute. She was chair of the Women's Revolutionary Council and the Women's Rehabilitation Board and she founded several organisations to help the poor, the homeless and the disabled.

Sufia Kamal's writings take many forms. She has published many books of poetry, short stories and novels. She uses traditional themes from Indian mythology as well as feminism, anti-imperialism and accounts of the atrocities committed by Pakistani forces during the War of Liberation.

Paper 2: The Land, People and Economy of Bangladesh

Although this study guide covers the different topics in Paper 2, they should not be thought of as being totally separate. Many of the topics are interlinked and closely related. Important links and points of contact between topics are shown by bracketed references (see 4.1.4). It is important that you follow up the connections being made.

Section 1

This section has no specific content. In the examination, Section 1 contains one compulsory question. It will cover the basic geography of Bangladesh and will usually be based on a map. The content for the Section 1 question is found in Sections 2, 3 and 4.

Section 2 – The Land of Bangladesh

2.1 Location, Relief and Drainage

2.1.1 Location and size

The starting point for a study of any country involves knowing two basic pieces of information:

- its location in the world
- its size or extent.

Location

Location is the position or place in the world occupied by a particular object. Bangladesh is located on the southern edge of the world's largest continent, Asia. The middle point of the country lies approximately at latitude 23° North and longitude 90° East. That means that the country lies either side of the Tropic of Cancer.

Bangladesh shares the same line of longitude as Tibet, China and the Russian Federation to the north. To the south, there is no land until you reach the shores of Antarctica close to the Antarctic Circle. With a latitude 67° South, this makes the frozen continent literally half a world away. As for latitude, countries sharing the Tropic of Cancer include India, Myanmar, China and Taiwan in Asia. Further afield, there is Saudi Arabia in the Middle East, then Egypt, Libya, Algeria and Morocco in Africa and finally Mexico in South America. If we look literally at the 'other side' of the world, that is at latitude 23° South and longitude 90° West, we find only the waters of the South Pacific Ocean.

It is well understood that every country has a unique location on the Earth's surface. But is there anything particularly significant about Bangladesh's location? When it comes to the country's climate, the answer is possibly yes. The combination of two locations – one on the edge of the Tropics and the other on the edge of a great land mass – is responsible for the tropical monsoonal climate (see 2.2). It is this climate that affects so many different aspects of Bangladesh, from its natural resources (see 2.3) and natural hazards (see 2.4) to its agriculture (see 4.1) and development (see 4.4). Learning to live with the climate and making the most of it are very much part of everyday life in Bangladesh.

There is another important aspect of location. Location determines those countries that are near and those that are far away. Countries that are close together may have more contact with each other. This may be through trade and the migration of people. They may well share the same broad history and culture. Countries that are far away are likely to be very different. So, when it comes to national identity, location plays an important part in making a country distinctive. It affects both the nature of the physical environment and the character of the people.

Size

With a latitudinal and longitudinal extent of roughly 6° and 4° respectively, Bangladesh covers an area of 147,500 sq. km. Nearly 10,000 sq. km of that area (six per cent) is rivers that thread their way through the country to the Bay of Bengal. Out in the Bay, the good news for Bangladesh is that the country is slowly expanding southwards. This is the result of huge amounts of silt being deposited by the rivers as they enter the sea.

The maximum dimensions of Bangladesh are:

- 760 km between Tetulia in the extreme north-west to Dhakinpana in the south-east
- 450 km between the border near Chagram in the east to Nawabganj in the west.

Bangladesh is surrounded by sea to the south and by various Indian states on the other three sides. To the west, there is the state of West Bengal. This also forms part of the northern border along with the states of Meghalaya and Assam. To the east, there is Assam again and the state of Tripura Mizoram. In the south-east, Bangladesh shares a frontier with Myanmar (Burma). The total length of Bangladesh's frontiers is 4712 km. Of this, 3715 km is with India, 281 km is with Myanmar and 716 km is with the sea. The fact that Bangladesh is 'wrapped around' by India makes relationships with that country very important. This is emphasised by the fact that India controls most major rivers flowing through Bangladesh to the Bay of Bengal (see 2.1.3).

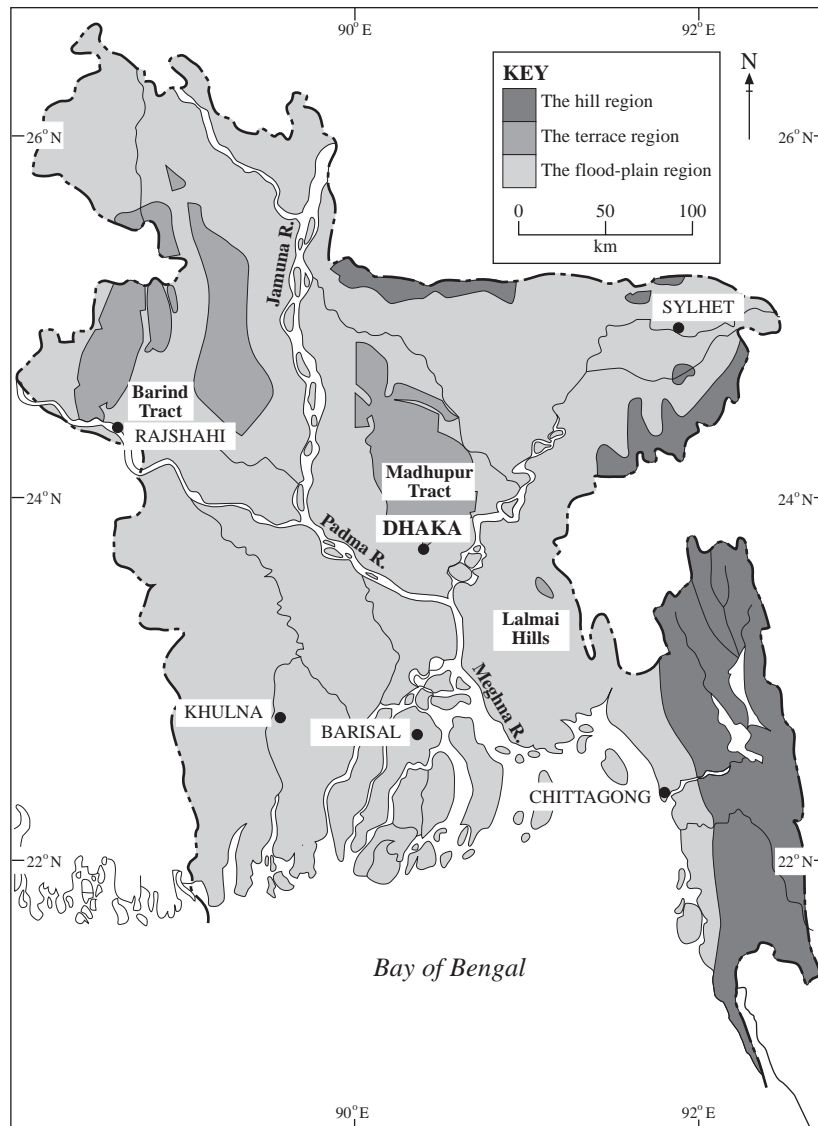
So how does Bangladesh compare with other countries in terms of its size? Russia is 116 times larger, the USA 67 times larger and India 22 times larger. There is no other country with the same area of 147,500 sq. km. The nearest are Nepal (140.8), Greece (132.0), Nicaragua (130.0) and Uruguay (177.4). Bangladesh's global ranking based on physical size is quite low. However, a very different picture emerges if the country is ranked according to its population size. According to the last census taken in 2001, Bangladesh had a population of around 130 million. This made Bangladesh the ninth largest country in the world. If, however, we take both area and population into account, and calculate the mean **density** of population, the figure for Bangladesh is 834 persons per sq. km. If we set aside small island states, such as Singapore, the Maldives, Hong Kong, Malta and Gibraltar, Bangladesh can claim to be the most densely populated country in the world. Remember too that Bangladesh's population has continued to grow since 2001 (see 3.1).

Exercises

1. List the ways in which climate affects the everyday life of Bangladeshi people.
2. What is national identity? Think of how the location of Bangladesh has affected its national identity.
3. If you were to compare Bangladesh with some other countries, which countries would you choose and why?

2.1.2 Three relief regions

One of the outstanding physical features of Bangladesh is its low-lying nature. Half of the country lies 10 metres below sea level. This reflects the fact that 85 per cent of the country is one huge flood plain and delta. Both of these have been created by three major rivers – the Padma, Meghna and Jamuna – as they converge to enter the Bay of Bengal. The resulting lowland, often referred to as the **flood plain region**, forms one of the three relief regions into which Bangladesh may be divided (see the map below). By **relief**, we mean the shape of the land surface, particularly its height and slopes.



The relief regions of Bangladesh

Along its inland margins, the vast flood plain lowland is less than 50 metres above sea level. The coastal zone, comprising the Sundarbans and the tidal flood plain of the Meghna, lies at sea level. Marshy ground once dominated the whole region, but much has been drained to create fertile farmland. However, flooding continues to be a widespread, annual occurrence during the rainy season (see 2.4.2). Some of the surviving marshes occupy abandoned oxbow lakes. They are known locally as *beels*, *jheels* or *haors*. Of these, the Chalan Beel and the *haors* of Madaripur and Sylhet are remarkable. These are submerged during the monsoon rains and become huge lakes.

Despite the huge amounts of silt brought down to the coast by the major rivers, there are few signs (other than around the islands of Bhola and Hatia) that the coastline is growing southwards. The tidal currents in the Bay of Bengal seem to be quite effective in picking the silt up and dispersing it further out at sea.

The remaining two physiographic regions are both hilly. In the east, there is the **hill region**. This is located mainly in the Chittagong Division and is made up of uplands formed by the same Earth movements that created the Himalayas. The highest peaks rise to over 800 metres and are found close to the border with Myanmar. Here the mountains take the form of narrow parallel ridges. The region as a whole is a picturesque part of the country. Besides the mountainous ridges, the region is a mix of hills and valleys, lakes and islands. There are also many forests and remote areas. Stretches of hill country are found along the north-east borders.

The third region is made up of sands and gravel brought down by rivers from the Himalayas over 25,000 years ago. The region is not a continuous one. Rather it is broken into at least three sub-regions: the Barind Tract, the Madhupur Tract and the Lalmai Hills. Generally speaking, the land in this so-called **terrace region** stands between 10 and 30 metres above the flood plain lowlands.

Finally, it should be pointed out that within these three relief regions, geographers recognise the existence of distinct sub-regions. Mention has already been made of the three terrace sub-regions (Barind, Madhupur and Lalmai) and no fewer than 16 sub-regions are recognised within the flood plain region and five within the hilly region.

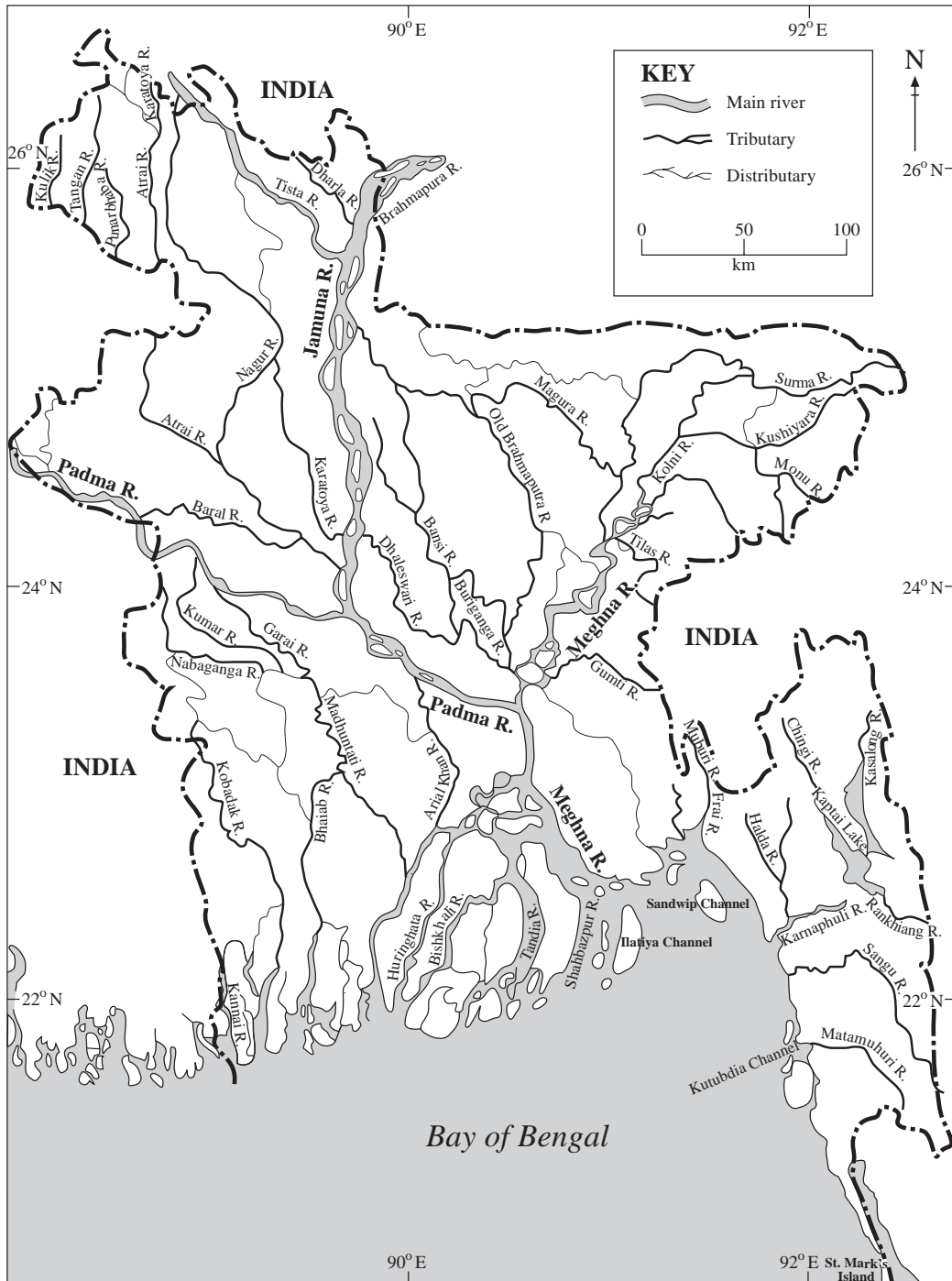
Exercises

1. Make sure that you understand the meaning of the following terms: flood plain, terrace, delta and oxbow. If you need any help, look at 2.1.4.
2. Why is remoteness a feature of the hill region?
3. Agriculture is the main land use of the flood plain region. What is the main land use in each of the other two regions?
4. Refer to the map in the Physiography entry in Banglapedia (CD ROM). Choose a sub-region of Bangladesh. Describe the sub-region giving details of what you would see?

2.1.3 The main rivers

The drainage **network** of Bangladesh is made up of some of the world's largest rivers, along with their **tributaries** and **distributaries**. It also involves mountain streams, winding seasonal creeks and muddy canals (*khals*). It is estimated that all these watercourses total 25,000 km in length. The drainage **density** of Bangladesh is remarkably high. River water covers six per cent of Bangladesh's total area.

The principal rivers of Bangladesh are the **Padma, Brahmaputra, Jamuna, Meghna, Karnaphuli, Sangu** and the **Matamuhuri**. They, together with smaller rivers, are shown on the map below.



The rivers of Bangladesh

The **Padma** is one of the largest rivers in Bangladesh. The river rises in the glaciers of the Himalayas. In India, along its upper and middle courses, it is known as the Ganga. For 145 km it forms the border between Bangladesh and India. It enters Bangladesh near the northern part of Kushtia, where it takes the name Padma. At Gualonda it is joined by the Jamuna. The combined rivers are still known as the Padma but at Chandpur they join the Meghna and, from there to the Bay of Bengal, they assume that name.

Also originating in the Himalayas, the Brahmaputra River enters Bangladesh at Kurigram after which, and until, it joins the Padma it is known as the **Jamuna**. Up until about 175 years ago, the main channel of the Brahmaputra flowed through the Mymensingh district and joined the Meghna near Bhairabazar. The **Tista** is a major tributary of the Jamuna; it too has its source in India.

The **Meghna** originates on the southern slopes of the Naga-Manipur in India and enters Bangladesh being split into two branches – the Surma and the Kushiara. These two rivers become one near Ajmiriganj and a little way to the south take the name of Meghna. The Meghna is joined by the Old Brahmaputra at Bhairabazar and by the Padma at Chandpur. The name Meghna is then used until this huge watercourse enters the sea.

The **Karnaphuli** rises in the Arakan Yomas and drains across the main ranges of the Chittagong Hill Tract. It enters the sea a few kilometres south of the port of Chittagong. The river is important for the production of Hydro-Electric Power (HEP) (see 2.3.5). Two other significant rivers draining the same upland are the **Sangu** and the **Matamuhuri**.

Bangladesh is unusual in that it has few rivers of its own, and yet it has some of the world's mightiest rivers flowing through it. The fact that the major rivers originate outside the country creates problems as Bangladesh does not have complete control over them. This is particularly worrying at times of flooding and drought when river flows need to be managed. For example, India may take more than its fair share of water from these rivers during the dry season. This is causing a major environmental change. As there is less freshwater to hold it back, the sea is being allowed to push further up the watercourses of the deltas. This increasing **salinisation** and the shortage of freshwater are causing Bangladeshi farmers increasing hardship. What might happen in India if Bangladesh were to dam one of the major rivers? The two examples above make the point that good cooperation between both countries in river management is vital. This is the supposed aim of the Joint River Commission. Those who share the same river should respect each other's needs.

Exercises

1. Can you think of any other problems associated with the 'sharing' of rivers between Bangladesh and India?
2. Draw a sketch map of one of the main rivers and show the main settlements along its course.
3. List the different uses of the river you have chosen in 2.

2.1.4 River landforms

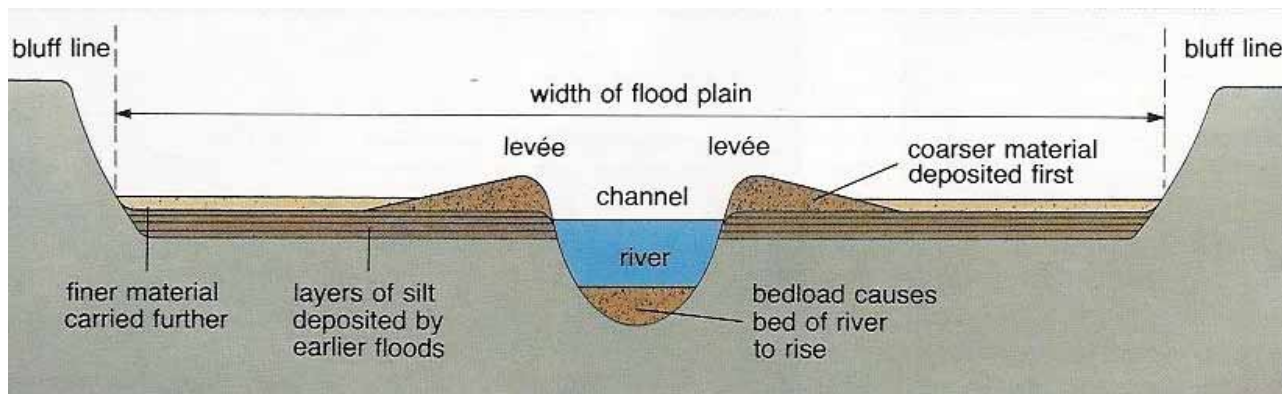
Rivers are very much part of Bangladesh's national identity. There is probably no other country in the world so 'river oriented'. Clearly, we need to have a knowledge of rivers if we are to understand different aspects of the country, particularly its physical character and the way of life and traditions of its people. That knowledge of rivers should be more than just knowing where exactly the rivers flow, their names and sizes. We need to know about the 'work' that those rivers do and the landforms they create.

Rivers do three different types of 'work':

- **erosion** – they remove silt, sand and gravel from the river bed
- **transport** – they move that material (known as **load**) downstream either by rolling it along the river bed or by carrying it in suspension
- **deposition** – they drop that load. This happens when the speed of flow slows and the ability to transport becomes less.

Rivers begin in upland areas and make their way downhill to the sea. As it makes its way to the sea, the river and its valley undergo a number of changes. The river becomes wider and deeper as it is joined by other, smaller rivers (called **tributaries**). Its velocity or speed increases. The river valley also changes. Its sides become less steep and its shape changes from a V to a much broader, flat-bottomed U.

The long profile of a river as it moves from its source to the sea is steep at the beginning. The profile then gradually becomes gentler until the river reaches sea level. These changes mean that the course of a river can be split into three sections, known as the upper, middle and lower courses. The main rivers crossing Bangladesh are all in their lower courses. At this stage, rivers produce a number of distinctive landforms.



The formation of flood plains and levees

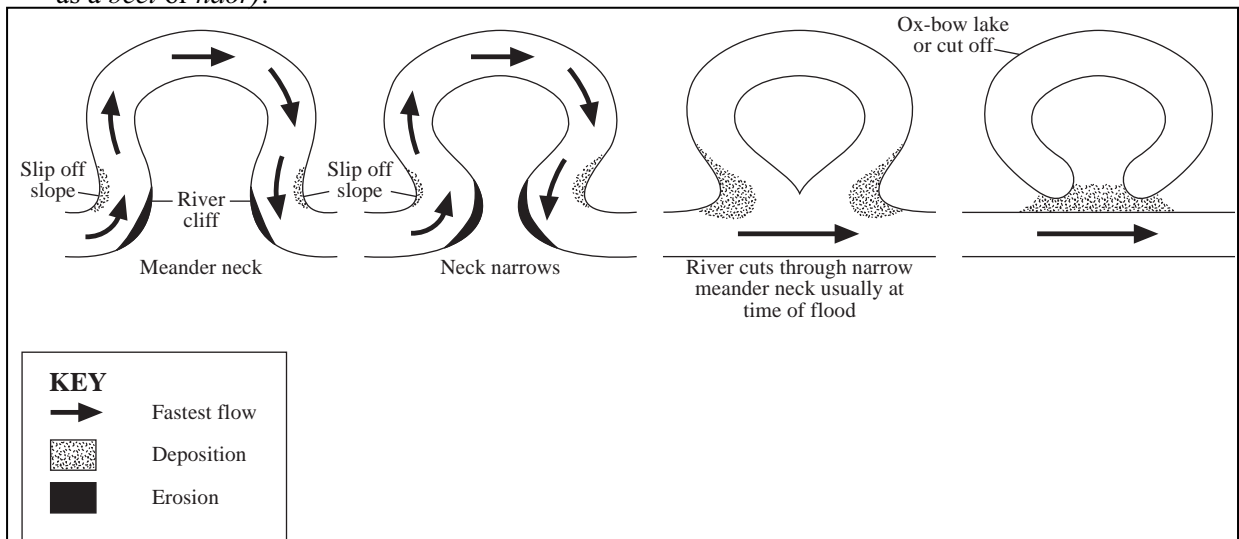
Flood plains are areas of low, flat land on either side of a river. When a river contains too much water to stay within its channel, this is the area that it floods. In Bangladesh, the flood plains are so wide and the rivers so close that the flood plains of neighbouring rivers join together to form vast fluvial lowlands.

If there is a rise in the level of the land or a fall in sea level, a river will cut down into its flood plain. It will then start forming a new one, but at a lower level. The old flood plain that is left above the river is known as a **terrace**.

Levees are ridges along the banks of a river's channel. They are formed when the river floods. Often these are strengthened and built up by people in order to reduce the frequency of flooding.

Meanders and oxbow lakes. As a river develops its flood plain, it begins to bend and twist rather than flow in a straight line. These bends, known as meanders, do two things.

They gradually become more pronounced and move downstream. There comes a time, particularly during floods, when a meander is almost circular and the river cuts through its narrow neck. The old bend of the river is cut off to leave an oxbow lake (known in Bangladesh as a *beel* or *haor*).



Meanders and the formation of an oxbow lake

Deltas are formed when the river enters the sea. The loss of velocity means that load is deposited. This deposition creates low, flat areas of land that gradually extend seawards. In time, this dropping of load chokes the river channel and small islands build up. These, in turn, cause the river to split and form new river channels known as **distributaries**. The rate at which a delta grows depends on the amount of load being deposited by the river and the ability of the sea to move it away.

Exercise

Visit a river near to you.

Are you able to see any of the landforms described here?

Make sketches of what you find.

2.1.5 The influence of rivers

Bangladesh might be called a country of rivers. No country in the world has so much water flowing through it. It is estimated that in an average year, nearly 1000 million acre-feet of water flows out to sea from Bangladesh. 870 million of that total is water that flows into it from India and over 200 million comes from its own rainfall. The rivers are responsible for moving this huge volume of water. In doing this, rivers have become very important to the country in a number of different ways.

Transport – With such a high ratio of water to land, it is hardly surprising that rivers play an important part in the overall transport network of Bangladesh. River transport (see 4.3.4) is particularly good for the movement of heavy commodities, such as cement and fertilisers. For many settlements, river transport is their only connection with the rest of the country. It is estimated that there are approximately 250,000 vessels carrying people and cargo along the rivers and canals of Bangladesh. The point needs to be made that the general safety of river transport is reduced during the monsoonal floods. Equally, those same floods sometimes allow highly remote areas to be reached by boat.

Irrigation – It is during the dry season that rivers and canals come into their own as important sources of water for the irrigation of crops (see 4.1.4). Something in the order of five per cent of all the irrigated land in Bangladesh relies on water pumped from rivers and canals. Remember, the seasonal flooding of rivers is a ‘natural’ form of irrigation. It provides crops with water at a critical time in their growth.

Fishing – In 2000, total fish production in Bangladesh amounted to around 850 000 metric tonnes (see 2.3.4). Three quarters of this total being freshwater fish. It goes without saying that fish is an important part of the Bangladeshi diet and that fishing provides work for nearly 1.5 million people.

HEP (Hydro-electric power) – Given that Bangladesh is a riverine country, with huge amounts of water flowing through it, the potential for generating HEP must be great (see 2.3.5). As yet, less than 5 per cent of the country’s electricity is generated in this way. At present, the largest HEP station is at Karnaphuli; it was constructed as long ago as 1962. The Karnaphuli river is dammed at Kaptai in Rangamati. Possible projects for the future include damming the Sangu river in the Banderban hill district and constructing an HEP station on the Old Brahmaputra river near Mymensingh.

Water supply for industry – Availability of water is one of the factors that attract various types of industry to river banks (see 4.2.2). For example, the processing of jute requires retting in large amounts of water. Similarly, thermal electric power stations need a lot of water for cooling purposes.

Sewage disposal – In many parts of the world, rivers receive and disperse the liquid discharges from sewage treatment plants. In Bangladesh, however, rivers are misused. Raw (untreated) sewage is left to run out into rivers; garbage is dumped on river banks. The result is high levels of river pollution, which is bad for both fisheries and human health (see 2.4.4).

Fertiliser – The regular, seasonal flooding of Bangladesh’s rivers leads to the deposition of silt over large areas. This in turn helps to revitalise tired or overworked soils. Flooding, therefore, is an important form of natural fertiliser.

So there is much of a positive nature to be said about the rivers. The rivers are clearly useful and, for this reason, are to be seen as one of Bangladesh's most valuable resources (see **2.3.1**). Rivers have an important role to play in the economic development of the country. However, there are times when rivers might seem to have had a negative impact, for example when there is abnormal flooding. There are undoubtedly times when the rivers are extremely hazardous. In terms of land transport, rivers are also a problem. Bridges are expensive to build, while ferry crossings add to travel time. No matter where you go in Bangladesh, most journeys will involve crossing at least one river or canal.

Exercises

1. If you had to name the most valuable aspect of Bangladesh's rivers, which one would you choose? Give your reasons.
2. Look back at the exercise (2) that you did in 1.1.3. How many of the uses discussed here are uses made of your chosen river?

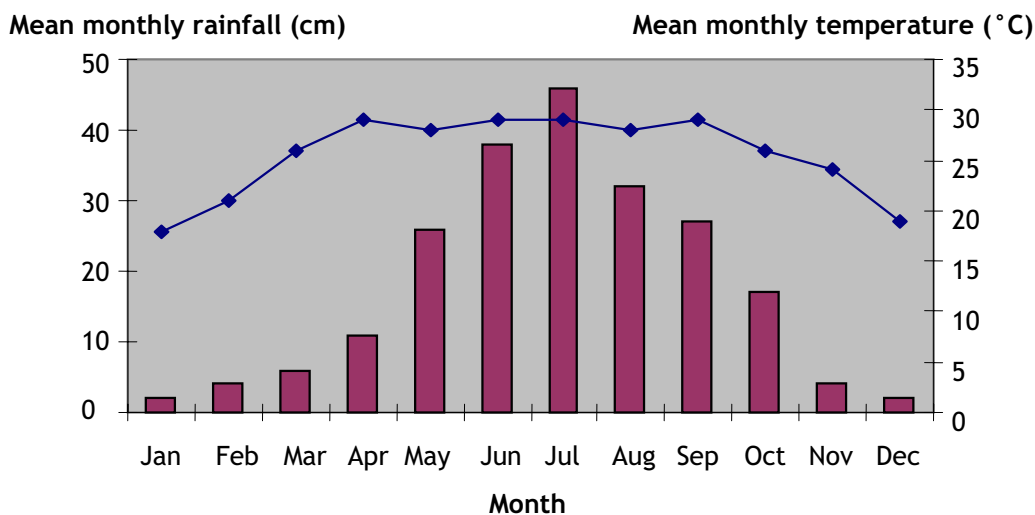
2.2 Climate

2.2.1 Using climatic data

A good starting point is understanding the difference between weather and climate. **Weather** is the condition of the atmosphere at a particular time. What interests people most about that condition are temperature (how hot or cold it is) and humidity (how dry or wet it is). **Climate**, on the other hand, is generalised or average weather. If the weather at a place is recorded over a period of time (say 30 years), it then becomes possible to see some general trends. For example, during the course of a year seasons can be recognised. Each of these seasons will be marked by particular levels of temperature and humidity. The monsoon climate of Bangladesh has a sequence of well-defined seasons (see 2.2.2 and 2.2.3).

In order to build up a picture of a country's climate, it is necessary to measure the weather over quite a long period. Only then, does the general or average situation become clear. In Bangladesh, as elsewhere, there is a network of weather stations scattered across the country where measurements have been taken over many years. The Bangladesh Meteorological Department prepares weather forecasts based on the information supplied by these stations on almost an hourly basis. Forecasters also make use of information taken from satellite and radar images. These images are also important for predicting cyclones and other forms of severe weather (see 2.4.2 and 2.4.5). Weather bulletins for 6-, 12- and 24-hour periods are broadcast on radio and television.

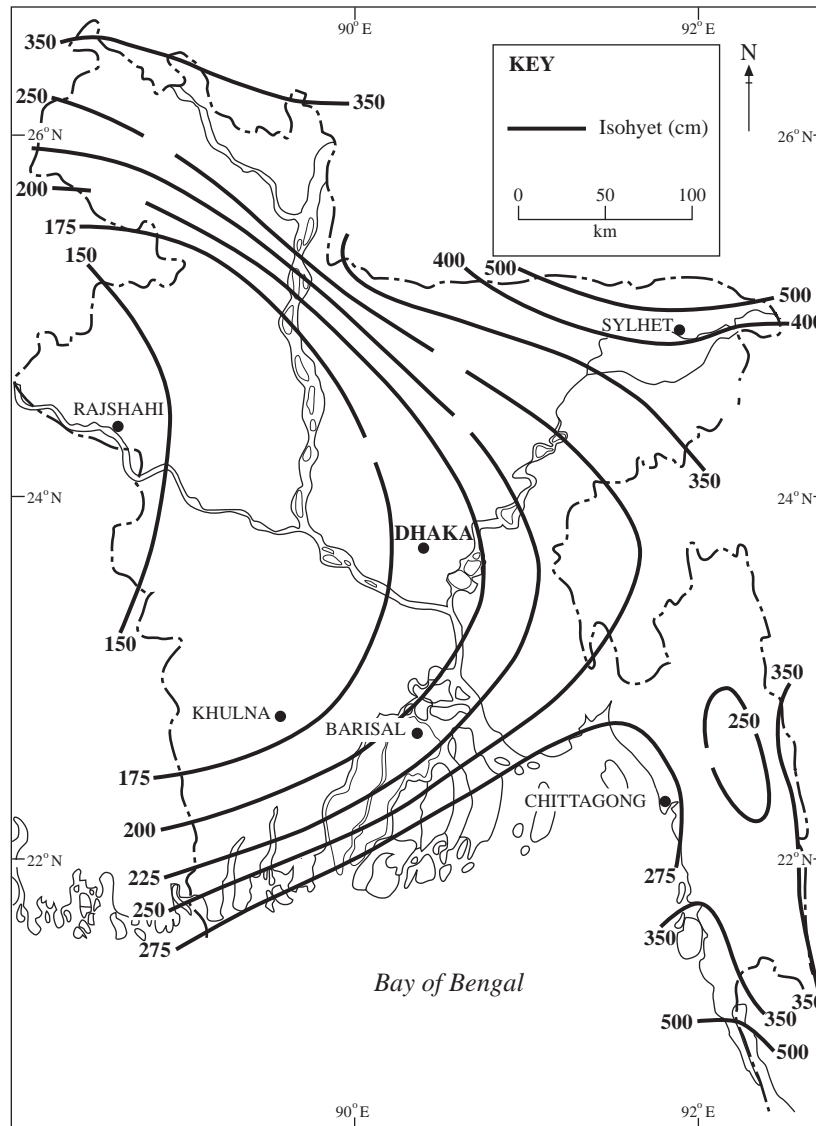
In all parts of the world, climate varies during the course of a year. There are seasons. In some places, the differences between the seasons are marked (as in Bangladesh), whilst in others (as in places close to the Equator), the differences are slight. How do we show those seasonal variations? The simplest way is to plot the monthly averages of temperature and rainfall on a graph. The graph below follows a widely-used convention. It plots the temperature data for Dhaka as a line graph. The rainfall data is shown by proportional bars. The ups and downs of both temperature and rainfall immediately give us an idea of the seasonal pattern (see 2.2.2 for more details).



Mean monthly temperatures and rainfall at Dhaka

Climate also varies from place to place. Everyone knows that Bangladesh's climate is very different from that of the UK. The colder nature of the UK's climate is hardly surprising. It lies some 30° of latitude further from the Equator. However, climate does vary, more subtly, over shorter distances. Local factors such as relief, wind direction and distance from the sea play their part in this.

The climatic data collected by Bangladesh's 30 weather stations shows that climate varies within the country. This can best be demonstrated by drawing what are called **isopleth** maps. **Isopleths** are lines which join points of equal value. The contour lines on a relief map join places of equal height. As for climate, two isopleth maps show most readily the variation in climate from place to place. The first is an **isotherm map**. By joining places having the same mean temperature by a line, we can see how temperatures vary from place to place. Similarly, by plotting **isohyets** (lines joining places with the same amount of rainfall), the spatial pattern of rainfall is shown, as illustrated by the map below.



The pattern of mean annual rainfall in Bangladesh

There is more on this important topic in 2.2.2 and 2.2.4.

Exercises

1. Describe what is shown by the climatic graph for Dhaka. In particular, what seems to be the relationship between temperature and rainfall?
2. Describe the pattern of annual rainfall shown by the map. Can you suggest two factors that might have influenced the pattern?

2.2.2 Seasonal variations

The graph of Dhaka's climate that appeared in 2.2.1 shows that it varies throughout the year. Here in the capital, as elsewhere in Bangladesh, the year may be divided into a sequence of seasons. Traditionally, the following six seasons are recognised in the Bengali year:

- *Grissha* (summer)
- *Borsha* (monsoon)
- *Sarat* (early autumn)
- *Hemento* (late autumn)
- *Sheet* (winter)
- *Bashonto* (spring).

The differences between some of these seasons are very slight; some of the seasons are very short. For these reasons, it is increasingly common to recognise only three seasons:

- the cool, dry season from November through to February
- the pre-monsoon hot season from March through to May
- the rainy monsoon season from June through to October.

Some, however, recognise two brief, transitional seasons:

- a spring season in March
- an autumn season between mid-October and mid-November.

The explanation for these seasonal changes can be found in 2.2.3. The key lies in the monsoon with its dramatic reversal of wind direction between summer and winter.

A notable feature of the seasons is that they do not start on the same day throughout the country. For example, the cool, dry season begins first in the west-central part of the country during late November. This then spreads, reaching the eastern and southern borders of the country by mid-March. In the west, the season lasts for four months whilst in the east it lasts for only one month.

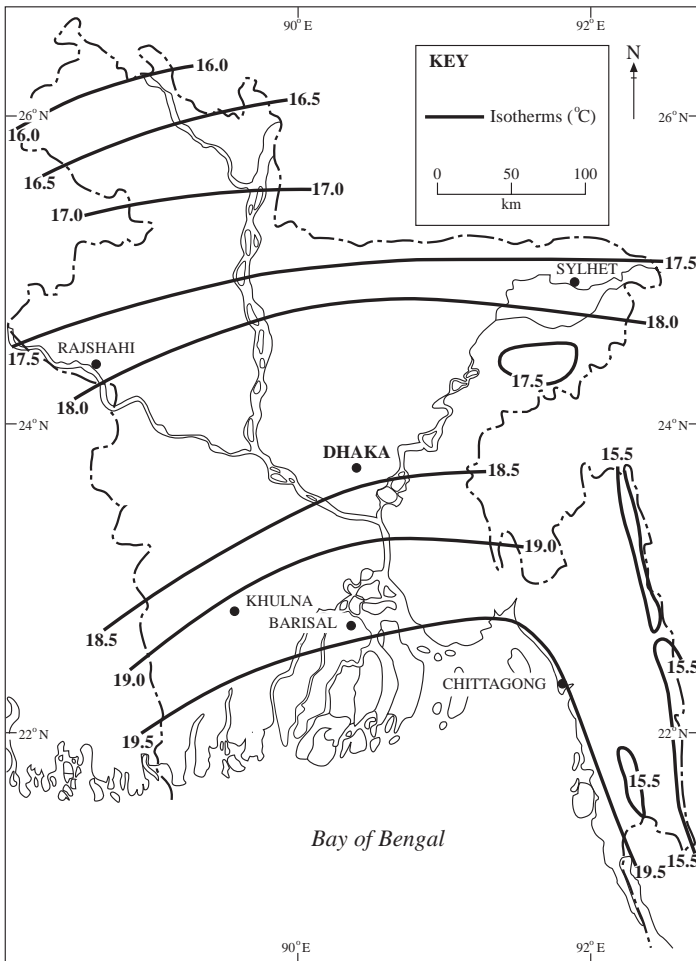
This leads us to realise that there is another side to the seasonal variations just described. The two maps on the next page illustrate an important point: temperature varies from place to place as does rainfall (see 2.2.1). While the general level of temperatures recorded in Bangladesh changes from month to month, so too do the temperature patterns. It will be seen that in January the isotherms run in a general east-west direction, with temperatures decreasing northwards. Two factors help explain that pattern:

- the general decrease in temperatures polewards
- increasing distance from the warming waters of the Bay of Bengal; in winter, the sea is relatively warmer than the land.

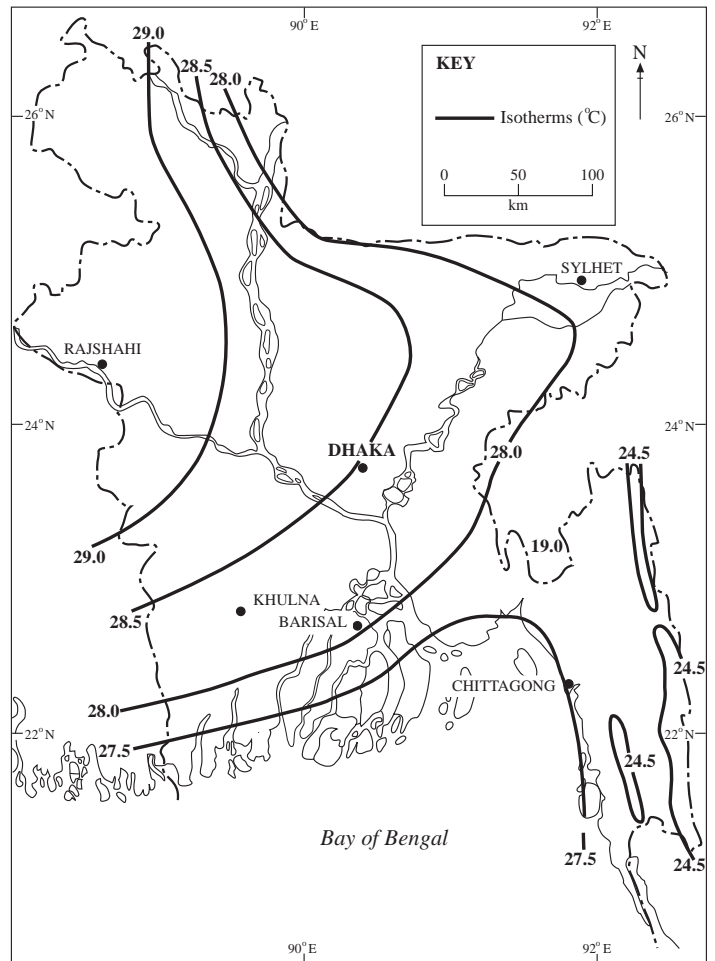
By contrast, the July pattern of isotherms shows temperatures increasing in a north-west direction. This change can be partly explained by the following:

- the south-easterly wind prevailing at this time of the year
- the fact that in summer the land is relatively warmer than the sea.

The subject of how climate varies from place to place within Bangladesh is explored more fully in 2.2.4.



January



July

The patterns of mean monthly temperatures in Bangladesh

Exercises

1. Which of the seasons do you enjoy most? Give your reasons.
2. Plot the following mean monthly figures for Chittagong on graph paper. Compare your graph with that for Dhaka (see 3.1.1). Identify the similarities and differences. Are you able to recognise three or five seasons?

	J	F	M	A	M	J	J	A	S	O	N	D
Mean monthly temp. (°C)	20	22	25	27	28	28	28	28	28	27	24	21
Mean monthly rainfall (cm)	0.7	1.5	5.3	11.9	24.2	58.9	75.9	54.7	27.9	6.0	6.0	1.0

3. Why is it that the seasons start at different times in different parts of Bangladesh?
4. Why do land and sea differ in their temperature characteristics?

2.2.3 The monsoon mechanism

The word **monsoon** refers to the seasonal reversal of winds in Southern and South East Asia. Monsoonal climates are also found in the tropical regions of Australia, Africa and Central America. The main features of the monsoon weather system are:

- a defined seasonal pattern of rainfall
- wet season (June-November)
- dry season (December-May)
- strong seasonal winds
- little variation in mean monthly temperatures.

A number of physical characteristics contribute to the overall monsoon mechanism. These include:

- the global location of south Asia
- the movement of the **Intertropical Convergence Zone (ITCZ)**
- differences in land and sea temperatures
- the size of the Asian land mass
- the presence of the Himalayas.

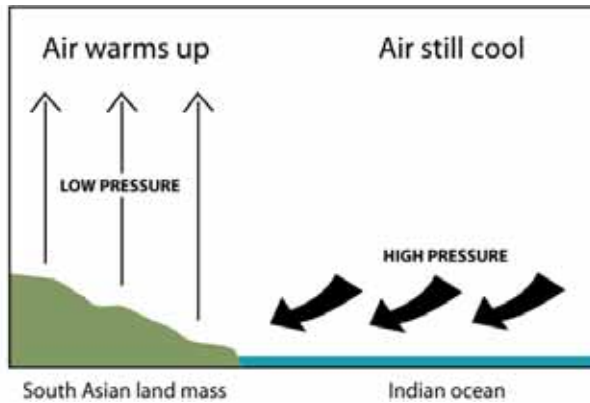
Because Bangladesh is located within the tropics (23° North and South of the Equator), its weather and climate are influenced by the Intertropical Convergence Zone (ITCZ). This system separates the wind circulations of the northern and southern hemispheres and moves north and south with the annual changes in the Earth's inclination. It produces heavy rainfall as a result of intense heating from the direct rays of the Sun.

In addition to the effect of the ITCZ, the south Asian land mass begins to heat up towards the end of the dry season and is characterised by low pressure. This is also because of a change in the Earth's inclination, and more direct heating by the Sun's rays. By May the land mass is very dry and warm. To add to this the Himalayan mountains trap the warm air. As land heats up much faster than the sea, this produces large differences in temperature and air pressure. The air over the sea is drawn towards the land mass to even out the difference.

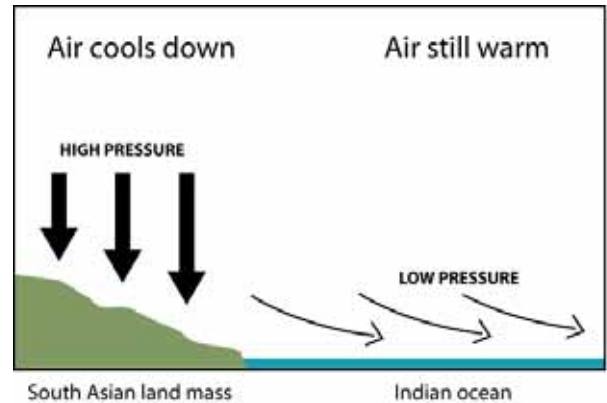
As the air moves across the Indian Ocean towards the Asian continent, it picks up moisture from the sea. This water is released as rainfall once the body of air passes over the land mass.

At the beginning of the dry season the process is reversed. This time the land cools more quickly than the sea. Once again there is a difference in temperature and pressure and the wind direction reverses. The air passes over the huge Asian land mass so it does not gather much moisture. This is why the dry season and the wet season are so well defined.

Wet season



Dry season



The monsoon mechanism

Although the wet and dry seasons are much more clearly defined than seasons in other parts of the world, they are subject to variation. This variability and unpredictability has become more pronounced in recent decades and is a phenomenon that is often related to climate change and global warming (see 2.4.4).

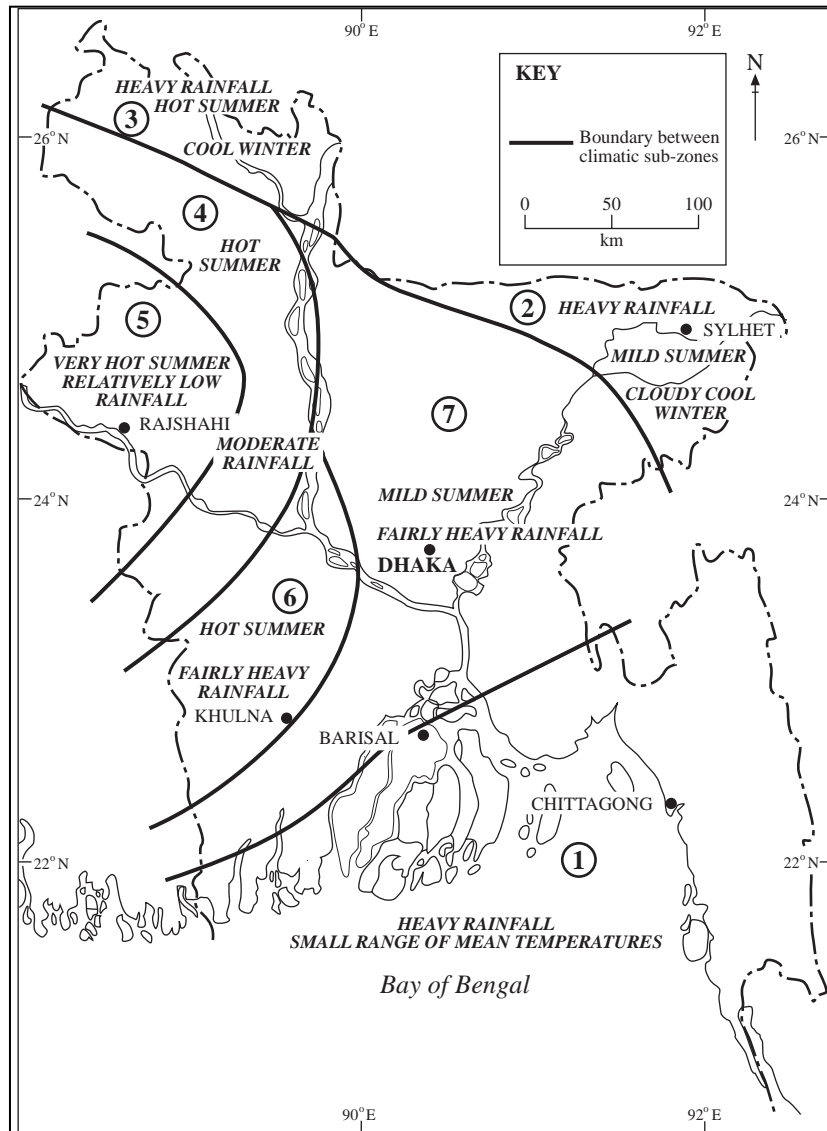
Heavy monsoon rains are one of the causes of seasonal flooding in Bangladesh. However, this flooding does not always have to be described as a natural disaster. It is mainly when the monsoon rains are extreme that they become destructive and pose a risk to human life (see 2.4.2).

Exercises

1. Which aspects of the monsoon weather system contribute to high levels of rainfall during the wet season?
2. Explain how each of the five physical characteristics (shown above) lead to differences between the wet and dry seasons in Bangladesh?
3. How does the location of Bangladesh impact on its being influenced by the monsoon system?

2.2.4 Regional variations

Whilst Bangladesh's climate is described as the tropical monsoon type, the exact character of the climate varies from place to place. For example, in 2.2.2 the point was made that the onset and length of the seasons change as we move around the country. So too do the temperatures and rainfall totals. The map below summarises these variations in climate. Bangladesh is divided up into seven climatic sub-zones.



The climatic sub-zones of Bangladesh

Let's look briefly at each of these sub-zones.

- 1. South-eastern** – This comprises the Chittagong sub-region and the southern strip of the Sundarbans. There is a small range in temperature. Mean maximum temperatures hardly ever exceed 32°C and mean minimum temperatures rarely fall below 13°C. Annual rainfall is heavy, usually over 250 cm.
- 2. North-eastern** – This includes most of east and south Sylhet and a wedge-shaped strip south of the Meghalaya Plateau. As with the first sub-zone, mean maximum temperatures are rarely higher than 32°C, but mean minimum temperatures are lower, at 10°C and below. Rain and fog are significant in winter. This is the cloudiest part of Bangladesh.

3. **Northern** – This occurs in the extreme north of the country. It is a sub-zone of extremes. Mean maximum temperatures exceed 32°C and mean minimum temperatures fall below 10°C. Summers are dry with a scorching westerly wind, but the rainy season is very wet, with totals between 200 and 300 cm.
4. **North-western** – This is similar to 3, except that the extremes of temperature are slightly less and the rainy season totals lower. It occurs in an arc encircling the next sub-zone.
5. **Western** – This comprises the Rajshahi district and areas that are immediately adjacent. This is the driest part of Bangladesh, with annual rainfall totals generally below 150 cm. Humidity levels in summer are less than 50 per cent and mean, monthly maximum temperatures over 35°C.
6. **South-western** – This wedge-shaped sub-zone experiences hot summers (summer maxima are usually below 35°C) and annual rainfall between 150 and 190 cm.
7. **South-central** – This sub-zone accounts for a large part of Bangladesh. Annual rainfall is heavy, usually more than 190 cm. The range of temperature is less than in the sub-zones to the west, but is higher than in sub-zone 1. This sub-zone experiences most of the country's severe hailstorms, 'nor-westers' and tornadoes.

Local factors are largely responsible for these variations. The main factors being distance from the sea, prevailing wind direction, altitude and the location of mountainous areas and land masses outside the country.

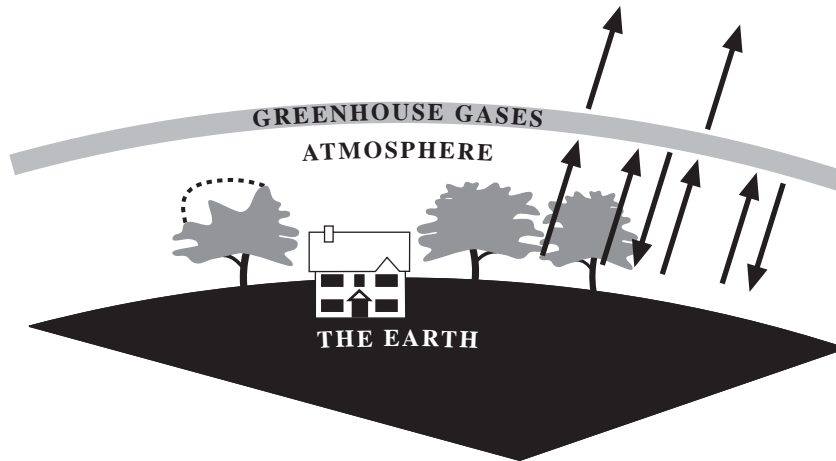
One final comment on climate needs to be made. It makes a link to the next major topic *Natural Resources*. The people of Bangladesh use the climate in a number of ways. For example, they use its heat and moisture to grow crops. Rainfall collected in lakes and reservoirs is used to generate HEP and irrigate crops. Maybe it will not be too long before Bangladesh is making more use of wind power and solar energy (sunshine), as is happening in some other parts of the world.

Exercise

1. Explain how each of the following factors might affect the climate: distance from the sea; altitude; the location of mountain masses.
2. What are the advantages of using wind and sunshine as sources of energy?

2.2.5 Global warming

Climates are dynamic. They change from year to year and from place to place. One aspect of climate change, global warming, occurs because of a change in the composition of **greenhouse gases** in the Earth's atmosphere. Carbon dioxide (a greenhouse gas) is important because it prevents heat from passing through the Earth's atmosphere and out into space. As carbon dioxide levels increase, the Earth heats up. This process is called the 'greenhouse effect'.



The greenhouse effect and global warming

A number of human, as well as natural, factors are thought to contribute to global warming by increasing carbon dioxide levels. These include:

- industrialisation
- burning fossil fuels
- deforestation.

Although not all countries contribute to global warming to the same degree, its impact does not stop at national boundaries. It is felt all over the world in different ways.

Predictions about the raising of temperatures range from an increase of between 2 and 10°C by the year 2100. As temperatures rise, so do sea levels due to the melting polar ice caps and expansion of the sea as it heats up. An average increase in sea level of 0.5 to 3 metres is predicted for the same period. This is likely to cause inundation of low-lying coastal land.

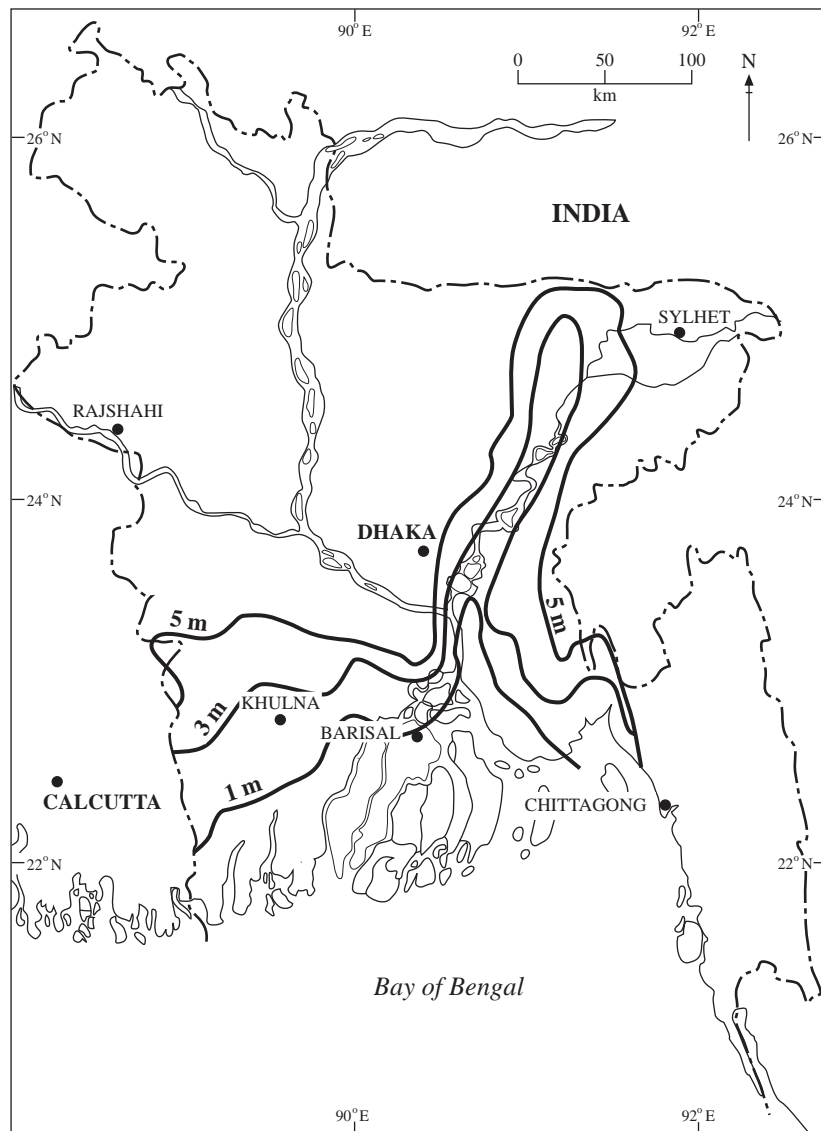
Other impacts of global warming include:

- shifts in climate and vegetation belts around the world
- changes in levels of precipitation
- greater climatic unpredictability
- increased extreme climatic phenomena, for example flash flooding and tropical storms
- erosion of coastlines.

The specific characteristics of individual countries are likely to influence the impact global warming has. These include:

- relief
- population density
- modes of production
- agricultural practices
- urbanisation.

Bangladesh's combination of a high population density (see 3.1.5) and low-lying land (see 2.1.1) make it particularly susceptible to global warming, although it is not a major contributor to the burning of fossil fuels. It is estimated that 80 per cent of Bangladesh is located on flood plains, while millions of people live at, or close to, sea level.



Map showing where Bangladesh's coastline will be with sea level rises between 1 and 5 metres.

The population of Bangladesh has shown a remarkable ability to cope with changes in climate over recent years, such as adapting agricultural practices. The ability to adapt to the effects of global warming will depend on the actual rate of change, which remains uncertain. This is because calculating regional changes is much more difficult than calculating global changes.

There are some things that are being done (globally and regionally) to reduce the pace and effect of global warming. During the late 1980s an international panel on climate change was formed to make better assessments of global warming so that it would be easier to plan for the future. Individual countries signed an agreement to reduce carbon dioxide emissions. Using fuels more efficiently, using fuels that emit less carbon dioxide, and reducing the rate of deforestation are ways that the pace of global warming can be reduced. But it will need all the nations of the world to play their part in reducing carbon dioxide emissions.

Exercises

1. What impact will global warming have on global temperatures and sea level?
2. Explain why each country will be affected differently by global warming.
3. Describe some ways that people can tackle global warming to reduce the pace at which it occurs and to deal with its impact.

2.3 Natural Resources

2.3.1 The resource base

A **natural resource** is a feature of the natural environment which can be used to meet the needs of people. It might be a patch of soil or a tree, water or wind, an animal or a deposit of coal. Natural resources are usually localised in their distribution; they do not occur everywhere. Some are also immobile and cannot be moved. The working or exploitation of natural resources is the business of the **primary sector** (see 4.1.1). Specific activities concerned with the working of natural resources include agriculture, forestry, energy generation, fishing, mining and quarrying.

The distinction between renewable and non-renewable resources is an important one. All climatic resources, such as solar energy, wind and water, are **renewable**. So too are living resources, such as plants (or crops) and animals. **Stocks** (that is the supply or availability) of these things can be maintained provided that the rate at which they are used is not greater than the rate of their replacement. For example, if the amount of water taken out of a river for irrigation exceeds the amount of water collected by that river, then eventually the river will dry up. Forests and fish are two more renewable resources, but we know all too well that their global stocks are becoming less each year. The rates of production (extraction) are far too high.

In contrast, **non-renewable** resources are finite. Any exploitation of them is bound to reduce the supply. They are ‘one-offs’. Examples include all minerals, particularly the fossil fuels (coal, oil, gas) that are so important to us as sources of energy. The only option people have is to cut back the use of these resources and, where possible, undertake **recycling**. For example, the salvaging and re-use of scrap metal and glass helps to reduce the rate of exploitation of metallic ores and silica sands.

The development and prosperity of a country depend, to a large extent, on its resource base (see 4.4.1). The quality of a country’s resource base depends on three things:

- the nature and range of natural resources found in the country
- the richness (stocks and reserves) of each resource
- the ratio of renewable to non-renewable resources – the more the ratio tips in favour of the first, the better the situation.

How does the resource base of Bangladesh measure up? The next four sections in this *Guide* look at the most important – soils, forests, fish, minerals and energy. There seems to be a fairly good variety of resources here, and even better, three out of the four are technically renewable. The problem for Bangladesh is the pressure that is put on those resources by its large and expanding population. There is a real danger of over-production. The signs of this include soil exhaustion (see 2.3.2), deforestation (see 2.3.3), declining fish stocks (see 2.3.4) and too much irrigation (see 4.1.4).

Resources are not only found in the natural world. There are what are called **human resources**. One obvious category here includes those things that directly relate to a country’s population, such as labour, skills, enterprise, education and wealth. Another category takes in those things that people have built or invested in. They are necessary for the development of a country. Examples would be roads, railways, ports and airports, housing, schools and universities, medical centres and hospitals. These resources are described as a country’s **infrastructure**.

Basically, like natural resources, they too are things that meet the needs of people. They are no less important to a country’s development.

Type	Resource
Natural	Minerals
	Soils
	Climate (water, heat)
	Forests
	Fish stocks
	Energy
	Living space
Human	Labour
	Enterprise
	Capital
	Literacy
	Transport and communications
	Housing
	Medical facilities
Education	

A checklist of resources

With one of the largest populations in the world, it might look as if Bangladesh is a country with great potential. As we shall see in 4.4.1, however, Bangladesh has a long way to go in terms of development. Natural resources are threatened by the large population. Much more needs to be invested in the infrastructure category of human resources. The resource potential of its large population needs to be raised by education and training, as well as by ensuring that all citizens, regardless of their sex or ethnic background, have equal opportunities.

Exercises

1. Which of Bangladesh's resources do you think is the most important? Give your reasons.
2. Suggest ways of reducing the use of non-renewable resources.

2.3.2 Soils

Soils, along with climate, are probably the most important resource of Bangladesh. They are the basic input of farming (see 4.1.2). With over half the working population engaged in agriculture, and with a rapidly growing population to feed, a lot is expected of the country's soils.

There are many different types of soil to be found in Bangladesh. This variety exists because of the wide range of environmental conditions. These conditions vary a lot from place to place. The key factors are: parent material, climate, relief, drainage, vegetation and age.

Parent material – This is the broken down rock from which soil forms. No fewer than 18 different types of parent material are recognised. In Bangladesh, the most widespread of these is the alluvium which covers most of the vast flood plain region (see 2.1.2).

Climate – This provides the heat and moisture that are needed by the bacteria at work in the soil. Also important is the balance between the amount of moisture a soil receives from rainfall and the amount it loses in evaporation to the atmosphere.

Slopes – Generally speaking, where slopes are steep, soils are thin. This happens because top soil tends to be removed under the influence of gravity.

Vegetation – This supplies the organic matter (**biomass**) that breaks down (**humus**) to become a vital ingredient in soil fertility.

Age – The longer a soil remains untouched, the more it matures and the deeper and more fertile it becomes.

It is the interaction of these five factors (each a variable in its own right) that is responsible for the great variety of soils found in Bangladesh. In fact, soil scientists divide the country up into no fewer than 30 different soil regions. Do not worry; it is not necessary for you to know them. It is much more important that you understand some of the problems with Bangladesh's soils today. The diagram below shows that the health (fertility) of soils is being spoilt by a number of factors. Let's take a quick look at the threats, noting that most of them are due to the actions of people.

Flooding – This is a mixed blessing. On the one hand, the silt it deposits replenishes the soil. However, if the soil is waterlogged for too long, the amount of oxygen is reduced. A lack of oxygen can harm the bacteria that are important to a soil's health.

Irrigation – This can also starve the soil of oxygen. There are also other dangers such as **salinisation** and poisoning the soil through using groundwater containing a lot of arsenic (see 4.1.4).

Over-cropping – Each crop makes certain demands on the soil; each has its own particular mineral needs. Growing the same crop over and over again means that the soil begins to run out of those minerals and the fertility of the soil is reduced.

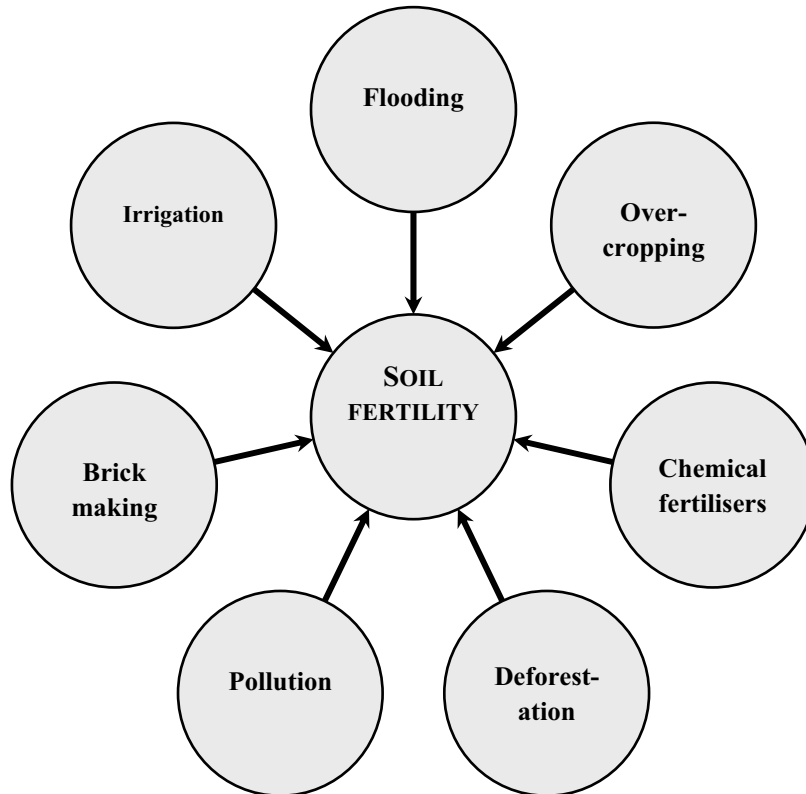
Chemical fertilisers – Use of chemical fertilisers in Bangladesh has doubled since 1980. This has been partly to make cultivation more intensive and raise the output of food (see 4.1.3). But it has been found that improper use of fertilisers soon upsets the general health of the soil. Fertilisers can become polluters of the soil.

Pollution – There are other sources of pollution besides heavy doses of chemical fertiliser. These include industrial and human wastes leaking into soils and the burning of biomass rather than letting it degrade naturally into the soil.

Deforestation – Cutting down trees has a number of negative effects on the soil. The supply of biomass to the soil stops. Soils, particularly those on slopes, become exposed to rain and wind and, are therefore more likely to suffer soil erosion.

Brick making – The growing use of good top soil to make bricks is another obvious way in which soil fertility is reduced.

Whilst all the above factors reduce soil fertility, and therefore agricultural productivity, a number can lead to the complete destruction of the soil – soil erosion. This is a clear signal that people are mistreating the country’s most valuable resource. No country can afford to do this!



Threats to soil fertility

Exercises

1. Check that you understand the significance of the five factors affecting the formation of the soil.
2. Which of the threats to soil fertility is the most serious in Bangladesh?

2.3.3 Forests

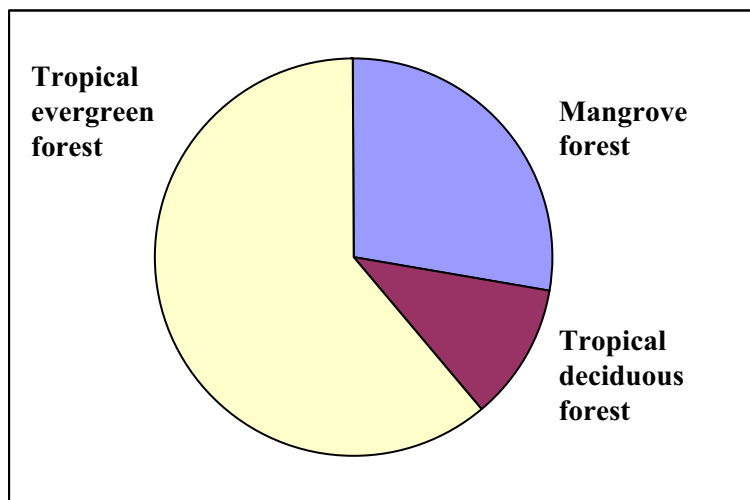
Forests contain a number of important resources, the most obvious being fuel and timber for housing and furniture. Due to variations in climate (see 4.2.4) and soils (see 2.3.2), different types of natural vegetation are found to grow in different parts of Bangladesh. Three main types of forest are found:

Tropical evergreen forest – This type of forest flourishes in areas of heavy rainfall. The trees do not shed their leaves at the same time of the year and the leaves stay more or less green whilst on the trees. Evergreen forests are found in the Chittagong Hill Tracts where they cover quite large areas. They are also found around the hilly margins of the Sylhet Division. It is the inaccessibility of these areas that largely accounts for so much of this type of forest surviving. The pie chart below shows that well over half of Bangladesh’s forests are tropical evergreen. *Chapalish*, *moyna* and *telsur* are among the valuable trees of this forest type. In addition, bamboo, wax, honey and medicinal plants can be collected.

Tropical deciduous – Trees shed their leaves at the same time, namely during the winter months. This type of forest is found on the Pleistocene terraces; *shal* trees predominate. Two sub-types are recognised: i) the forest that occurs in Mymensingh, Tangail, Gazipur and Rangpur, where *karai*, *hizal* and *nim* trees are also important; ii) the forest that occurs in the Dinajpur district of the Barind region which is almost exclusively made up of *shal* trees.

Shal trees yield good poles which satisfy a range of needs. The pie chart below shows that tropical deciduous forest is the least extensive of the three forest types.

Mangrove – This type of forest is found in the Sundarbans only and mainly in the districts of Khulna, Sathira, Bagerhat and Borghuna. The *sundari* tree is the main species and is used mainly in the production of newsprint and hardboard. The *golpata* is also abundant; its fronds are widely used for thatching.



The relative extent of different types of forest in Bangladesh

At this point, it is worth reminding ourselves of the importance of forests. Mention has already been made that they supply construction materials and that timber, particularly teak and mahogany, is used in the making of furniture. Timber is also used as a raw material in the manufacturing of paper, rayon, matches and various types of board. Timber has a role to play in transport and communications, being used as railway sleepers and in the construction of boats; timber poles carry communication lines and are used in bridge construction. Forests also provide consumable products that meet the daily needs of local people, from fuel and honey to medicinal plants and bamboo canes.

Forests have an environmental value. They help to stabilise the soil and protect it from erosion and landslides (see **2.4.3**). They retain moisture and help maintain humidity levels, particularly during times of drought. Natural levees, when covered by forest, have proved to be much more effective against floods.

Whilst Bangladesh has its forests, the worrying thing is that they cover less than 10 per cent of the land area. Still more worrying is the fact that large areas of the country have been deforested. Trees have been cleared to make way for agricultural land. The forest area is also diminishing because, as the population continues to rise, the overall demand for timber and fuel increasingly exceeds supply. It is vitally important that Bangladesh protects its remaining forests and undertakes more **reafforestation** (that is, replanting trees in areas that were formerly forested). At present, around 30,000 acres (12,000 hectares) of trees are being planted each year. If more is not done, in terms of both the above actions, Bangladesh will soon lose its valuable forest resources. It will then be forced to take the much more expensive options of:

- importing timber and fuel from other countries
- losing the foreign currency it presently earns from exporting forest products such as paper, hardboard and animal skins (crocodile, snake and deer).

At present, the forests of Bangladesh are responsible for five per cent of the national income. The future development of the country depends on maintaining, if not raising, this contribution.

Exercises

1. Find out more about the particular uses of different species named in the above account.
2. Draw a sketch map of Bangladesh showing the distribution of the three types of forest.

2.3.4 Fish

Fish rather than forests are the main living resource of Bangladesh. Fish is a favourite food and an important contributor to the Bangladeshi diet. The many rivers, canals, *bils*, ponds and *baors*, together with the estuarine and coastal waters, offer suitable habitats in which fish can breed.

The fish resources of Bangladesh are of three types: **freshwater** (or **inland**), **estuarine** (or **brackish**) and **sea** (or **marine**). The first type is more important than the second. For example, in 2000 the total production of fish amounted to 850,000 metric tonnes. Inland fish accounted for three quarters of this production; only a small proportion of the remainder was accounted for by brackish-water fish.

Unfortunately, however, fish stocks in all three aquatic habitats have been declining for a variety of reasons:

- overfishing
- pollution by housing, industry and shipping
- the increasing **salinisation** of inland water
- the disturbance of aquatic habitats by flood control
- the spread of diseases in fish.

As a result, it has become necessary to ‘cultivate’ or ‘farm’ fish, particularly in *bils*, *baors* and ponds. This is variously known as **aquaculture**, **culture fishing** or **fish farming**.

Aquaculture is, unfortunately, contributing to the spread of fish diseases initiated by water pollution by:

- overstocking
- overfeeding the stock
- using too much fertiliser
- monoculture
- poor pond management.

Let’s now look in a little more detail at the present situation for the three different aquatic environments.

Freshwater

Most Bangladeshis prefer freshwater fish. Unfortunately, this is causing catches from open water to decline as rising demand outstrips the natural supply. This decline is especially marked in the stocks of carp (*ruhi*, *catla* and *mrigal*) in the Jamuna, Padma and Meghna rivers. In response, closed water, culture-based production is increasing. Much of this effort is directed towards the production of shrimps and prawns which fetch good prices, especially overseas. Hilsa is the largest, single species fishery; it is very popular with Bangladeshis. Over a quarter of the total catches of this species now come from fish ponds.

Generally speaking, there is considerable scope for increasing freshwater aquaculture production. However, it is vital that steps are taken to avoid the pitfalls described above.

Estuarine

The intricate network of tidal waterways in Bangladesh's estuaries is rich in different aquatic species. The resources here are mainly exploited by small-scale subsistence fishermen. The estuaries and mangroves are well stocked with shrimps. They also serve as 'nursery' grounds for the development of several species of marine shrimp and prawn.

The brackish waters are ideal for certain types of aquaculture. Over 120,000 hectares in Bagerhat, Sutkura, Khulna, Cox's Bazar and Teknaf are now being farmed for shrimps and prawns. An interesting economic development is the combining of fishing (particularly aquaculture) with agriculture. During the dry season, when the salinity of the water is high, shrimps and prawns are cultured, whilst during the wet season, when salinity is low, aman paddy is grown. This is known as *bheri* or *gher* culture. A similar seasonal use of *ghers* for fish and rice also occurs in inland locations.

Marine

There are three main fishing grounds in the Bay of Bengal that fall within Bangladesh's territorial waters. Fish catches are mainly made up of catfish, bream, mackerel, jawfish and goatfish. As the output of freshwater fish has declined, marine catches have increased, particularly of shrimps. Shrimps now account for around 60 per cent of the total marine output. Along the coast, there are some 100 fish and shrimp-processing factories. Shrimps and prawns are now Bangladesh's number two export. Fish processing involves freezing, canning, drying and salting. Fish is exported in all these three forms.

Fishing is an important part in the national economy and accounts for nearly 10 per cent of GDP and 6 per cent of exports, while fish provide 80 per cent of the animal protein intake of the Bangladeshi people. It provides full-time employment for around two million people (around five per cent of the working population). Of these, about 1.5 million are directly employed in fishing and fish farming, whilst the rest work in the transportation, packing and processing of fish. Another one million or so people are involved in seasonal, or part-time, fishing and ancillary activities. Given its importance, it is vital that more is done to reach a more sustainable situation. This requires conserving wild fish stocks and protecting the aquatic environments from pollution and poorly-managed aquaculture.

Exercise

If possible, visit an aquaculture unit near where you live.

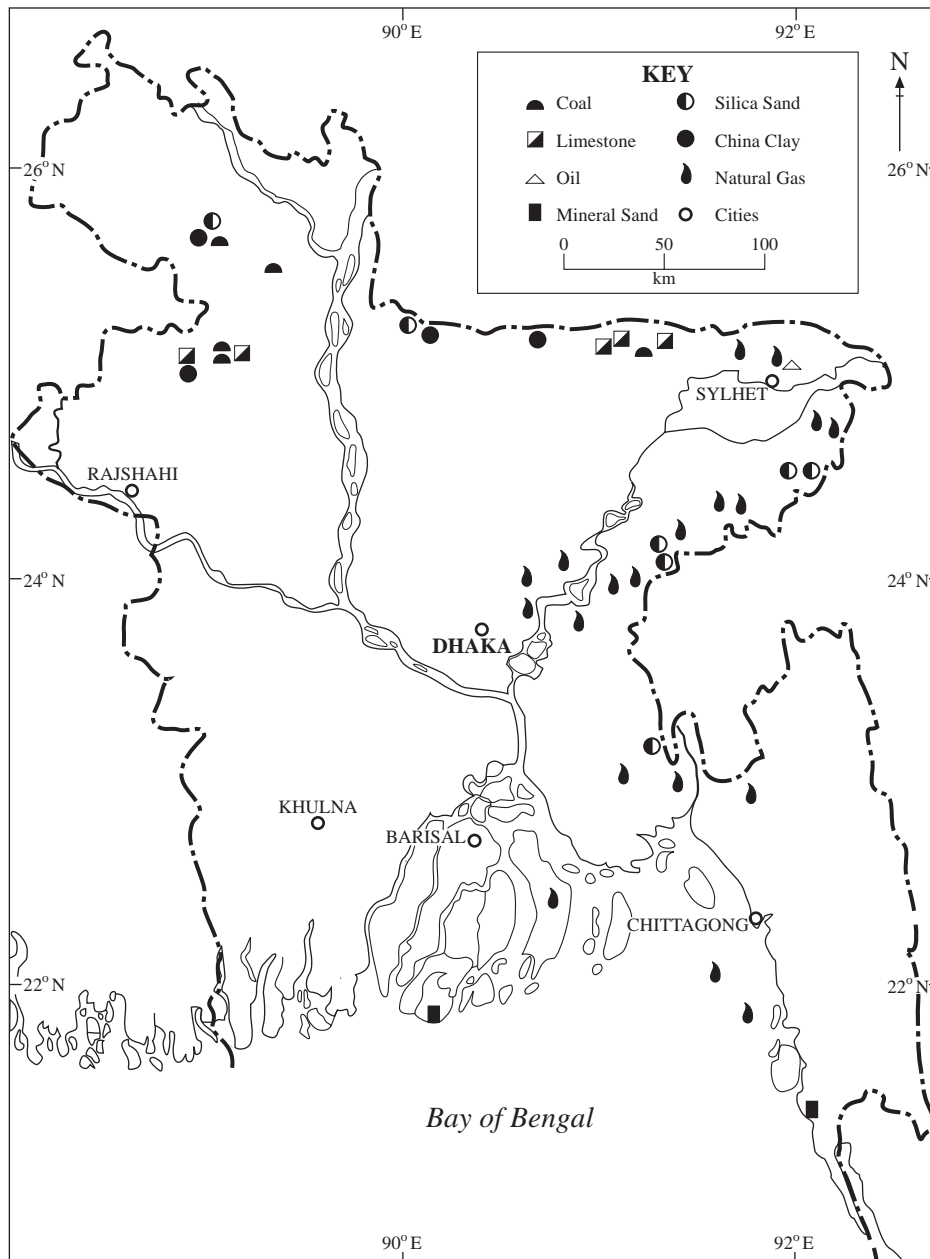
Find out more about how it is run.

Are there any particular problems?

2.3.5 Minerals and energy

Minerals are resources that come from the ground. There can be no doubt that minerals are important to the economic development of a country. They provide some of the raw materials processed by manufacturing industries. They also provide energy supplies, either directly (for example by burning coal) or indirectly (for example in generating electricity). In short, mineral resources can supply two of the basic pillars of economic development – industry and the power to run much of a country’s physical infrastructure: transport, communications, water supply and sewage systems. Minerals found in Bangladesh are divided into three groups:

- **metallic**
- **non-metallic**
- **energy.**



The distribution of mineral resources in Bangladesh

The distribution of mineral resources is shown on the map on the previous page. Although Bangladesh is not rich in minerals, it is fortunate in that those it does have fall mainly into the last category. It is probably true that this is the most important of all three categories.

The only metallic mineral of any note in Bangladesh is copper. Small reserves have been discovered at Pirganj and Ranipukur of Rangpur and Madhyapara of Dinajpur. The country does rather better in terms of non-metallic minerals and there are three significant minerals in this category.

- **Limestone** occurs at scattered locations mainly in the northern part of the country, as in the Naogaon and Sunamganj districts, but an exception to this is St Martin's Island. Limestone has a wide variety of uses. It is used in making cement, steel, glass, paper and bleaching powder, as well as in construction work.
- **China clay** (or **kaolin**) is found in the Mymensingh and Naogaon districts and is used in making electric insulators, sanitary ware and a range of household products.
- **Silica sand** is used chiefly in the manufacture of glass, chemicals and paints. The main deposits are scattered along the south-eastern borders of Sylhet, at Ranipukur and in the Chittagong Hills at Dohajari.
- **Sea sand** is dredged at Kuakata and Cox's Bazar. Once the salt has been washed out, it is used in the construction industry.

We live in an 'energy-hungry' world; energy is the lifeblood of development. Bangladesh is fortunate in having quite a large supply of energy minerals. Having energy resources is becoming increasingly valuable as the global price of oil continues to rise. The country possesses deposits of three energy minerals:

- **natural gas** is the most important of Bangladesh's mineral resources. About 22 gas fields have been discovered so far, and of these 12 are now being exploited. The largest is Titas field. Natural gas is used in cooking, heating and transport;
- **oil** occurs in small quantities in the Titas, Haripur and Rashipu gas fields. It is used as a motor vehicle fuel. An oilfield has recently been discovered at Baramchal in Moulalibazar district;
- **coal** of a high-grade bituminous type is worked in a number of districts in the north of the country (Joypurhat, Rangpur, Naogaon and Dinajpur). Lignite occurs at Chanda Bil and Baghia Bil in the Faridpur district. Because of rising oil prices, a number of foreign companies are interested in Bangladesh's reserves of best quality bituminous coal. It looks as if the 'new' coalfields at Fulbari, Khalaspir, Jamalganj, Dighipara and Lakma will soon open up.

The main aim of these new ventures is to provide fuel for the generation of much-needed electricity. Much of the output of all three energy minerals is used for this purpose. Electricity is also generated in other ways, for example by hydro power (see 2.1.5), solar heat, wind and biomass (see 2.3.1). Electricity is a clean and easily transportable form of energy. It is used to power many different aspects of the general running of a country.

Exercises

1. Make a list of the different ways in which electricity plays a part in the general running of Bangladesh.
2. Study the map and describe the distribution of natural gas fields in Bangladesh.
3. How and where are the energy minerals converted into electricity?

2.4 Natural Hazards

2.4.1 A country of natural hazards

Bangladesh is widely known throughout the world for its natural disasters. Every year, people's lives are upset by them. Some of the most damaging cyclones and floods ever known have occurred here. The worst of the cyclones struck in November 1970. In one night more than 300,000 people were killed either by drowning or collapsing buildings.

Today, natural disasters are more commonly known as natural hazards. A **natural hazard** is any event in nature that causes injury or death to people. It can do all sorts of damage (see the table below). The seriousness of this damage depends on:

- the scale of the hazard – how wide an area is affected
- its intensity – the amount of energy released
- where it hits – a densely populated area is likely to suffer more death and destruction than an area where there are few people.

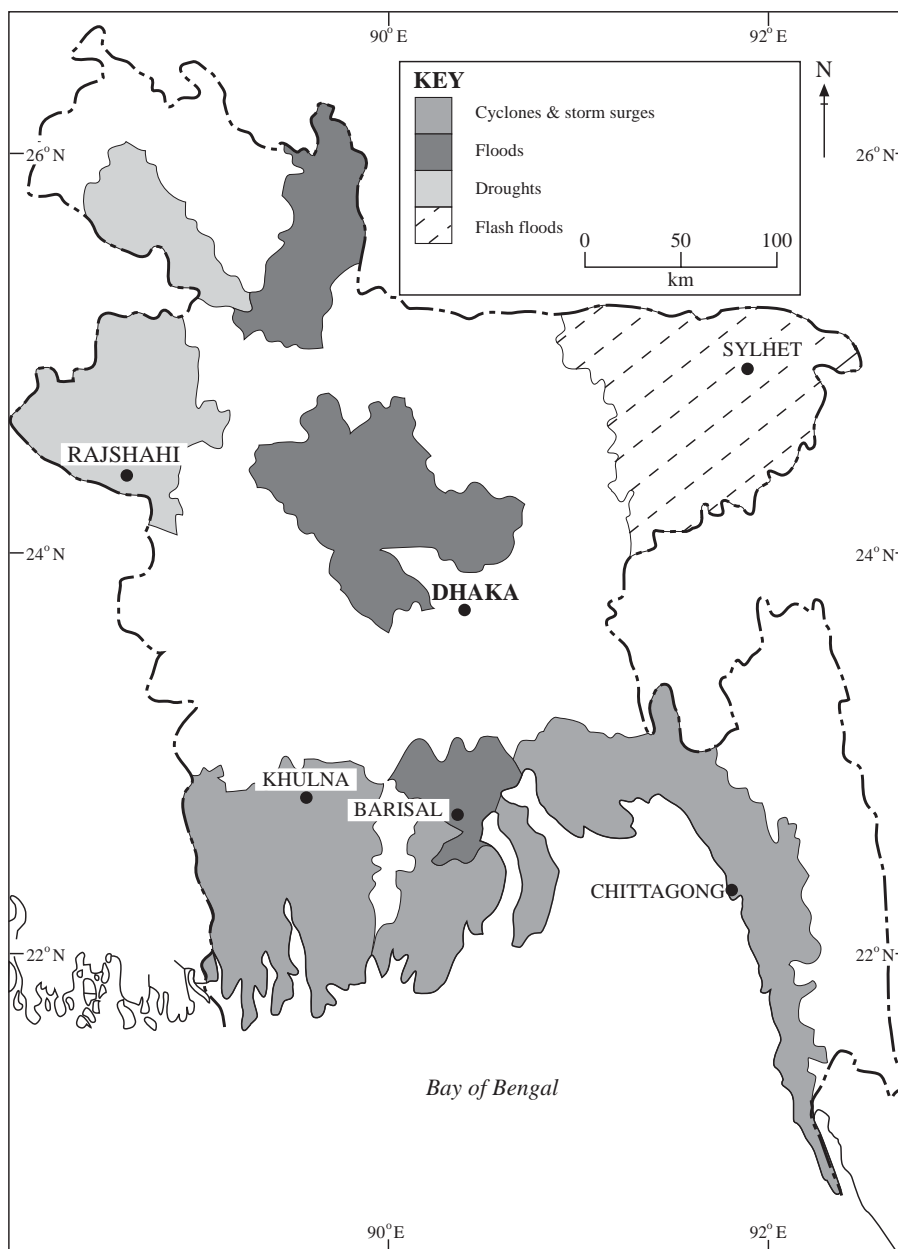
Victim	Impacts
People	Death by drowning; collapse of buildings; injury; spread of diseases (cholera, typhoid); trauma.
Daily life	Loss of homes; disruption of transport and communications; damage to essential services (water supply, sewage disposal).
The economy	Loss of crops and livestock; disruption of industrial production and services; cost of repairing the damage.
The land	Flooding; erosion of river banks; damage to forests; loss of biodiversity and soil.

Some impacts of natural hazards

A variety of natural events is capable of causing damage and injury. Cyclones, and the high winds, storm surges and floods (see 2.4.2) that come with them, are the most common and destructive of Bangladesh's natural hazards. Others regularly hitting the country are tornadoes, droughts, flash floods, hail storms and lightning, earthquakes, landslides and river bank erosion (see 2.4.3). Many are linked in some way with weather and climate. The map shows the parts of the country most prone to four of them.

As elsewhere in the world, not all the disasters that occur in Bangladesh can be blamed on natural events. People themselves can be the cause of hazards, for example when they pollute the air and rivers, or when they build dams and barrages (see 2.4.4).

It is in everyone's interests to try to minimise the damage and destruction caused by natural hazards. This can be done in a number of ways. Predicting when and where a damaging natural event will occur is one way. It can give people time (maybe only a little) either to move to safe areas or take steps to protect themselves and their property. This and other actions are looked at in 2.4.5.



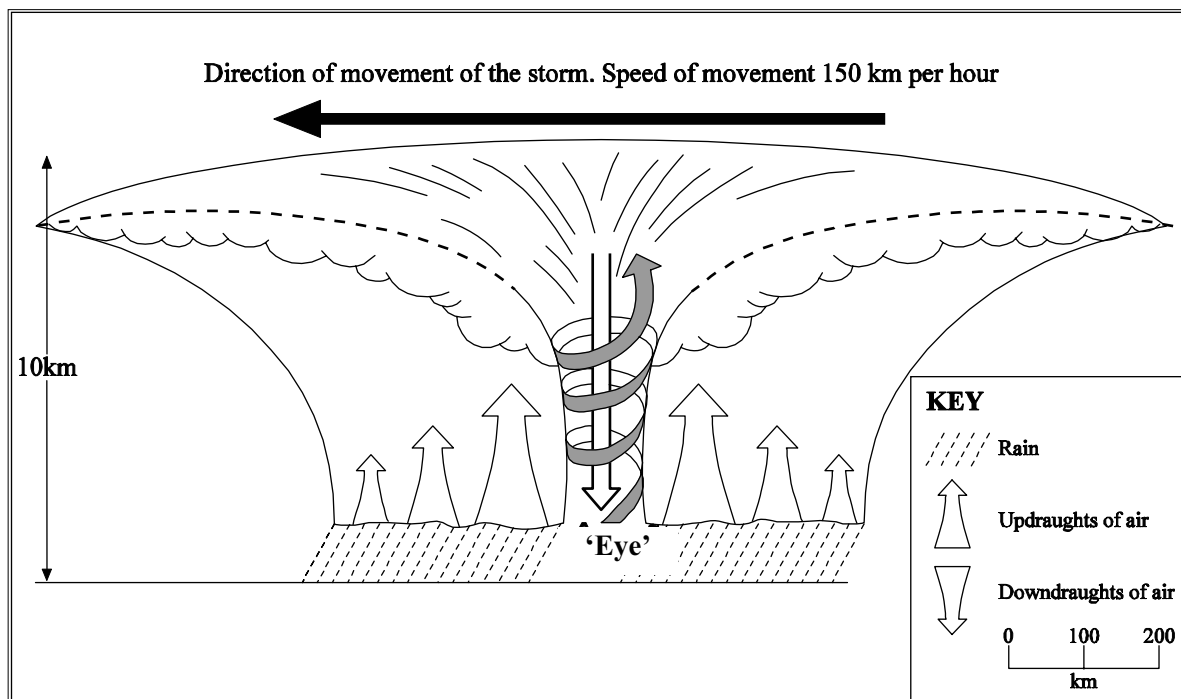
Areas of Bangladesh prone to natural disasters

Exercises

1. Why is flooding such a destructive natural hazard in Bangladesh?
2. Using the map, identify and make a list of the areas most affected by each of the four natural hazards.
3. Can you think of any natural hazards that occur elsewhere in the world, but not in Bangladesh?

2.4.2 Cyclones, storm surges and floods

Cyclones, storm surges and floods have, in the last 50 years, been responsible for more deaths and destruction in Bangladesh than any other natural hazard. Cyclonic storms are low pressure weather systems (see the cross-section below). They are caused by intense heating of the air and originate over the sea where temperatures are 27°C or more. The circular motion around the centre or 'eye' of the cyclone produces wind speeds of 150 km per hour or more. The strong uplifting of air results in torrential rainfall. It is these strong winds and heavy rainfall that immediately make cyclones natural hazards. Buildings and power lines are blown down and areas are flooded. Cyclones form out in the Bay of Bengal and hit the coastal areas first. At least one cyclone disaster strikes each year.



A cross-section through a cyclone

The most dangerous aspect of the cyclone is the storm surge. This is a sudden rise in sea level caused by low air pressure. The low pressure allows the sea to 'expand' to more than four metres above its normal level. Clearly, this spells danger for any low-lying coastal areas. Remember, too, that high winds are whipping the sea into huge waves. For these reasons, storm surges can be far more damaging than the cyclone itself. People, buildings, crops and cattle are simply washed away. If a storm surge hits the coast at low tide, it can be fairly harmless. If, however, the tide is high, then the destruction can be immense. This was the case in the November 1970 cyclone mentioned in 2.4.1. The storm surge was between six and nine metres higher than the normal tide. Unfortunately, the shape of the Bay of Bengal's coastline and its floor tend to 'squeeze' the storm surges and make them ever higher.

A popular image of Bangladesh, held by people elsewhere in the world, is that the country is always flooded. Flooding occurs every year. The main causes are:

- the convergence of the vast rivers (the Ganges-Brahmaputra and Meghna) that drain large areas outside the country
- the heavy monsoon rains
- the cyclones and their storm surges
- the **flash floods** which occur in the drier and more hilly parts of Bangladesh (see the map in 2.4.1). They are caused by short, sharp showers falling on steep slopes with little vegetation.

About 20 per cent of the country is flooded each year. That figure can sometimes rise to over 40 per cent. The highest figure of 67 per cent was recorded in 1998; the flooding lasted for 65 days.

It is estimated that the rivers in Bangladesh carry over 2 billion metric tonnes of silt each year. Much of this is deposited before reaching the sea. This has the effect of raising the beds of rivers and reducing the ability of their channels to carry the same amount of water. This leads to what is known as **river bank erosion**. Rivers wear away and break through their banks. In short, there is more flooding.

Any natural event that becomes a natural hazard is thought of as bad news. However floods are different. Although they are washing away people and their homes, crops and cattle, they are actually doing some good, for example:

- they top up stocks of groundwater made low by drought
- they deposit silt that revives overworked soils
- they build new land when the silt they are carrying is deposited in coastal areas
- they help maintain wetland ecosystems, such as the mangrove.

It could be said, therefore, that floods are a mixed blessing.

Exercises

1. Look at the diagram. How wide is the cyclone?
2. Can you explain why storm surges are made worse by the Bay of Bengal?
3. Write a short account of your own experiences during the passing of a recent cyclone.

2.4.3 Tornadoes, droughts, earthquakes and landslides

The list of natural hazards linked to Bangladesh's weather and climate is longer than cyclones, storm surges and floods. There are at least four others: tornadoes, droughts, hail storms and lightning. The first two pose more problems than the last two.

Tornadoes are sometimes called 'local monsters'. They are a terrifying experience because they appear suddenly without warning and are highly destructive. Thankfully, though, they affect quite small areas. In May 1996, a tornado hit Tangail. Within a matter of minutes over 500 people were dead, buildings and crops flattened, and large numbers of livestock lost. Many of those who survived suffered later from deep shock and trauma.

A tornado is like a small cyclone, but it has incredible energy. It is a whirling storm formed around a tiny cell of very low pressure. Wind speeds are frighteningly high (sometimes more than 300 km per hour). This is the reason for their great powers of destruction. They tend to form where warm, damp air from the Bay of Bengal meets cool air from the interior of Asia. They are usually short-lived, lasting for only an hour or so, and are often little more than 100 metres across. However, as they move over the ground, they cut a path of total destruction.

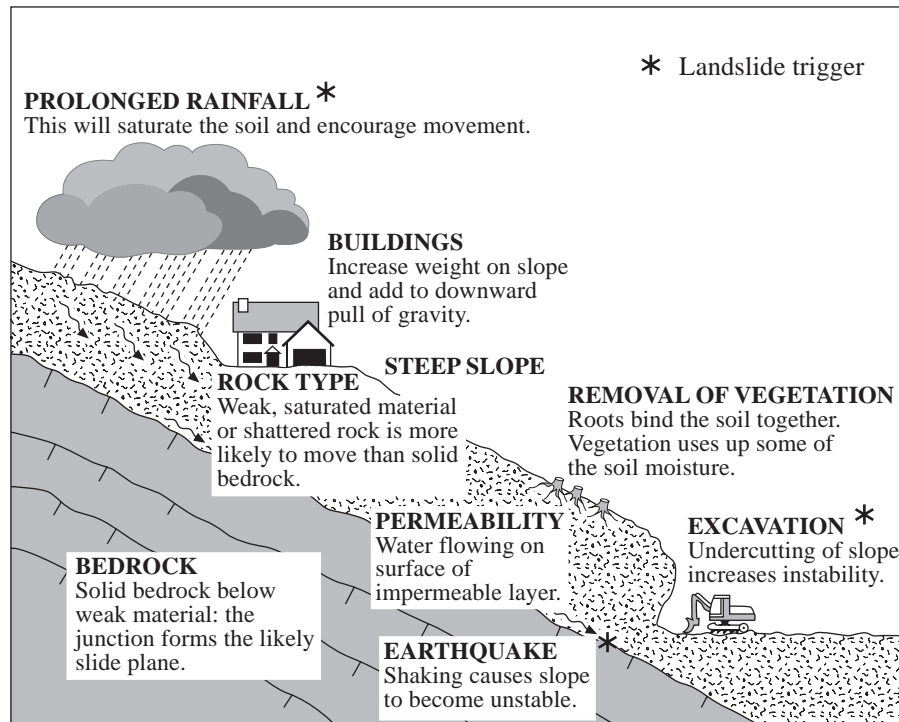
Drought occurs when there is not enough water to meet the normal needs of agriculture, industry and people. It has always been a fact of life for many areas outside of the monsoon season, particularly in the north-west (see map in 2.4.1). Drought is on the increase in Bangladesh. Not only is it occurring more frequently, it is being experienced in new areas. Apart from the loss of crops, droughts have other consequences. Gradually, soils are drying up and water tables are falling. More and more land is becoming unfit for agriculture. People are being forced to dig deep wells to maintain their water supplies. The contamination of groundwater by arsenic (see 2.3.2), however, makes this a risky thing to do.

There are two more important natural hazards to look at.

Earthquakes are the only natural hazard not linked to weather and climate. Their cause lies in the movement of the great tectonic plates that form the Earth's crust. Unfortunately for Bangladesh, it lies on the boundary between the Eurasian and Indian plates. To the north, the meeting of these plates has thrown the Himalayas. In Bangladesh, the boundary takes the form of a huge fracture zone. This produces earthquakes rather than mountains. Most of them are so weak as to pass unnoticed. Now and again, however, there is a strong one that has enough energy to cause damage.

It is the north and north-eastern parts of Bangladesh that experience most earthquakes. There was a particularly bad earthquake in 1897. Since then, there have been around 20 (between 7.0 and 8.7 on the Richter Scale) that have caused death and destruction. The fact that powerful earthquakes are few and far between here is worrying. It is encouraging people to forget that earthquakes can be the most destructive of all natural hazards. It is easy to forget about the need to make buildings and transport lines 'quake proof'.

Tsunamis are tidal waves created by earthquakes, even those with their 'epicentres' beneath the land rather than the sea. They, like storm surges, threaten low-lying coastal areas.



Factors encouraging landslides

Finally, there are **landslides** – the downhill movement of part of a slope. They often happen suddenly and quickly. They are a hazard in hilly areas and occur when a slope is weakened in some way, as shown by the above diagram. However, a weakened slope still needs a trigger to set it moving. There are four common landslide triggers in Bangladesh:

- heavy rainfall causing a sudden surge of water to rush downhill
- earthquakes shaking the ground
- engineering work such as cutting a new road across a slope
- clearance of vegetation cover (deforestation).

In general, landslides damage property rather than kill people.

Exercises

1. At what times of the year do you think tornadoes are most likely to occur in Bangladesh?
2. Find out more about the Richter Scale. What is an earthquake's 'epicentre'?
3. Make two lists of the natural hazards that occur in your home area. In the first list, place them in order of frequency. In the second, rank them by their destructiveness. To what extent do your two lists have the same order?

2.4.4 The human hand in hazards

Natural events, such as cyclones and earthquakes, become natural hazards only when they kill or injure people or damage property. Two related points now need to be explained and understood:

- people can unintentionally turn natural events into hazards
- people can create a whole range of hazards that are not linked to natural events.

Firstly, it is a fact that people can have a bad effect on natural processes. For example, building on slopes can lead to devastating landslides. Changing slope angles and slope drainage, or adding weight to slopes, can all cause landslides (see 2.4.3). Human activity has also been linked to the triggering of some **earthquakes**. Mining, the abstraction of groundwater from wells and the building of reservoirs can all increase earthquake activity.

Many **floods** also have a human cause. Deforestation is known to increase soil erosion. More soil erosion, in turn, clogs up river channels. Clogged river channels mean more frequent flooding. Finally, people can easily turn floods into natural hazards by living and working on flood plains. Unfortunately, the situation in Bangladesh is such that, with 80 per cent of the country made up of flood plains, most people have no choice other than to live in such high risk areas. The poor maintenance of river banks means that they often give way during periods of heavy rainfall. Other factors contributing to flooding include river bank erosion and the infilling of wetland areas on flood plains deliberately changing river channels.

Secondly, people can create hazards that are nothing to do with natural events. For example, air **pollution** causes breathing difficulties and death. Water polluted by people can become a major transmitter of diseases such as cholera, polio and typhoid. Bangladesh's groundwater is already polluted in many places by the arsenic that occurs naturally in some rocks. This poisoning is made worse by the heavy use of fertilisers that gradually wash down through the soil.

Dhaka, with its 13 million inhabitants, is a victim of pollution in all its different forms. The city suffers from:

- poor air quality – at times it is near to being toxic due to huge emissions from industry, motor vehicle exhausts and domestic open fires. It is estimated that 15,000 child deaths each year are linked to lead in the atmosphere
- water pollution – water courses contaminated by raw sewage as well as by domestic and industrial waste
- land pollution – some rubbish and waste is not collected; it is dumped in the street or on a local site and left to rot
- smell pollution – unpleasant smells produced by rotting rubbish, fouled water courses and polluted air
- noise pollution – noise levels that are near-deafening in places
- visual pollution – many poorly maintained and unsightly buildings.

Most of these forms of pollution can have a serious effect on human health. They cause and spread illness and disease that can often be fatal. For example, polluted water means large numbers of city residents regularly suffering from 'jor', diarrhoea and dysentery and being exposed to highly contagious diseases such as cholera, typhoid and polio.

Chittagong is currently facing a different pollution problem. Ships visiting the port regularly clean out their tanks and discharge toxic waste into the channel connecting the port to the sea. The local laws are too weak and lax to stop this happening. The trouble is that the poisons in the discharges are now entering the human food chain as people eat fish caught in these polluted waters. Making the situation worse is the fact that much of this contaminated fish is exported to other countries.

There is, of course, another manmade hazard that is particularly evident in towns and cities – **traffic accidents**. Each year thousands of people are killed or injured on the roads. In 2000, it was estimated that for every 10,000 vehicles on the roads of Bangladesh 2270 people were injured and 163 killed.

Finally, while each year much of Bangladesh experiences the costs of natural hazards, there is another hazard that is spreading silently and storing up great trouble for the near future. That is the spread of HIV and the associated AIDS. Unfortunately, there are few official figures, but Bangladesh, like most countries, has the virus within its population. HIV is being spread particularly by prostitution and the practice of selling blood. The seriousness of the HIV problem needs to be recognised so that actions can be taken to stop its spread.

Exercises

1. Can you think of any other ways in which people turn natural events into natural hazards?
2. Where does the lead in Dhaka's atmosphere come from?
3. What are HIV and AIDS?

2.4.5 Living with natural hazards

Natural hazards are widely reported in the newspapers and on television. The damage and suffering caused by cyclones, floods and earthquakes make great headline stories. But for many people in Bangladesh, natural hazards are more than headline stories. They bring physical suffering and loss of property. As yet, few official statistics exist to show how bad natural hazards really are for Bangladesh. How many people have died or been injured? What was the total value of buildings and property destroyed? What is the cost of putting the damage right? The guess is that the costs each year are enormous.

So is there anything that people can do to reduce those costs? Can they make living with natural hazards less painful?

There are three questions to be asked when learning to live with any natural hazard.

1. What are the chances of it happening?

This is known as **risk assessment**. People weigh up the risks attached to living in one place rather than another. Which is going to be safer from a flood hazard, a dwelling close to a river or one up on a low hill? Not everyone in Bangladesh has a choice, but risk assessment is something that government officials carry out for the benefit of the majority. For them the question is: which areas are most at risk and in most need of protection?

2. What can be done to reduce the hazard?

This is known as **adjustment**. Many different actions are possible. They depend on the hazard. Some are shown in the table on the next page. The problem with adjustment is that it can cost huge sums of money. That is particularly true of large engineering works such as seawalls, river embankments and storage reservoirs that hold flood water until river flows return to normal. Much can be done in terms of education. Teaching people what to do and where to go during a natural hazard can be carried out cheaply and effectively. Building shelters and setting up 'refuge' areas can help.

3. When and where will the next one happen?

This is known as **prediction**. If it is possible to forecast when the next hazardous natural event is about to happen, then people can be warned. This will allow them a little time to take actions that increase their chances of surviving and reduce the damage to property. In the case of floods, this may involve moving their families and property to safe areas. Satellite images taken from space have greatly improved weather forecasting. That is good news in terms of natural hazards such as cyclones and storm surges. Tornadoes can be spotted on radar screens. Despite research, however, it is still difficult for scientists to make equally useful predictions about earthquakes.

Natural hazard	Adjustment actions
Cyclones	Set up emergency shelters. Prepare local disaster action plans. Create quick and effective warning systems. Make buildings more able to withstand high winds.
Storm surges	Build sea walls. Keep settlements away from the lowest lying and most exposed parts of the coast. Set up emergency refuge areas.
Floods	Build dams and storage reservoirs. Make river channels straighter and deeper. Build flood walls along river banks. Keep settlements away from flood plains. Set up emergency safe areas above frequently flooded areas.
Droughts	Sink new wells to tap groundwater. Ensure that the ground is well covered by vegetation. Create storage reservoirs and ponds to hold surplus water in the rainy season.
Tornadoes	Improve radar network and tracking. Advise on building construction. Set up search-and-rescue system.
Earthquakes	Make buildings and structures such as bridges 'quake proof'. Prepare emergency rescue plans. Train search-and-rescue teams.

Some possible adjustment actions

One sad postscript to this account of living with hazards is that, in Bangladesh as in other countries, it is generally the poor who suffer most. They live in the areas of highest risk; they benefit least from adjustment; they are least able to protect themselves and their possessions. Also, adding to the hazard risk is the fatalistic attitude of some people: 'If it is God's wish, it will happen.'

Exercises

1. Look around your home area and find out what adjustment actions have been taken.
2. Which do you think are more difficult to predict, tornadoes or landslides? Give your reasons.
3. What makes flooding such a common disaster in Bangladesh?

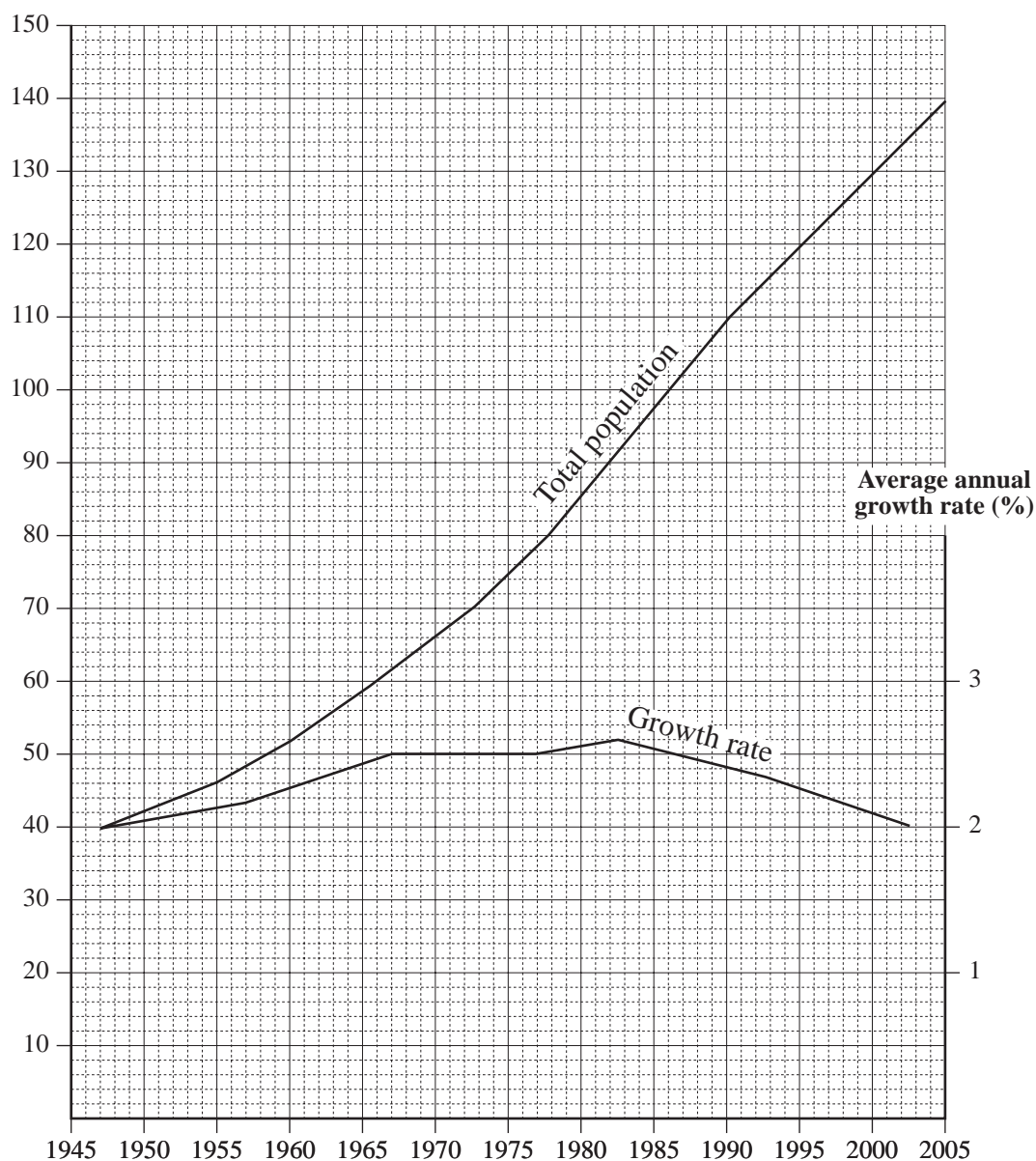
Section 3 – The People of Bangladesh

3.1 Population Growth and Distribution

3.1.1 Population growth

In 1947, when East Pakistan (now Bangladesh) was partitioned from India, the country's population was around 40 million. The graph below shows that since then it has more than trebled. The last national Census held in 2001 found that the population had reached 130 million. This is a huge rise in population and means that Bangladesh is now one of the 10 most populous countries in the world (see 3.1.4). During the last 50 years, the rate of increase has remained at just over two per cent a year. At the moment, there seems little hope of any significant lowering of that rate. It is forecast by the UN that, during the 2020s, Bangladesh's population could hit the 200 million mark.

**Total population
(millions)**



The growth of Bangladesh's population (1947–2005)

The reasons for the enormous rise in population will be looked at in **3.1.2**. For the moment, let's think about some of its consequences.

Living space – Bangladesh is already one of the most densely populated countries in the world (see **3.1.4**). There is little or no more space. Remember, too, that a significant percentage of the population already lives on high-risk flood plains and low coastal areas (see **2.4.4**).

Food – Can Bangladesh grow all the food needed to feed these extra mouths? The answer is uncertain. The trouble is that more people means taking farmland and building on it to provide homes and services. Average daily food intake in Bangladesh today is just over 2000 calories. It is estimated that over half the children suffer from **malnutrition** (a condition that results from a diet that is lacking either in total amount or in vital minerals, proteins and vitamins).

Water – It may seem strange to be mentioning this in a country in which there is so much flooding. People need clean, safe water. Pollution means that this is already in very short supply (see **2.4.4**). Polluted water also means the rapid spread of killer diseases. Will Bangladesh be able to meet the safe water needs of an even larger population?

Social services – Bangladesh struggles to meet today's demand for services such as schools and healthcare. These are important to people's **welfare**. Will the government be able to provide these services for millions more people?

Overpopulation – Having looked at some of the possible consequences, it looks as if Bangladesh is going to become, if it is not already, seriously overpopulated. **Overpopulation** occurs when the population of a country or region is too large. Resources, economic production and technology are unable to support the whole population. Malnutrition and starvation, unemployment and poverty are some of its symptoms that spread to an increasing percentage of the population. So what must be done to reduce the threat of overpopulation? There are only two courses of action.

- The economy of Bangladesh must develop (see **4.4.5**). Only by raising food production, creating jobs outside farming, and exporting goods will the country be able to support a larger population. This will need to be done if every citizen is to enjoy a good quality of life.
- The rate of population growth must be slowed down. The only way of doing this is to reduce the birth rate (see **3.1.2**) by birth control. This is a very sensitive issue. Many people believe that family planning is not part of their culture. But if Bangladesh is to survive, then attitudes need to change. Much will have to be done by way of educating people about i) family planning methods and ii) the reasons why social and cultural attitudes have to change. Making the means of birth control freely available would also be another important move.

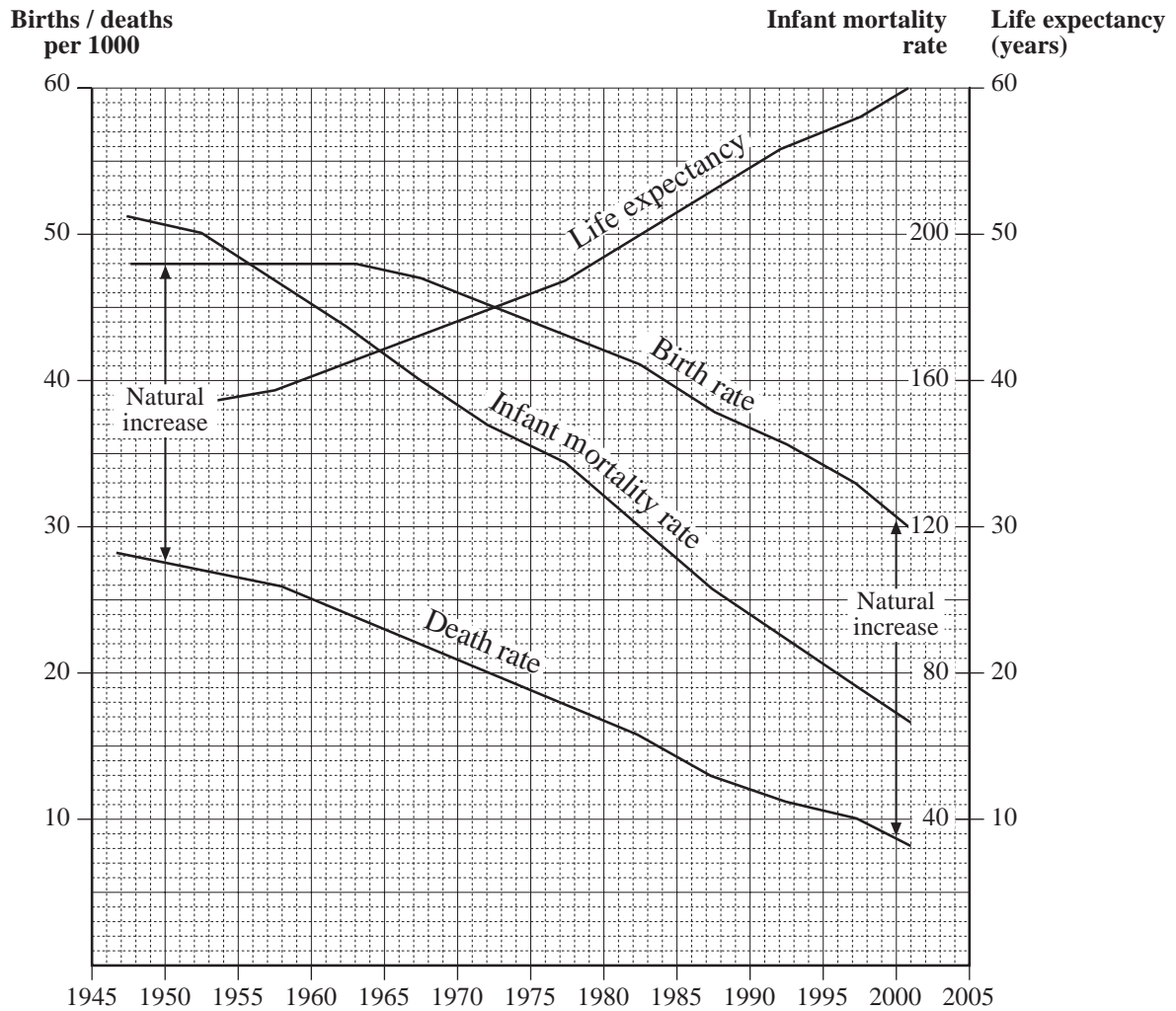
Failure to take action now promises a bleak future. That is the hard truth facing Bangladesh and other overpopulated countries in Asia and Africa.

Exercises

1. If a population grows at a rate of two per cent each year, how many years does it take for the population to double?
2. Can you think of any other indicators of overpopulation?
3. How would you persuade others that birth control is vital to Bangladesh's future prosperity?

3.1.2 Population rates

Population growth, such as has occurred in Bangladesh (see 3.1.1), is mainly the outcome of what is known as **natural increase**. This occurs when the number of births in a year is greater than the number of deaths. Instead of using absolute figures, it is usual to work out the **rate of natural increase** by subtracting the **crude death rate** (the number of deaths in a year per 1000 people in the population) from the **crude birth rate** (the number of births in a year per 1000 people). The graphs below show that the rate of natural increase in Bangladesh was the same in 1950 as it is today (21 extra people each year per 1000 people in the population). This is a very high rate. In fact, Bangladesh has sustained, for 50 years, one of the highest rates of growth in the world. It is hardly surprising, therefore, that the total population has more than trebled.



Rates of population change in Bangladesh (1950-2005)

It is interesting that this high rate of natural increase has persisted despite the fact that both the birth and death rates have fallen. However, their downward trends have been more or less parallel. The birth rate has fallen as more people have seen the benefits of having fewer children and have planned their families accordingly. The fall in the death rate is explained by:

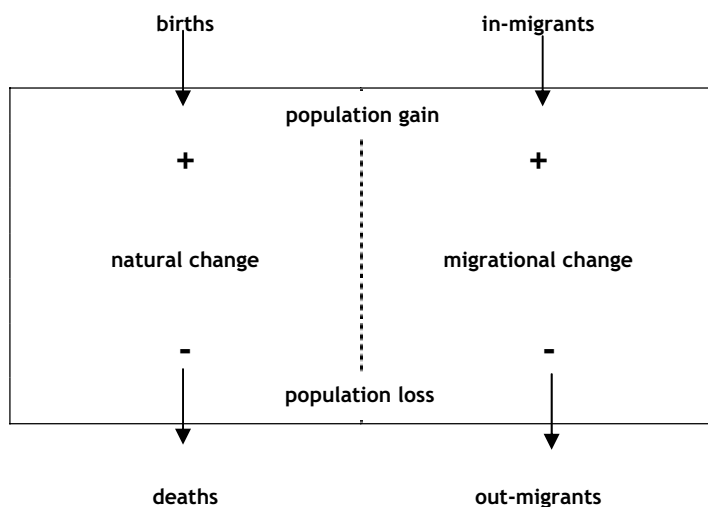
- more people inoculated against what were once killer diseases, such as cholera and polio
- better healthcare
- more basic education about health and hygiene
- small improvements in housing conditions and in access to safe water.

There is one change in Bangladesh’s population that has been particularly significant. This is the **infant mortality rate** – the number of children who die before reaching the age of one year per 1000 live births. The graph below shows that this rate has dropped from just over 200 to 64 per 1000 live births. In short, the number of children surviving this critical first year is more than three times greater today than it was 50 years ago. This has provided a powerful boost to population growth. The reasons for the decline in infant mortality are to do with better healthcare, education and diet.

The decline in the crude death and infant mortality rates shows up in another widely used indicator of the general ‘health’ of a country’s population. This is **life expectancy**. To put it crudely, if fewer people are dying, then they must be living longer. A Bangladeshi born in 1950 might have expected to live, on average, to the age of 37. A baby born today can expect to reach the age of 62.

Globally, men and women have different life expectancies, with women on average living longer. In the more economically developed countries, the difference is about five years. It is interesting to note that in Bangladesh 50 years ago, life expectancy for men was one year longer than for women. This was probably explained by the fact that then larger numbers of women died during childbirth. Today, the situation is reversed with women expecting to live one year longer than men.

Before leaving the subject of rates of population change, it is important to note that the diagram below shows that there is another contributor – migration. This is looked at in more detail in sub-section 3.2.



The components of population change

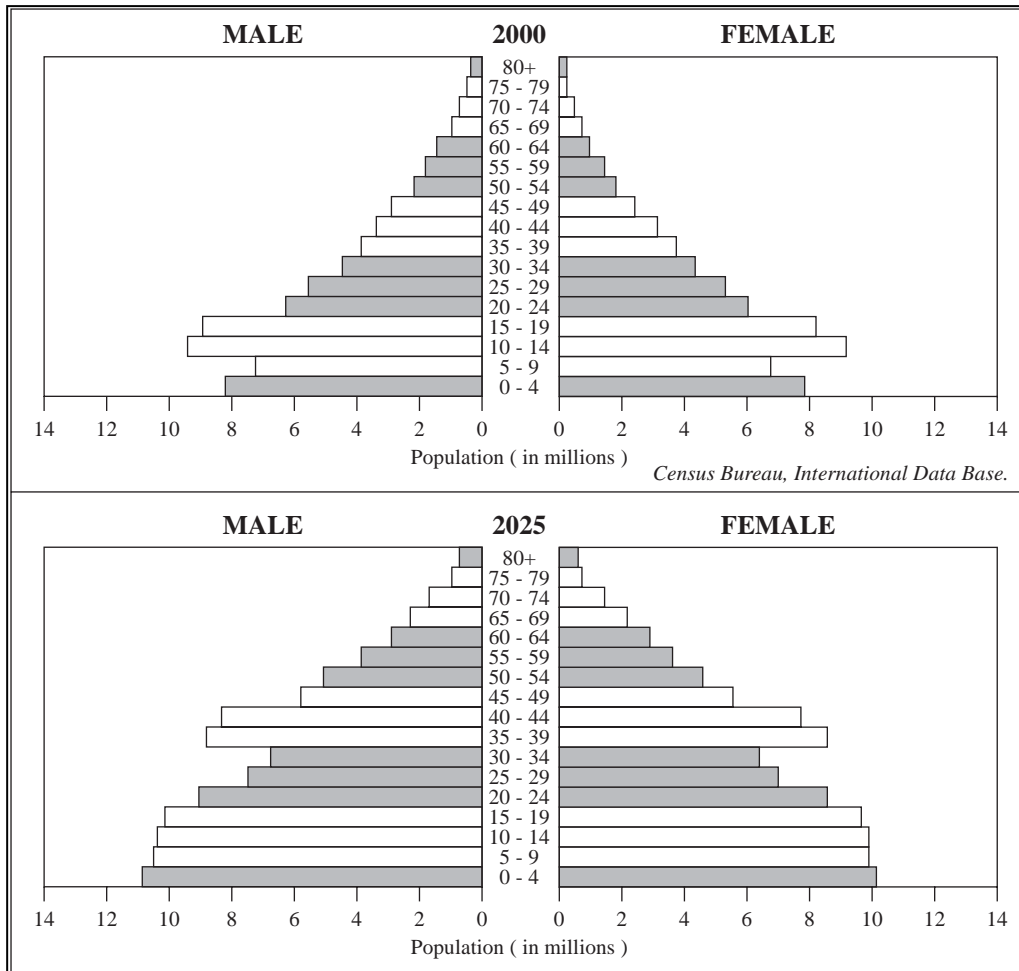
Exercises

1. Which do you think has contributed more to the growth of Bangladesh’s population – the fall in the birth rate or the fall in the death rate?
2. What would happen to the population of Bangladesh if the birth rate fell much more quickly than the death rate?
3. Do you think that the reasons for the decline in the death rate and in the infant mortality rate are exactly the same? Justify your answer.

3.1.3 Population structure

Population structure is about the age and sex make up of a population. Information relating to structure is most easily understood if it is represented in the form of an **age-sex pyramid**.

Proportional horizontal bars show the number of males and females in a range of five-year age bands, running from 0 to over 80. The youngest people are shown at the bottom of the pyramid, the oldest at the top. The male bars are set on one side of the diagram, the female ones on the other.



Age-sex pyramids of Bangladesh (2002 and 2025)

The overall shape of the pyramid tells us a lot about the present character of a population. Even more important, today's pyramid can help to predict what the future population structure will be.

Let's look first at Bangladesh's age-sex pyramid for the year 2000. The pyramid is broad based and tapers quite quickly upwards indicating that:

- the population is a youthful one with plenty of young people, particularly between the ages of 10 and 19
- there is a relatively small number of elderly people
- **life expectancy** is not that great.

One curious feature is the apparent undercutting at the base of the pyramid. Normally, the bars of a pyramid should be longest at the base and shortest at the top. This reflects the fact that the number of people born in any particular year is constantly reduced by death as those people grow older. The older the age group, the greater the reduction. The undercutting here in the 0-9 age range has not been caused by death, but rather by birth control.

Look now at the age-sex pyramid that is predicted for the year 2025. Basically, what has happened is that the age bars have moved up the pyramid by five age bands (ie by 25 years). It is still possible to pick out that undercutting we noticed on the 2000 pyramid and the bulge above it. What is also noticeable is that the bars for the age bands above 50 are longer. More people are reaching old age; there is greater life expectancy.

One feature of the 2025 pyramid is perhaps surprising. Why is birth control not continuing to undercut the base? The answer lies in the bulge between the ages of 10 and 19 that showed up in the 2000 pyramid. Those men and women are now having children. Even if they restrict their families to two or three children, they still add large numbers of new people at the base of the pyramid.

Finally, it is important to look at the other part of population structure – the sex composition. You might expect that the two sexes are going to be equally balanced. In Bangladesh's case, however, there are more males than females in all age bands. If you look closely at the age pyramids, you should be able to detect the difference. In fact, sex ratios (the number of males per 100 females) range from 105 (in the under 15-year-olds) to 118 (in those aged 65 and over). How can we explain this? There are a number of factors:

- the biological fact (both in humans and other mammals) that male births exceed female births
- the significant numbers of women dying during childbirth – the maternal death rate is still quite high
- in parts of Bangladesh, the status of women remains low; hardship and hard toil often lead to ill health and early death
- although there are no known cases of female infanticide (killing girl babies at birth), the strong preference for sons in Bangladesh can lead to the neglect of daughters; the fact that infant mortality is higher among girls suggests that this is going on.

Exercises

1. Explain why plotting the age-sex structure of any population (young or old) always produces a pyramidal shape.
2. Taking your information from the age-sex pyramid, work out roughly how many more boys than girls there were in the population aged 0-19 years in the year 2000.
3. Can you explain why it is still commonplace for parents to prefer sons to daughters?

3.1.4 Population density

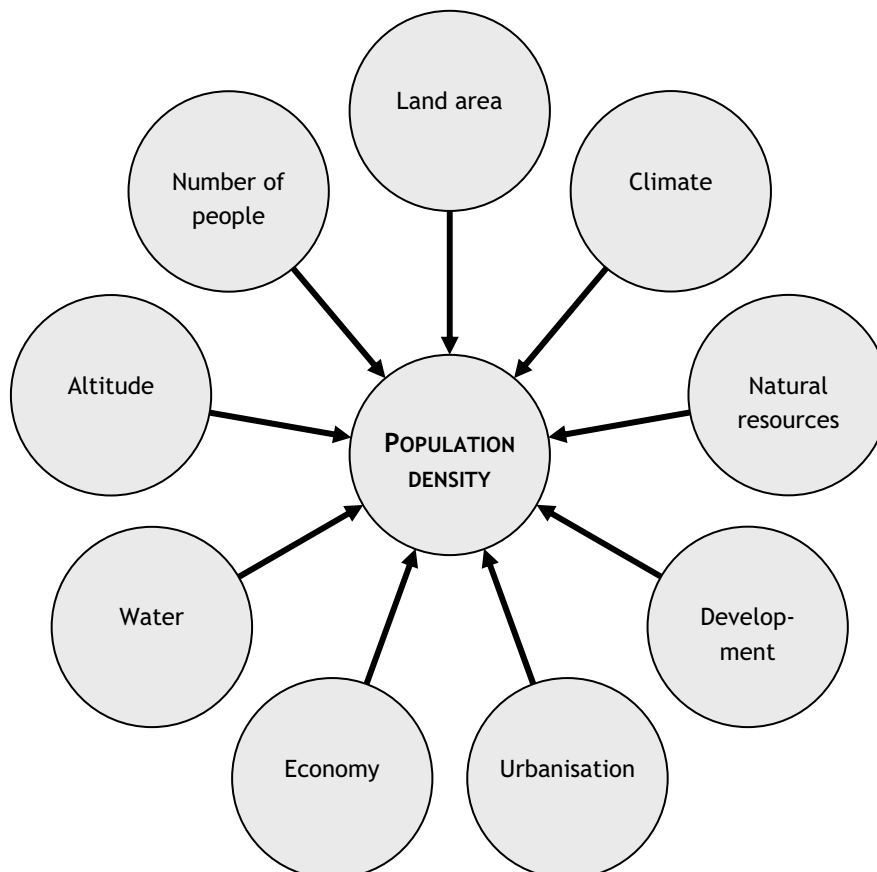
Previous pages in this sub-section have established two facts about Bangladesh's population:

- it is growing at an alarming rate
- it is estimated now to be around 150 million people in total.

Where do all these people live? Are they evenly spread across the country?

One widely used measure of population distribution is **population density**. This is calculated by dividing the total number of people in a given area by the size of that area. Density is normally expressed as the number of people per square kilometre. The total area of Bangladesh is 147,570 sq km. Dividing this figure into the population total of 130 million recorded in the 2001 Census produces an average density of about 880 persons per sq km. This made Bangladesh about the 10th most densely populated country in the world at that time. If, however, we divide the total population by the **land** area of Bangladesh (130,170 sq km), the mean density figure rises to about 1000 persons per sq km. This figure probably gives a truer indication of population density.

With a figure of 1243 persons per sq km, Dhaka is by far the most densely populated of the six divisions, followed by Rajshahi (869), Chittagong (711), Khulna (650), Sylhet (627) and Barisal (610). The range in these figures hardly suggests that population is fairly evenly distributed throughout the country (see 3.1.5).



Factors affecting population density

What are the factors that affect population density and cause it to vary from place to place? The diagram on the previous page identifies nine factors that are recognised worldwide as being particularly important.

The first two – **population size** and **land area** – are the most obvious and go together. Put simply – the larger the population in any given area, the higher the density; the larger the area over which a population is spread, the lower the density.

Altitude – The global tendency for people to live in low-lying areas is explained partly by human physiology which is intolerant of high altitudes. The physical geography of Bangladesh (see 2.1.2) encourages high population densities.

Climate – The tendency for people to avoid extremes of temperature explains the low population in the world's polar and hot desert regions. Bangladesh enjoys a tropical and humid climate (see 2.2.1) that attracts rather than deters people.

Water – Globally, the flood plains of large rivers are attractive to human settlement. While flood plains offer water supplies as well as flat land, there are the hazards of flooding and waterborne diseases. In Bangladesh's case, this downside does not seem to have had much effect (see 2.4.2 and 2.4.4).

Natural resources – Broadly speaking, the richer the resource base, the larger the population that can be supported and the higher the population densities. Bangladesh's chief natural resources are its soils (see 2.3.2) and climate. These are good for agriculture and food production.

Economy – It is the economy that gives a population the means to support itself. Basically, the economy creates the jobs that people need to survive. The economy also produces vital things such as food, manufactured goods and services (see 4.1.1).

Development – This is closely linked to the growth of the economy, but it also involves advances in technology. Development increases the number of people that a country is capable of supporting. Development is vital if Bangladesh is to be able to cope with its continuing population growth and the associated rising population densities (see 3.1.1 and 4.4.1).

Urbanisation – In all parts of the world, urbanisation produces the highest population densities (3.3.2). This is because, in most countries, towns and cities happen to be concentrations of progress and development – that is, relative to the surrounding rural areas.

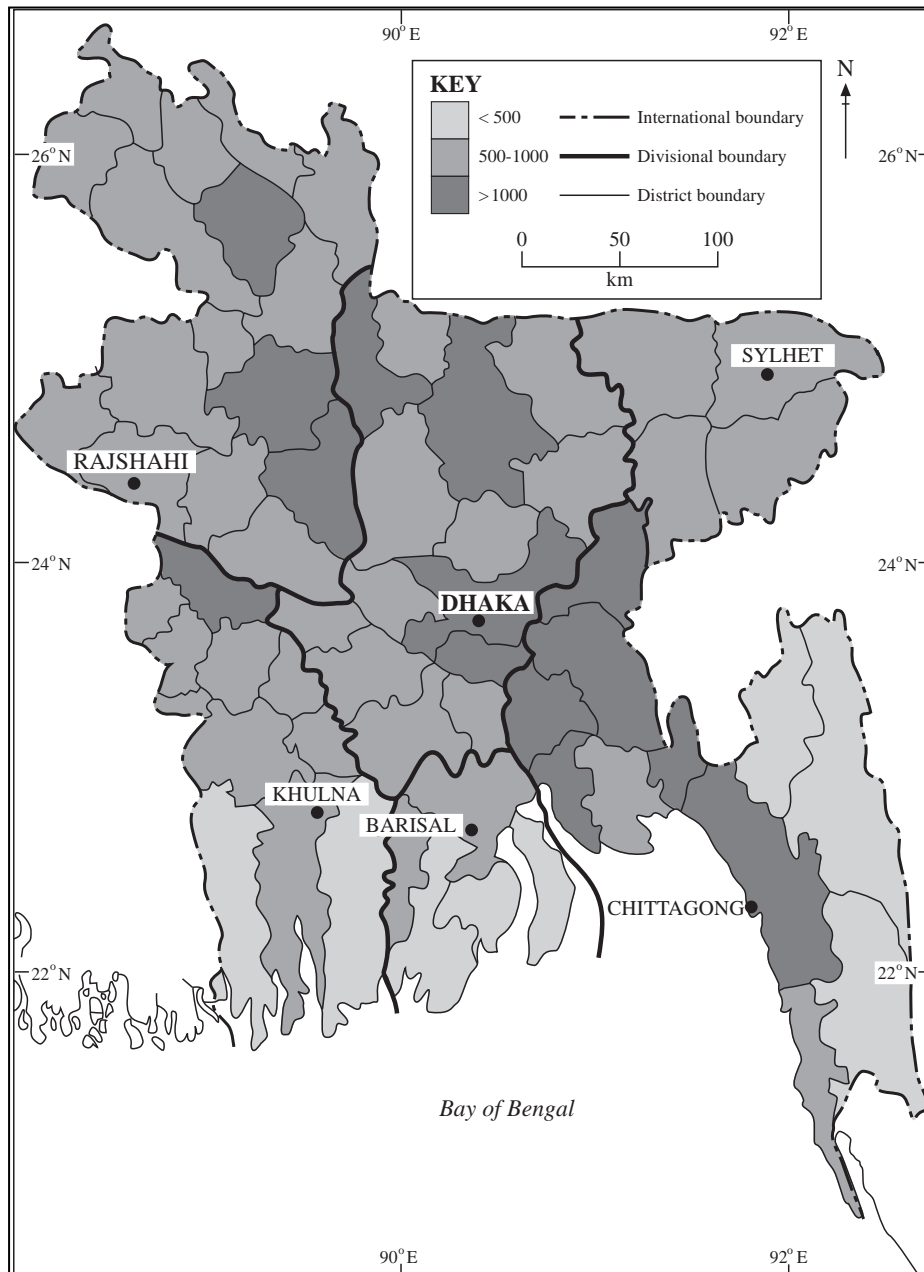
Exercises

1. Why do you think that a population density figure calculated in terms of land area rather than total area is better?
2. Can you think of any other factors that might affect population densities in Bangladesh?

3.1.5 Population distribution

In the map below, data collected by the 2001 Census for all 64 districts (zila) of Bangladesh has been converted into density figures. Three levels of density have been recognised:

- fewer than 500 persons per sq km – the least populated districts
- between 500 and 1000 persons per sq km – districts where densities are close to the national average
- over 1000 persons per sq km – the most densely populated districts.



The distribution of population in Bangladesh by districts (2001)

The map shows that the most sparsely populated districts were:

- the mangrove forests of the Sundarbans
- the forested Chittagong Hills, particularly the districts of Bandarban, Khagrachhari and Rangamti.

If, however, we were able to look at the distribution of population in more detail within the districts (that is, at a *thana* level), we would pick out some smaller parts of the country where densities are well below average. For example, there are the upland areas of the Barind Tract (between the Ganges and Brahmaputra-Jamuna) and the Madhupur Tract (between the Jamuna and Meghna). The soils here are less fertile than those of the nearby flood plains. The same is true of the hilly areas in Sylhet. Since most people in Bangladesh are employed in agriculture, soil fertility affects population densities. The better the soil, the larger the number of people that can be supported by farming.

At the other extreme, the most densely populated part of Bangladesh appears as a broad belt running north-westwards from Chittagong District, through much of Dhaka Division towards the districts of Bogra and Rangpur in Rajshahi Division. Within this belt are two of Bangladesh's four metropolitan cities – Dhaka and Chittagong. The other two are Khulna and Rajshahi and both lie to the south-west of the belt. The number of people living in the Dhaka metropolitan area now exceeds 10 million; in Chittagong the number is around 3.5 million. Much of the non-agricultural part of Bangladesh's economy is concentrated here. Despite the millions of jobs to be found in these metropolitan areas, there is much unemployment. Many people only manage to survive by working within the informal sub-sector (see 3.3.3 and 4.1.1).

Finally, it needs to be pointed out that towns and cities are not the only reason for the high population densities. Fertile soils and a productive agriculture also play a part.

Exercises

1. Describe those parts of Bangladesh where population densities are between 500 and 1000 persons per sq km.
2. Try to find 2001 census data for the thanas that make up your home district. Do population densities vary much within the district? Suggest reasons for what you find.
3. In what ways do you think that the distribution of the population in Bangladesh will have changed between the 2001 and 2011 censuses?

3.2 Migration

3.2.1 Push and pull

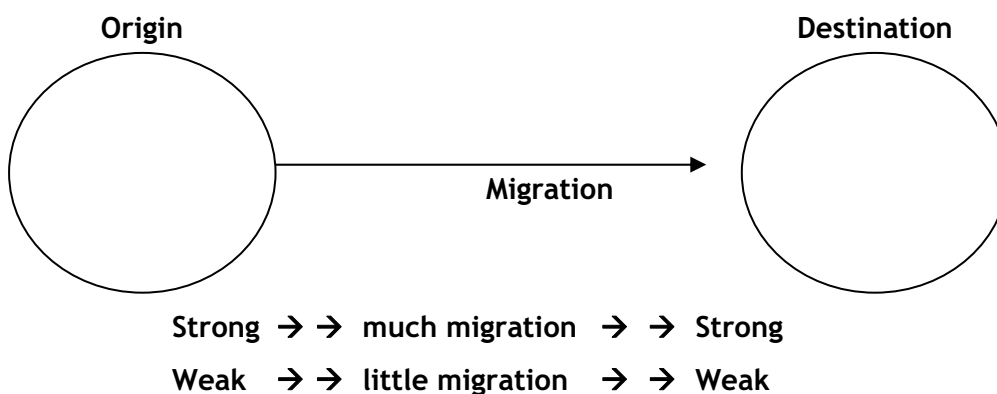
Migration occurs when people shift from one place to another on a semi-permanent or permanent basis, ie when they take up residence at a new address. Going on holiday, going to work or going shopping are not migration, but moving from a rural area to take up a new job in Dhaka, moving house from one part of the city to another or joining family members in the UK are. Every migration is a sort of journey. It has a starting point (an **origin**) and a finishing point (a **destination**). Migration has two important impacts on the population:

- on distribution
- on rates of growth.

This is because destinations gain populations, while origins lose them. As a result, the overall population distribution changes. Gains in population will also raise rates of population growth, while losses lower them.

An obvious question that arises in studying migration is ‘why do people move?’ In order to answer that question, we need to recognise three main categories of migration:

- **forced migration** – where individuals and communities are forced to move
- **voluntary migration** – where individual people choose to move
- **obligatory migration** – where family or friendship ties persuade people to move.



The push and pull of migration

The diagram shows that most migration is a response to two sets of forces:

- **push forces** in the origin. These encourage people to move from their present location
- **pull forces** in the destination. These attract people to a new location.

In the case of forced migration, as happened when India was partitioned in 1947, the push can be very powerful. Many Muslims living in what is now India were ‘persuaded’ by the fear of persecution to move out and settle anywhere they could in the new Pakistan. In the case of voluntary migration, the pull is stronger. The wish to move may be ‘pushed’ by some dissatisfaction with the present location and the thought that a better life may be found elsewhere. The migrant, however, is largely free to choose where they go to find that better life. It is a matter of weighing up the relative attractions (the pull) of different destinations.

In the case of obligatory migration, the pull is strong but there is no choice of destination. Migrants simply go to wherever their relatives or friends happen to live.

If we look closer at the factors influencing migration, we can see that each one is two-sided. Each factor has a positive and a negative side; it both pushes and pulls. This is shown in the table below. This complementary ‘two-sidedness’ helps strengthen the influence and power of individual factors.

Factor	Push	Pull
Physical	Natural disaster Congestion	Safe environment Space
Demographic	Divorce Ill-health	Marriage Family ties
Economic	Lack of jobs Low wages	Job opportunities Better earnings
Social	Poor housing and services Isolation	Better housing, schooling and medical care Family and friends
Politics	Civil unrest Persecution	Freedom of speech Political asylum

Some push and pull factors

Another point needs to be made, particularly with respect to voluntary migration. Here the potential migrant has a choice – should they stay or should they move? If they choose to move, to where should they migrate? This personal choice and decision making are influenced strongly by what is called **perception**. Perception is a complex matter. Many different aspects of an individual person, such as age and sex, education and social status, personal skills and personality, condition it. The result is that people can see the same situation differently. In the case of migration, each person’s unique situation means that each person weighs up the push and pull factors differently.

Finally, we need to understand that the overall strength of the push and pull can affect the actual volume of migration (see the earlier diagram). Where the push and pull are both powerful, the numbers migrating are likely to be large. Where neither is strong, fewer people will decide to move.

Exercises

1. Does going away to study at a college or university count as migration? Justify your answer.
2. What effects do you think the costs of moving are likely to have on the volume of migration?
3. Imagine that you are married with a wife and two children of school age. What factors would you take into account when deciding whether or not to take up a job in Saudi Arabia?

3.2.2 Types and features

In the previous topic, we recognised three different types of migration: **forced**, **voluntary** and **obligatory**. This is, however, only one way of sorting out the variety of population movements that qualify as migrations. Migrations also differ in terms of the distances they cover and the numbers of people they involve. Many people believe that migration relative to national boundaries is very important. This is because they often act as barriers to migration. For this reason, the distinction between **internal** and **international** migrations is often made.

The diagram below shows how we can make use of the five types of migration highlighted in the previous paragraph. The result is a six-box classification of migrations.

Internal			International		
Forced	Voluntary	Obligatory	Forced	Voluntary	Obligatory
Escaping from natural hazards in high-risk areas	Moving between urban and rural areas	Marrying and moving to live with new relatives	Fleeing from religious or ethnic persecution	Taking up overseas job opportunities	Returning from abroad to look after elderly parents

A possible classification of migrations, with examples

There are, of course, many other possible ways to classify migrations. For example, according to the main reason for migrating. For this purpose, it would be possible to use the main factor headings given in the table in 3.2.1. In the scheme above, perhaps the two most significant classifications in Bangladesh are ‘internal voluntary’ and ‘international voluntary’. These will be looked at in more detail in 3.2.3 and 3.2.4. Before we move on, it is necessary to understand two general features of migration.

The first is that along most migration routes there is a two-way movement of people. For example, while people are being ‘pulled’ into Chittagong by the city’s attractions (for example better jobs, services), there are others being ‘pushed’ out by the negative aspects of city living (for example high housing costs, pollution). At the time of writing, there are more people moving into the city than there are moving out. This leads us to the term **net migration balance**. This is the difference between the numbers of people moving in opposite directions along the same migration route. Net migration balance is important when considering international migration into and out of a country. In the case of Bangladesh, the present net balance of international migration is **negative**. In other words, departures exceed arrivals; there are more people moving out of the country than are moving in.

This leads us to the next general feature. The second diagram in 3.1.2 shows that migration can be a major contributor to population change. Clearly, the precise effect that migration has on population change depends on:

- whether the net migration balance is positive or negative
- the size of that net migration balance
- whether natural change is positive or negative.

Where the balance is positive (in-migrants exceed out-migrants), population numbers will normally increase unless natural change is negative (ie deaths exceed births). The size of the net migration balance will affect the actual increase. The table below shows that a rather different situation exists in Bangladesh. Here the balance of international migration is negative; it does little to reduce the amount of natural increase.

Year	Births (millions)	Deaths (millions)	Net migration balance (millions)
1980	2.9	1.0	-0.1
1985	3.4	1.2	-0.2
1990	3.6	1.2	-0.2
1995	3.4	1.2	-0.2
2000	3.3	1.2	-0.2
2005	3.2	1.2	-0.1

Bangladesh: births, deaths and net migration balance (1980-2005)

The net migration balance is an important feature of voluntary migration. It is less so in the case of forced migrations as these tend to be one-way movements.

Exercises

1. Think of other examples to fit the boxes in the classification diagram.
2. Can you think of other ways of classifying migrations?
3. Write a short account of population change in Bangladesh based on the second table.
4. Why are forced migrations likely to be one-way movements?

3.2.3 Rural-urban migration

Internal migrations are those that take place within the boundaries of a country. In Bangladesh, as in many countries, the most important internal migration today is rural-urban. This is a vital part of the process known as **urbanisation**, whereby the percentage of a country's population living in towns and cities increases (see 3.3.2). Between 1980 and 2000, the urban percentage of the Bangladeshi population almost doubled from 11 to 21 per cent. Much of the rural-urban migration associated with this increasing urbanisation is ending up in Dhaka. But other cities and towns throughout Bangladesh are reporting influxes of rural migrants.

In 3.2.1 it was said that all migration is a result of 'push and pull' forces. In the case of rural-urban migration, many of the things 'pushing' people to leave the countryside are to do with farming, particularly food shortages. Plots of land are frequently too small to support the families farming them. Crop failures, most often caused by flooding, also create food shortages. Food shortages lead to malnutrition, while the need to buy in food can result in debt and increased poverty. Small farm plots and landlessness also mean that there is **underemployment** – there is not enough for all the working members of a family to do. The lack of alternative jobs, together with the poor quality of services (such as schools and healthcare), and the lack of social opportunities, reduce the quality of life in rural areas. As a result, increasing numbers of rural people are soon persuaded that a better life could be found in a nearby town or city. This becomes even stronger when the 'push' and 'pull' factors reinforce each other. For example, it happens when the powerful 'push' of rural underemployment and unemployment is made stronger by the 'pull' of urban job opportunities. Similarly, the 'pull' of generally better services in urban areas emphasises the 'push' of poor services in rural areas. Women are 'pushed' to towns and cities by attitudes that still treat them as second-class citizens. They are 'pulled' to urban areas by a sense of freedom and being able to choose in matters of education, a career, marriage and having children. A large number of women take up jobs in urban industries, while men find work in the informal sector (see 4.3.3).

It is often the case that there is a **multiplier effect** in rural-urban migration. A family member, perhaps the head of the family, decides to move to a nearby city. When he has found a job and somewhere to live, other members of the family may well join him. Perhaps news of his success will persuade some of his friends, and still more of his family back home, to make the move.

Much migration is driven by the belief that 'the grass is greener' at the destination. Whilst this may be true in general, there are sometimes unforeseen consequences. For example, those hoped-for jobs may not be there, nor the better services. Finding somewhere to live is a major problem. Because so many people are converging on the towns and cities the demand for housing exceeds supply. This means that housing is increasingly expensive, cramped and difficult to find. The appeal of urban living is also spoiled by problems such as environmental pollution, unsanitary living conditions, congestion and high costs. In Dhaka about 30 per cent of the population live in slums. Increased violence, crime and social degradation are also part of the 'downside'.

Back in the rural areas, there are some unwanted consequences. Whilst there are fewer mouths to feed and fewer underemployed people, new problems appear. For example, it is the younger and more ambitious people who migrate. There are more male than female rural-urban migrants. In short, rural communities lose their more 'go-ahead' people. This is not good for those communities. Rural-urban migration also tends to weaken the traditional strength of the family.

The point needs to be made that most rural-urban migrants fall into one of two categories: **permanent migrants** and **temporary migrants**. For temporary migrants, the change to an urban address lasts less than six months. People in this category include:

- seasonal workers, such as those taking up temporary jobs on building sites to supplement their income from agriculture
- short-term visitors who stay with family or friends
- migrants who decide that they do not like urban life and return to their rural homes.

Seasonal migration is a common type of temporary migration in Bangladesh. During the year, when farm work is held up by floods or droughts, people often seek casual work in towns and cities. This provides them with just enough income.

Finally, it should be noted that in many **HICs**, rural-urban migration is being reversed. Increasing numbers of people are moving out of the largest cities and are settling either in small cities and towns or in the countryside. This is known as **counterurbanisation**. This has yet to happen in Bangladesh. At the moment, the only hint of it is the movement of people out of the congested inner areas of cities to new homes on the outskirts. This is known as **suburbanisation**.

Exercises

1. Make a list of those things that would persuade you to move from a rural to an urban area.
2. List the good and bad things about living a) in urban areas and b) in rural areas.
3. Why are there more male than female rural-urban migrants?
4. What is suburbanisation? Is it a form of migration?

3.2.4 International migration

International migration was a key issue in this part of the world, even before Bangladesh gained its independence in 1971. Following the partition of British India in 1947, more than three million Hindus migrated from East Pakistan (now Bangladesh). During the same period, around 864,000 Muslim refugees emigrated to East Pakistan from India. The operations of the Pakistani military in East Pakistan in 1971 caused an estimated 8 to 10 million refugees to cross the border into India. It remains one of the great mass migrations of modern times.

Emigration from what is now Bangladesh began as early as the 1940s, mainly to the UK for employment, and again in the 1960s. During the 1970s, however, there was a change of destination. There was a huge migration to the oil-rich Middle East where Bangladeshis found work either as domestic servants or construction workers. Throughout this time, emigrants were being 'pushed' by unemployment and poverty at home, and 'pulled' by job opportunities and higher wages abroad.

Today, Bangladeshi emigrants, many of them young and well educated, have good jobs in Asia, the Middle East, North Africa, North America and Europe. During the last quarter of the twentieth century, over two million workers left the country for employment. The annual outflow between 1991 and 1996 averaged 200,000. Recently, there has been a gradual increase of Bangladeshi migrants to Asian countries. While Saudi Arabia is the most popular destination, Malaysia has ranked second since 1993, ahead of Kuwait and Oman. The emigration of Bangladeshis to Singapore, Korea and Brunei is also increasing.

Today the net balance of international migration remains negative. It is estimated that around 100,000 more people are leaving the country each year than are arriving. Many of the immigrants are, in fact, Bangladeshis who are returning home. Some are returning because they have made enough money to live comfortably back home. Others are returning because they have become disenchanted with living and working abroad. As in rural-urban migration (see 3.2.3), there are two categories of international migrant – permanent and temporary.

In the study of rural-urban migration (see 3.2.3) attention was drawn to the **multiplier effect**. This can also be seen in international migration. It needs only one emigrant to tell those back home of their good fortune. Other family members and friends are then easily persuaded to follow.

Whether emigration is a good or a bad thing is often debated. Those who argue for it point out that emigration:

- helps reduce shortages of food, housing and jobs in Bangladesh
- lessens the pressure on resources
- brings money into the country in the form of what are known as **remittances** (money sent from abroad to relatives back in Bangladesh)
- increases the awareness of Bangladesh overseas.

Those who argue against it point out that emigration:

- involves the country losing many of the more able and skilled members of its workforce to Western Europe and North America
- creates dependence on remittances
- ages the population because it is the younger people who emigrate
- encourages the illegal trafficking in young women and children who are tricked into prostitution and slave labour abroad, particularly in India.

Exercises

1. Check that you understand what the multiplier effect is in migration.
2. Do you think that, in the case of Bangladesh, the advantages of international migration outweigh the disadvantages? Give your reasons (you might look at **3.2.5**).
3. If you had the chance to emigrate, where would you go, and why?

3.2.5 Who migrates?

The answer to this question is: it all depends. For example, it depends on what the push-pull factors are (see 3.2.1) and whether the migration is forced, voluntary or obligatory (see 3.2.3). This point is well illustrated if we take just three different types of migration; all of them are of the 'voluntary' type (see 3.2.2):

- permanent rural-urban migration
- temporary economic migration
- permanent emigration.

Permanent rural-urban migration

A study of people from rural areas moving into Dhaka, and other major cities, shows a slightly complicated situation. In the case of migration from distant and remote rural areas, there are many more male than female migrants. Where the migration journey is a short one, the balance tips the other way. However, the whole situation is now changing. Increasing numbers of women are migrating to cities. They are moving, not just to be married or join their husbands as used to be the case, but to work in domestic services and in the growing manufacturing industries such as garments, electronics and assembly.

In the past, many girls received little or no education. In those days, therefore, it was only young men who had any knowledge of what city life might offer. Today, more girls are being educated and more women are keen to be independent. They too are being drawn by the attractions of the city. An example of this changing situation comes from Dhaka. Forty years ago, the sex ratio in the capital was 150 males to 100 females. Today, the ratio has fallen to just 105. A large percentage of recent rural-urban migrants of both sexes are aged between 20 and 39. Three quarters of women and two thirds of men come from landless rural households.

Temporary economic migration

Every year around 250,000 Bangladeshis, mainly men, leave the country to take up short-term jobs in the Middle East and South East Asia. They go with two intentions:

- to send money back to their families (known as **remittances**)
- to return home after a period of years, often more than five.

A recent survey among these economic migrants showed that 75 per cent are under 35 years of age. A similar percentage has been educated up to Secondary School Certificate, but 10 per cent are illiterate. In terms of the type of work, significant numbers of men are taken on as construction workers and agricultural labourers, whilst most women find work as domestic servants or in factories.

Permanent emigration

In this category, we find well-educated people and their families, including professors, scientists, doctors, computer and software specialists and engineers. The sad thing for Bangladesh is that it cannot really afford to lose these well-qualified and enterprising people. It is a serious 'brain drain'. These people could do a lot to help the development of the country, but they are tempted to move abroad by higher salaries and good career prospects.

Another, rather different, group of people are those who left the country soon after India and Pakistan gained their independence in 1947. Poverty drove large numbers of unskilled and under-educated people to migrate, in particular to the UK. As Bangladesh is a member of the Commonwealth, Bangladeshis were able to enter the country in large numbers. The UK was desperately short of labour to fill largely unskilled, menial jobs in manufacturing and public services.

Also in their number were people who set up what, even to this day, are wrongly called ‘Indian’ restaurants in towns and cities. This wave of emigration continues to encourage a second wave made up of relatives and arranged marriage partners.

The UK and the USA are the two largest Bangladeshi-receiving countries in the world. It is estimated that there are over 500,000 Bangladeshis living in both those countries. Most of the remaining emigrants are to be found in Western Europe, South Africa, Australia and New Zealand. A particular problem for the children of these emigrants is the tension they feel between being a ‘good Bangladeshi’, with its rather strict code of behaviour, and the ‘free and easy’ western way of life.

These three examples of voluntary migration emphasise the importance of a pair of push-pull factors: the push of poverty and unemployment and the pull of work and the hope of a better quality of life. Since work is such a powerful driving force, it is not surprising that the majority of both internal and international migrants are at the younger end of the economically active age range.

Exercises

1. What is the link between landlessness and rural-urban migration?
2. Imagine that you are a temporary economic migrant. What would you see as the advantages and disadvantages?
3. Explain why the ‘brain drain’ is not good for Bangladesh.

3.3 Settlement

3.3.1 Settlement hierarchy

A **settlement** is any form of human habitation. It can range in size from a single homestead or house to a large city. The following factors affect the location and growth of settlements.

Environmental – things that are essential here include water supply, safety from natural and human hazards and access to resources.

Social and cultural – the wish of members of the same family, tribe or ethnic group to live together.

Economic – making use of local resources, such as soils, minerals and climate, to provide a livelihood for settlers.

Technological – having the ability to use materials, such as stone and timber, to make buildings; to make contact with the ‘outside world’ by the means of transport; to protect settlements from hazards.

The distribution of settlements in any area or country is known as the **settlement pattern**. A particularly important factor affecting that distribution in a country such as Bangladesh is the physical landscape. In a country so prone to flooding, it is the low-risk areas that have attracted most settlement. In the low basins, on the flood plains and over most of the delta, it is the levees (existing and old) that form most of the available ‘high’ ground. **Settlement form** (shape) is typically linear. Linear settlements are also found along the base of the hills in the Chittagong and Sylhet regions. Here, the cause is not flooding, but the availability of water along the **spring line**. In the Barind and the Madhupur Tract, the settlement pattern is more scattered, with isolated homesteads. Nucleated villages are found in the Haor Basin and in the Hill Tracts of Chittagong.

In a country of rivers, crossing-points have a particular value. It is here that many urban settlements have developed, making a living from the port and ferry services.

Settlements in all countries range in size and function (what they do for a living). Because of this, all settlements may be ranked or grouped according to one or both of these features. What is revealed is known as the **settlement hierarchy**. It is a sort of class system.

At the bottom of the hierarchy is a class made up of small settlements mainly involved in subsistence farming. In many parts of the world, these would be called **hamlets**.

In the next category up, the settlements are larger and, although they are still largely farming settlements, some people will find other kinds of work. This might be in a shop, in a cottage industry, as a boatman or barber. The term **village** is often given to these settlements. In Bangladesh they are called *mouza* and there are over 60,000 of them.

Above the villages comes another group of larger settlements. The important feature of these settlements is that they no longer rely on agriculture as their main function. Instead, they are active in a range of urban functions, such as manufacturing and providing a range of services from shops and schools to doctors and taxis. These are the **towns**. The chief settlements of the *thanas* (or *upazilas*) would be towns, also those of many of the ‘unions’ that make up the *thanas*.

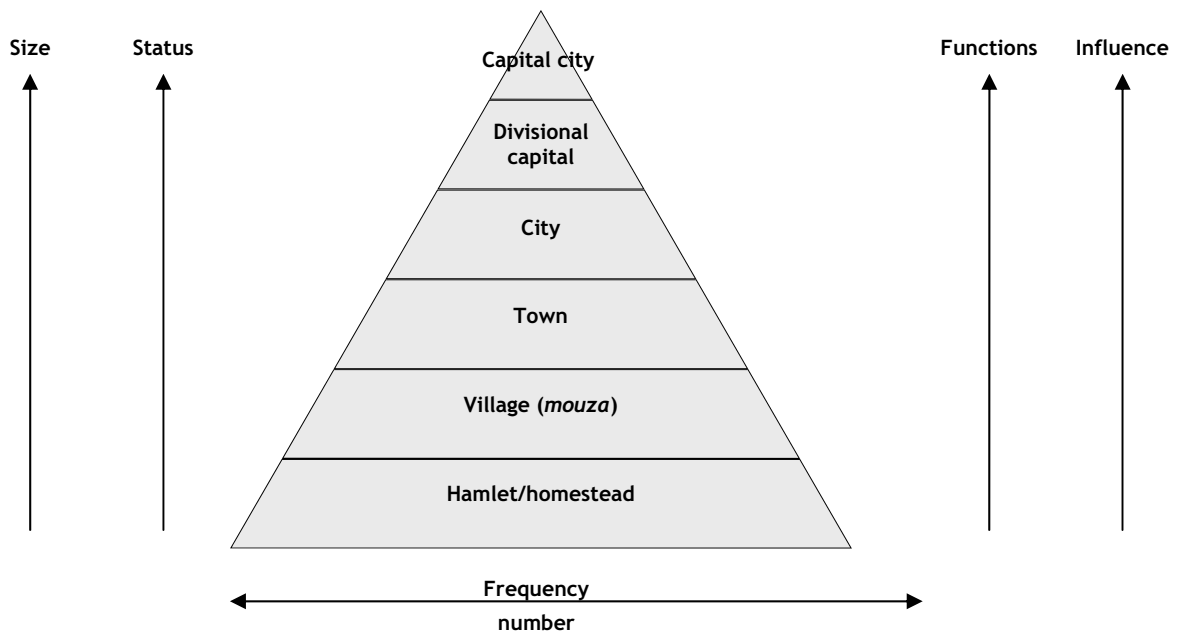
Towns grow to become **cities** which, in addition to manufacturing and providing services, become important focal points for large areas of the country. They are centres of government. Each of the country’s 64 *zilas* have at least one.

Above the cities in the hierarchy are the regional capitals (in Bangladesh there are six – the divisional capitals like Chittagong, Khulna and Sylhet). They are large in size, have a wide range of functions and act as important points in the general administration of the country.

Sitting at the top of the hierarchy, in a class of its own, is the number one city, the **capital city** Dhaka.

As you will see in the diagram below, we should think of the settlement hierarchy as a pyramid. As we move up it, there are a number of important changes:

- the size of individual settlements increases
- the number of settlements in each class becomes less
- the number of functions increases
- the area over which settlements have influence also increases.



The settlement hierarchy

Exercises

1. What is the difference between linear, scattered and nucleated settlements?
2. Find out what a spring line is.
3. Make a list of some towns and cities that are both river-crossing points and ports.
4. For the zila in which you live or for one known to you, try to identify its settlement hierarchy. How many settlements are there in each of the classes?

3.3.2 Urbanisation

In the previous topic (3.3.1), six different classes of settlement were recognised in the **settlement hierarchy**. However, these six classes can in fact be boiled down to just two broad categories: rural and urban. The rural settlements are homesteads, hamlets and villages. They are identified as being **rural** because they rely mainly on farming to make a living. In contrast, the **urban** settlements – towns, cities, regional capitals and national capital – rely on non-agricultural activities such as manufacturing and providing services (see 4.1.1). What also needs to be pointed out is that settlements grow. As they do so, they can move up the settlement hierarchy. A small cluster of homesteads can become a village; a town can grow into a city. The most difficult upward move is from village to town which involves a basic change in the settlement's economy away from farming and towards making things and providing services. This shift is possible only if a much bigger change is happening. The change is known as urbanisation.

Urbanisation is a process of change whereby a country and its people become more urban. A number of things change:

- the percentage of the population living in urban settlements increases – so towns and cities grow in number and size
- the percentage of the population earning their living from non-agricultural jobs increases – most of those jobs are concentrated in towns and cities.

Towns and cities grow in size in two ways:

- by **rural-urban migration**, people leaving their homes in the countryside and settling down in an urban settlement (see 3.2.3)
- by **natural increase**, the birth rate being higher than the death rate (see 3.1.2). The rate of natural increase is high because many of the rural-urban migrants are young adults.

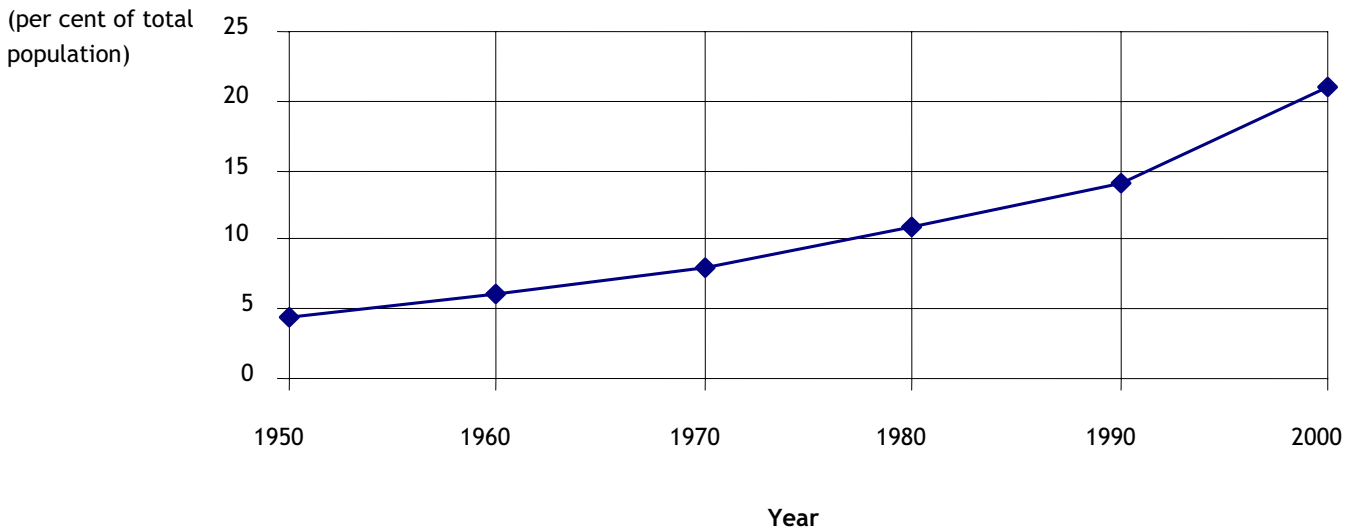
For those people moving from rural areas into towns and cities, the move means a great change in their way of life. The urban way of life (sometimes called **urbanism**) is very different. Job opportunities are greater; wages are usually higher. Urban services such as shops, schools and doctors are generally better. Urban people think that they enjoy a better quality of life. It is this feeling that a better life is to be found in towns and cities that encourages much rural-urban migration.

The urban way of life does have its drawbacks. Pace and stress are certainly features of the urban lifestyle. The urban environment suffers from more pollution than the countryside; housing conditions are often very poor; there is congestion and noise.

How do we measure the progress of urbanisation in a country? Most often it is measured over time as the percentage of the population living in urban settlements – what is often called the **percentage urban**. The graph opposite shows the urbanisation of Bangladesh over the last 50 years or so. There are three important points to note:

- back in 1950 little urbanisation had taken place – the percentage urban figure was just under five
- between 1950 and 1990 there was a slight increase in urbanisation
- since 1990 the rate of urbanisation has begun to pick up.

Urban population



The urbanisation of Bangladesh

Why has there been this recent rise in the rate of urbanisation? The answer is 'development'. Development is about the growth of manufacturing and services (see 4.4.1). These economic activities are found in urban locations, not in the countryside. This is an important link between urbanisation and development. As Bangladesh begins to progress from being a low-income to a lower-middle-income country, it will become more urbanised.

Exercises

1. Explain to a friend the difference between rural and urban.
2. What do you think will cause a village to become a town?
3. How urbanised is Bangladesh today? Can you find out some other countries that have roughly the same urban percentage figure?

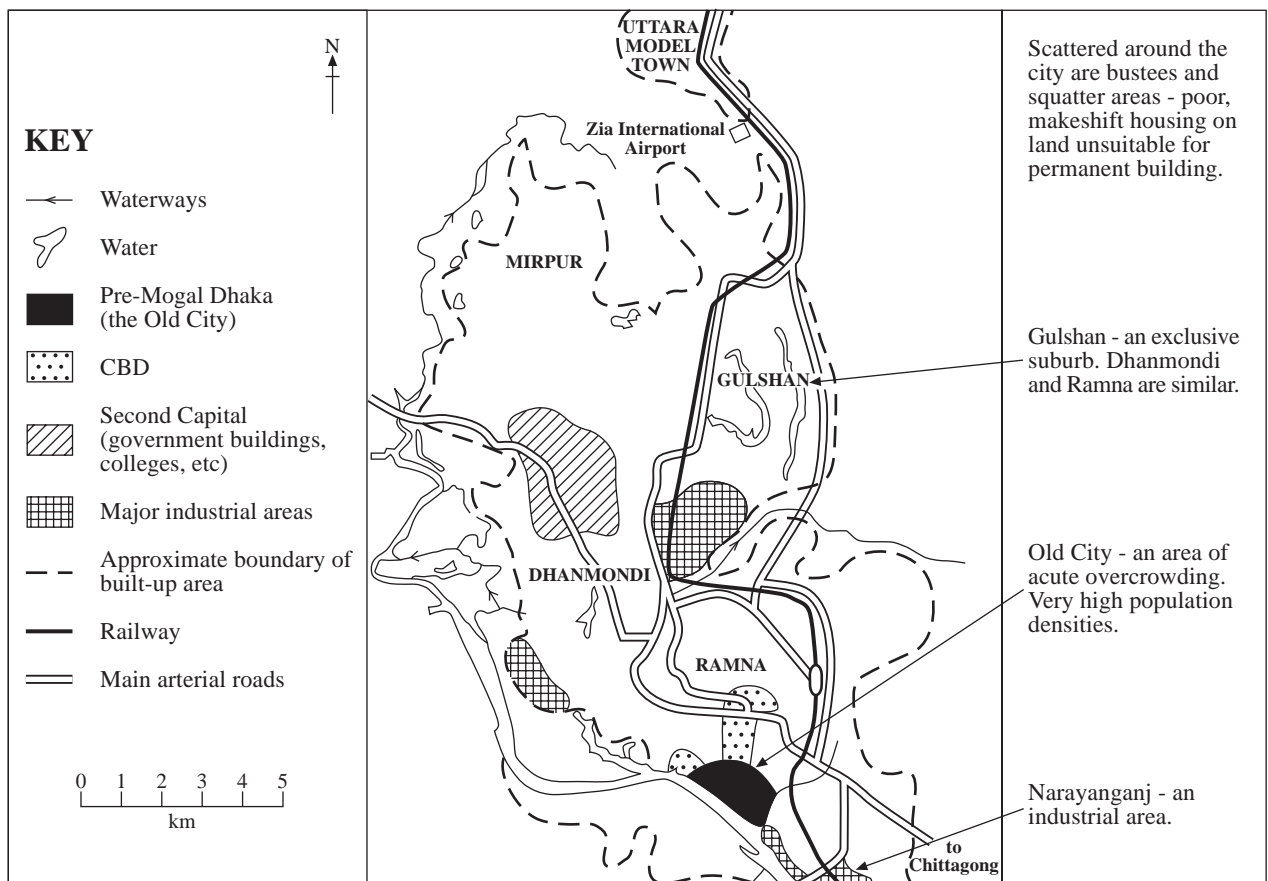
3.3.3 The four metropolitan cities

Let's look at the biggest and most important cities in Bangladesh – Dhaka, Chittagong, Khulna and Rajshahi. They are all divisional capitals (see 3.3.1) and, because of their size, they are officially known as 'metropolitan cities'. Two divisional capitals – Barisal and Sylhet – do not yet have this metropolitan status, but this will probably happen.

Dhaka

The oldest part of Dhaka (the Old City) dates from the mid fifteenth century. The rise of the modern city really started in 1947, when it became the provincial capital city of East Pakistan. In 1971, it was given a further boost by becoming the national capital of Bangladesh. Being the capital city means being more than just the seat of the country's government. Other duties come with it, such as being the centre of the country's legal, financial and educational systems. These and other related functions create jobs. Large numbers of workers are attracted to the capital, and they, and their families, have daily needs. These needs, in turn, create a demand for goods and services. Producing those goods (see 4.2.1) and providing those services (see 4.3.1) create more jobs.

Dhaka's location was probably one of the reasons it was chosen as the capital city. Most of the city is built on relatively firm, high ground. At the same time, it is located at the head of the delta. Overall, the city has easy access from the north by road and rail, and from the south by the numerous rivers. Luckily, it is situated almost in the centre of the country. Adding to its accessibility is, of course, the international airport.



An annotated map of Dhaka

Today Dhaka is one of the largest industrial regions of the country. It produces a variety of goods, from traditional products like textiles, silver and gold ornaments to modern electronic goods. By the far the most important is the ready-made garment (RMG) industry.

Since it became the capital, Dhaka's population has increased roughly 25 times from around 500,000 to nearly 13 million. The speed of growth has given rise to many problems (see 3.3.4). Almost all the higher ground has been built on. The city has no option but to build upwards rather than outwards.

Chittagong

With a population of around three million, Chittagong is Bangladesh's second city. Situated on the Karnaphuli River, 19 km from where it enters the sea, it is the country's chief port. The port and its associated export processing and industrial zones stretch for 20 km along the north bank of the river. The city's industries are powered by a hydro-electric plant located up river. Many of those industries process the products of the area such as jute, cotton, rice, tea, oil (from offshore installations), and bamboo (harvested chiefly from the Hill Tracts). The city also has a large steel mill.

This ancient city has changed hands many times – from Buddhist to Hindu, to Muslim, to Portuguese, to British and now back to Muslim. Its green hills and forests, broad sandy beaches and cool climate attract Bangladeshi holidaymakers and foreign tourists. It combines the bustle of a busy seaport with the pleasure of a charming hill town.

Khulna

This city has a population of well over one million. Located on the Rupsa River, it is an important river port, whilst 100 km away is Mongla, the second busiest of Bangladesh's seaports. It is described as the 'gateway to the Sundarbans'. From this region, the city draws raw materials for the manufacturing industry that makes it one of the leading industrial centres. These raw materials include jute (some of the biggest jute mills are located here), oilseed, cotton and timber for making boards, matches and newsprint. In fact, Khulna has the country's only telephone cable and newsprint industries, whilst just to the south are the largest shipbuilding yards. Khulna has a university, a medical college, a cantonment, and a naval base. The city has a linear form running parallel to the river; it is over 15 km long but only 4 km wide.

Rajshahi

With a population of around 650,000, this is the smallest of the metropolitan cities. It is situated in south-western Bangladesh on the north bank of the Padma River. It is the administrative centre for a region that produces practically all of the country's silk. Other cottage industries include weaving, metalworking, woodworking and pottery. In the city, there are oil-pressing plants, match factories and sawmills. Rajshahi houses the world-renowned Varendra Museum. It has a university, a medical college and a number of other major educational institutes and the city is often called 'a student city'.

Exercises

1. Make a list of the features the four metropolitan cities have in common. It might help to think in terms of location and function.
2. Compile an annotated sketch map of a city you know to show its layout. The map of Dhaka might provide you with some ideas.
3. Find out about the two other divisional capitals – Barisal and Sylhet. Why do you think they are not yet recognised as 'metropolitan cities'?

3.3.4 Urban challenges

It is clear that the rapid urbanisation of Bangladesh is creating a range of problems, both in the cities and in the countryside. From the urban point of view, those problems are most acute in Dhaka, which is by far the largest and fastest growing city in the country. The problems are not unique to Dhaka; they apply to all the country's towns and cities. What are those problems? The following are some of the most serious and challenging.

Waste disposal

Dhaka is notoriously dirty. It is estimated that 4000 tonnes of garbage and solid waste are produced in the city each day. Only half of this is collected and disposed of properly. The rest is piled up in the streets or thrown in water courses where it is left to decompose. As it decomposes, it pollutes both air and water, seriously damaging people's health. The city's sewage system is inadequate; at the time of writing only 30 per cent of the metropolitan area has a proper system.

Pollution and public health

There are many other sources of pollution than just decomposing solid waste and untreated sewage. There are also other forms; these are detailed in 2.4.4. Pollution is a very serious threat to public health in Bangladesh.

Water supply

The present water supply is adequate and safe for about 75 per cent of the city's population. It does seem strange that, despite heavy monsoon rains, only 15 per cent of Dhaka's water supply is from surface water. Some 85 per cent is obtained from tube-wells. Heavy use of groundwater is a serious threat to the environment. It is also a threat to human health given the increasing levels of arsenic contamination (see 4.1.4).

Traffic

City life and the city's economy depend on an orderly and efficient movement of people, goods and services. It is clear that such a situation does not exist today. The traffic system in Dhaka is chaotic. Millions of people spend hours each day stuck in traffic jams and breathe badly-polluted air while they wait. Although they play their part in moving people and goods around the city, non-motorised vehicles occupy nearly three quarters of the road space, and slow the movement of other vehicles. Much needs to be done to improve the road infrastructure by widening and constructing roads, (particularly ring roads) and building flyovers at busy intersections.

Public order and personal safety

Dhaka's daily newspapers are full of reports of public disturbances and criminal activities, ranging from theft to murder. There are certainly parts of the city in which people are afraid to walk. Too many live in fear of their lives and their property. It is the poor conditions of city life that encourage so many people to turn to crime.

Social infrastructure

At present, the city is lacking in terms of education and health services. More schools, medical centres and hospitals are needed; existing facilities need modernising. At present, too many people drop out of the school system to scratch a living working, begging or turning to crime.

Leisure and recreation

At the moment, people work long hours in order to survive. Leisure time and recreation should be recognised as a basic human right. People deprived of these opportunities lose out in terms of wellbeing and quality of life. They are less fulfilled and are likely to contribute less to society. Even for those people with leisure time, the city is desperately short of parks, sport facilities and entertainment.

Housing and poverty

This may be the last of the problems to be considered here, but it is probably the most serious. The slum or squatter areas show that the authorities have failed to provide basic housing. It is the poor whose needs are met last. Poverty breeds its own cycle of deprivation – no housing, no education, no work, no help and no hope.

These problems are the result of the city growing without sufficient planning and control. Corruption and weak local government have also played a part.

Overarching all the problems we have looked at is the challenge of slowing down the growth of Dhaka and other leading cities. How is it to be done? Possible actions include:

- strict controls on rural-urban migration
- decentralising major employers such as the civil service and the ready-made garment (RMG) industry to other areas.

These two suggestions could go hand in hand. Can these actions be taken in a free society?

Exercise

Draw a diagram of linked boxes to show how the problems discussed above are connected. It might help if you start with a 'pollution' box.

3.3.5 Rural and urban life

In this topic, we pull together points that have been made in three previous points in **3.2.1** (push and pull), **3.2.3** (rural-urban migration) and **3.2.4** (international migration).

Let's start by painting a picture of rural life in Bangladesh today. Life is largely about farming and the struggle to survive. Almost all rural families are kept busy just raising enough food to feed themselves. They own or rent varying amounts of farmland. The daily routine is controlled by the seasons. Most days involve long hours of often backbreaking and tedious work. The best days are those when the harvest is good. There is little leisure time, and there is little to do in that time. Many rural areas are remote from the entertainment found in towns and cities.

Life may be hard. It may often be made more difficult by natural hazards and a shortage of farmland. But there are some good aspects of rural life. Perhaps most important of all there is personal security because:

- people live in close-knit communities
- they live as extended families
- most own the homes in which they live
- there is little crime.

Generally speaking, the life is quieter and it is slower. There is less stress.

The urban way of life is rather different from life in rural areas. Much rural-urban migration results from these differences. Many rural migrants move because they believe that life is better in towns and cities. They are 'pulled' by this belief and 'pushed' by all that they see as wrong with rural living (see **3.2.1**). Are they right to see things this way? As we look more closely at urban and rural ways of life, we begin to realise that the situation is not simply 'black and white'. Living in towns and cities is not all plus points. There are certainly disadvantages (see **3.2.3**).

It is clear that, to begin with, rural-urban migrants have a hard life. Two thirds of 'new migrants' in Dhaka are in low-paid jobs such as transport, the building industry and domestic service. Only about a third make an adequate living. After a few years, though, the average income increases. Fewer than half remain in the lowest-paid jobs. Some set up as traders (see **4.3.3**), get jobs in the booming garment industry or find work in the service sector. Eventually, after some years, about 70 per cent of rural migrants are making an adequate living. Once they are able to make a living, many are able to move out of the slums and squatter areas.

For those who make it, urban life can be very satisfying. There are:

- more chances of getting a better job
- areas of good housing
- luxury goods in the shops
- private schools and clinics
- a variety of entertainment.

Do not forget that the picture of urban living also includes thousands of much less fortunate people (see **3.4.3**). These are the people who have no homes and live on the streets. Many are forced to scavenge for food in dustbins. In fact Dhaka City Corporation maintains over 400 huge dustbins to help feed the most desperate and poor. And do not forget that rich and poor alike have to suffer traffic congestion, noise, stress and environmental pollution (see **3.3.4**). Life is also hard in terms of long hours of work. Work is the same every day. There is not the seasonal variety found in farming.

Reference was made in **3.2.3** to the large amount of seasonal migration that takes place every year in Bangladesh between the countryside and urban settlements. Can these temporary migrants enjoy the best of both rural and urban living? Or do they suffer the worst of both worlds?

Exercises

1. Depending on where you live, build up a 'picture' in words of either the rural or urban life in which you are involved every day. Compare your picture with those written by others in your class.
2. Can you think of any plus and minus points about rural and urban living that have not been mentioned?

3.4 Society and Welfare

3.4.1 A homogeneous society?

As almost 90 per cent of the Bangladeshi people are Sunni Muslims and 98 per cent are described as Bengali, it is often said that Bangladesh is a 'homogeneous society'. Homogeneous means 'having a common descent'. In other words, the phrase claims that the people of Bangladesh have come from the same ethnic or racial source. If you ask most people in Bangladesh what this source is, they will answer 'Bengali'. But is this really true? Does everyone show the same ethnic features, such as the same complexion, the same nose shape or the same eye and hair colour?

The answer to both these questions is 'no'. The reason is that over the centuries the Muslim population of Bangladesh has mixed with other people. Many Turks, Persians, Arabs and people of Semitic origin have settled in what is now Bangladesh. If you look around at your fellow Bangladeshis you may well see evidence of this. There are a number of different examples.

Many Muslims of the Noakali and Chittagong districts have sharply-chiselled facial features, very similar to the Arabs of Yemen and Oman.

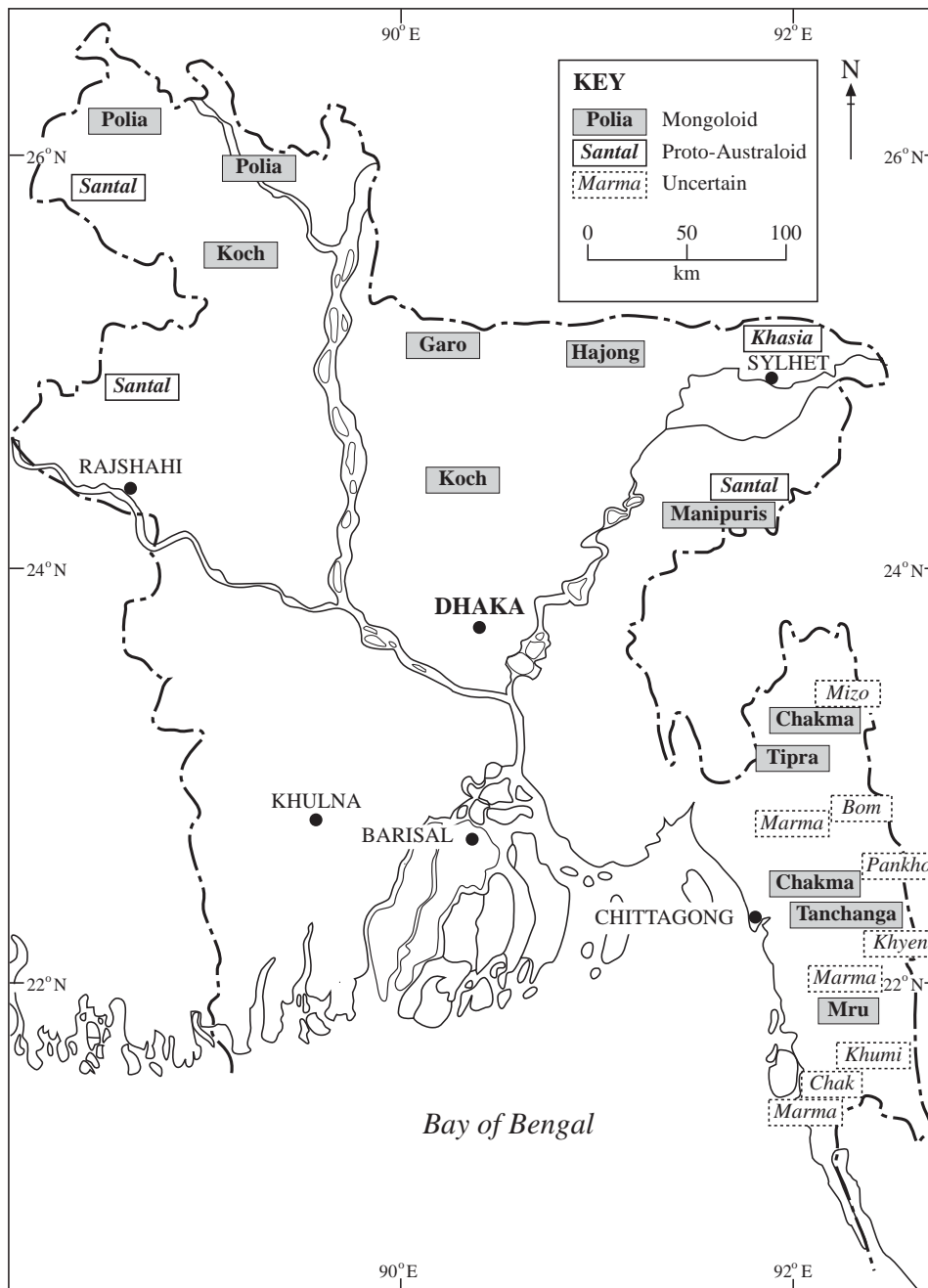
In the districts of Chittagong, Mymensingh, Tangail, Comilla and Noakali a significant number of people have light-coloured (hazel, grey, blue and green) eyes. Some have light brown or auburn hair, but fewer have a light complexion. It is often said that this 'fair' element in the population is partly descended from the Portuguese. However, the Portuguese typically have dark skin and eyes. The fair traits may have come from the Turks, Persians and Pakhutans who once settled in these areas.

The various Hindu castes, who in terms of religion account for around 10 per cent of the population, show racial strains that are from outside Bengal. For example, the upper castes have finer noses, fairer complexions and a generally more Caucasoid (white) appearance.

In the 2% of the population who are not Bengali, there are two different ethnic minority groups. They are:

- a proto-Australoid group related to the earliest settlers of the sub-continent. They were of short stature, dark skinned and with rather flattened noses. In Bangladesh they are represented mainly by the Santals and Khasis. The Santals came from the Chota Nagpur Plateau and were semi-nomadic. They have now settled in the Barind area. The Khasia are to be found in the east in the Khasis Hills of the Meghalaya Plateau
- a Mongoloid group made up of people showing such features as a fold of skin over the eye and a flat roof of the nose. In the north, the group is represented by the Polia, Koch and Garos people; and in the Hill Tracts by the Chakma (the largest of the 13 tribes) and the Tanchangas, Tipra and Mru.

The distributions of these ethnic minorities are shown on the next page. It should also be noted that, at one time, there was another ethnic group in Bangladesh. This was a Dravidian group made up mainly of the Oraons, a tribe from central India. Members of this tribe were brought to Sylhet and Chittagong in the early twentieth century to work on the tea plantations. Most returned to India, but a few intermarried with Bengali people. As a group, they are more distinguished by language than physical characteristics.



Ethnic minorities and their distributions in Bangladesh

During the past the area that is now Bangladesh has been visited and settled by people coming from different directions and over quite long distances. These people have distinctive physical traits. In some cases, the immigrant groups have maintained their ethnic identity. In most cases, however, they have become intermixed with local people through marriage. As a result, the gene pool has been made richer and the population more diverse ethnically and, therefore, in terms of its physical appearance.

Exercise

It might be interesting if you take a tactful look at your classmates.

Do you all look the same in terms of complexion, nose shape, hair and eye colour?

3.4.2 Caste and class

In the previous topic (3.4.1), we saw that most people in Bangladesh believe in Islam and that Bangladesh is an Islamic state. Nonetheless, nearly 10 per cent of the population is Hindu. It is therefore important that we know something about the cultural traditions of this religious minority.

The caste system

The most widely known aspect of Hinduism is the caste system. According to the religion, society is divided into four broad classes called *varnas*. A person has the same *varna* that their parents had.

Although all Hindu society is organised into *varnas*, the caste system has a fairly low profile among Bangladesh's Hindu community. About 75 per cent of the Hindus in Bangladesh belong to the lower caste and there is no Hindu upper class in the country. However, there is a fifth major class in Hinduism. It is considered so low that it does not even qualify as a *varna*. Most people call it the **untouchable class** because its members are forbidden to touch anyone who belongs to one of the four *varnas*. Untouchables do all the most unpleasant and unclean tasks, such as corpse handling, tanning leather and janitorial work. They are forced to live on the outskirts of towns and villages.

Each *varna* is divided up into smaller sub-sections. These are called *jatis*; they work a lot like the *varnas*. A person is born into the same *jati* as their parents and remains there for life. There is a *jati* for every kind of job, such as farmer, blacksmith, shoemaker and accountant. Ideally, a person will marry someone in the same *jati*.

As more and more Hindus take up relatively new professional jobs, there is more interaction between the castes. This is particularly so in the political and socio-economic life of the country. Strictly speaking, when it comes to marriage there is no mobility between the castes. But this rule has never applied so rigorously in Bangladesh as in the neighbouring Hindu-dominated Indian state of West Bengal. Bangladeshi Hindus seem to have become part of the country's mainstream culture without surrendering their religious and cultural identity. Equally, unlike the situation in other regions of South Asia, the caste system has had very little impact on the social culture of Bangladeshi Muslims.

The class system

As a religious faith, Islam puts great stress on the equality of all believers. However, it would be wrong to contrast Hinduism and Islam by saying that the former discriminates between people and the latter does not.

Although they do not subscribe to the caste system, Bengali Muslims are, in fact, divided into three hierarchical classes: the *Ashraf* (better class), *Ajlaf* (lower class) and the *Arzal* (lowest class). Each of these classes can be subdivided into many sub-classes. At the top of the social hierarchy are the *syeds* and the *sheikhs* (noble born). When it comes to marriage, the old taboo of weddings between individuals from high-born and low-born families disappeared long ago. Even so, most people still marry within the same class. Unlike the caste system, the classes are more open. They are based on wealth and political influence rather than on the type of work a person does.

Bangladeshi society today is described as being **polarised**. This means that there is a small number of extremely wealthy people who are often owners of large tracts of land. Relative to their number, they are very influential in the economic and political life of the country. At the other end of the social spectrum, there is a large number of poor people (see 3.4.3). Despite their numerical supremacy, they have no influence on the running of the country. They are very much the ‘losers’ in modern society. Relatively few people are placed between these two extremes. Those who are enjoy a comfortable lifestyle. The household heads of this so-called ‘middle class’ are typically business entrepreneurs and professional people.

Exercises

1. Do you agree that the class system is more ‘open’ than the caste system? Give your reasons.
2. What do you think are the ‘symbols’ or signs of personal wealth in Bangladesh?
3. Can you name any Bangladeshi families that are particularly influential in a) the political life and b) the economic life of the country?

3.4.3 Poverty and wealth

In the previous topic (3.4.2), we said that Bangladesh is a **polarised society**. There is a wide gap between the relatively few wealthy people and the large number of poor people. Because of this difference in numbers, any visitor to Bangladesh is much more aware of the poverty that exists in the country than the wealth. The signs of poverty are particularly obvious in the towns and cities, whilst the signs of wealth are much less obvious. There are few official statistics about wealth but there are many relating to poverty. Poverty, not wealth, is a national problem. For these reasons, this unit will focus on poverty.

Poverty is a condition in which a person is unable to enjoy even a minimum standard of living. Earnings are too small to buy or acquire the basic necessities of life. The visible effects of poverty are malnutrition, ill health, poor housing conditions and illiteracy. Poverty has many aspects. Any assessment of it needs to take into account a whole range of **welfare** criteria (see 3.4.5). The more important criteria are given in the table below.

Nutrition and diet	Life expectancy
Housing	Infant mortality
Access to clean water	Education
Sanitation	Personal security
Health	Income

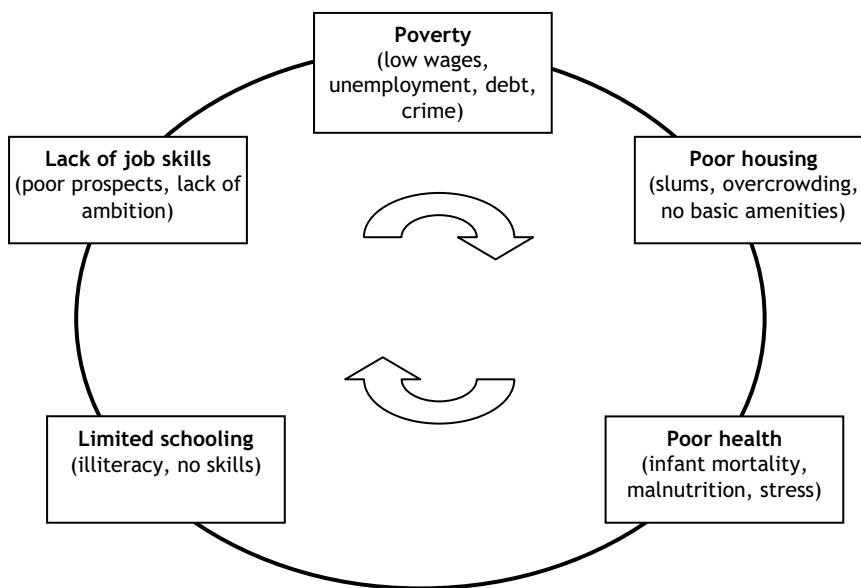
Some measures of poverty

A widely-used indicator of the presence of poverty is the **Human Development Index (HDI)**, (see 4.4.2) which is based on three main criteria. The lower the value, the poorer the society. In 2005, Bangladesh was ranked 140 in the global league table based on HDI values. The trouble with the HDI, and other indicators, is that they are calculated to take into account the whole population, rich and poor alike. Inevitably, therefore, these national measures tend to under-value the true extent and seriousness of poverty.

It is estimated that nearly half the population of Bangladesh is living below the **poverty line**. Half of these people (ie a quarter of the population) are reckoned to be living in extreme or absolute poverty.

The persistence of poverty in Bangladesh, as in most other poor countries, is due to a variety of factors. They include:

- **population pressure** – not enough land and resources for the population
- **heavy dependence on agriculture** – too many farming too little land
- **frequent natural hazards** – repairing damage drains public funds
- **poor infrastructure** – inadequate water supply, waste disposal and housing
- **limited natural resources** – poor base for the expansion of manufacturing
- **poor governance** – corruption and inefficiency hit the poor first
- **discrimination against women** – up to half the population deprived of their rights
- **exclusion from education** – reduces chances of breaking out of the cycle of poverty.



The cycle of poverty

The most worrying aspect of poverty is the so-called **poverty trap**. Once you have fallen into it, it is very difficult to escape. Others see this situation in a slightly different way – as a **cycle of poverty**. They see poverty as a vicious circle handed down from one generation to the next. The children of poor parents receive little support from their parents and may have little or no schooling. As a result, they either leave school at the earliest opportunity or remain illiterate. This, in turn, means that they have difficulties finding good work and can only expect to earn very low wages for doing unskilled and unpleasant work. Since they are unable to improve their lot, they tend to remain trapped in poverty. They marry and the cycle begins again with their children. It is virtually impossible to break out of the cycle.

Of all the challenges facing Bangladesh today, reducing poverty is the most difficult and most serious. It will happen only if the government has the will to help break the cycle of poverty and is prepared to pay the huge costs involved.

Exercises

1. Explain why national measures, such as the HDI, do not give a true indication of the extent of poverty in a country.
2. Make sure you understand why each of the eight factors (on the previous page) contributes to poverty.
3. What actions does the government have to take in order to break the cycle of poverty?

3.4.4 The status of women

Discrimination

The Constitution of Bangladesh guarantees that women should have the same rights as men. Despite this, women continue to be regarded as 'second-class' citizens. Listed below are some of the aspects of everyday life in which there is discrimination against women.

- When it comes to inheriting parental property, a daughter receives less than a son.
- A wife can inherit only one eighth of her deceased husband's estate; if there are no children this is increased to one quarter.
- The law gives women little help or protection in cases of alleged rape.
- Violence against women is one of the country's most worrying problems; one in eight women die as a result of violence.
- Marriage – although the law states that the minimum age for marriage is 18 for women and 21 for men, there are still arranged marriages involving child brides.
- A man can have up to four wives; a woman can have only one husband.
- Men have the right to 'divorce at will', most women do not.
- In the workplace, women's rates of pay are less than those of men.
- On average, boys receive more years of schooling than girls.
- There are equal rights when it comes to getting a job in the civil service, but because women are often less educated, they lose out.

There are two encouraging signs that the place of women in Bangladeshi society is beginning to change.

Women in government and politics

A very positive sign is the rise of women in Bangladeshi politics. Both major political parties have chosen women to lead them. Khaleda Zia of the Bangladesh Nationalist Party twice served as Prime Minister (1991-1996 and 2001-2006) and Sheikh Hasina Wajed of the Awami League once (1996-2001). For 15 years the government of Bangladesh has been headed by women. Special seats set aside for women ensure they are represented in Parliament.

Women at work

The growing number of women who are now working, particularly in the ready-made garment (RMG) industry, is creating a number of important changes in Bangladeshi society. Because of the money they earn, the status of girls and women in the family has changed. Men no longer rule the family in quite the same way as they used to. Most employed girls and women can now choose when to get married or become mothers. The number of early marriages is decreasing; so too is the birth rate (see 3.1.2). Employed girls and women tend to send their younger siblings to school; as a result the literacy rate is increasing (see 4.4.2). Some women have become important entrepreneurs in the RMG industry.

What the present discrimination against women means is that half of the population of Bangladesh is prevented from making its full contribution to the development of the country. In the previous topic (see 3.4.3), the issue of what needs to be done to break the cycle of poverty was raised. Giving women their full rights would be one important step, particularly as far as schooling is concerned. Related to this are the benefits to society outlined in the previous paragraph which flow from there being more women in work.

Exercises

1. Are there any other examples of discrimination against women that you have come across?
2. Find out the percentage of the seats in the Bangladeshi parliament occupied by women.
3. Explain why more education for girls might help break the cycle of poverty.

3.4.5 Welfare and quality of life

Firstly, these two terms need to be defined:

- **welfare** is the general state or condition of a person, or a whole population, in terms of everyday needs such as food, employment, housing and education
- **quality of life** is similar except that it refers to less tangible needs such as happiness, satisfaction, leisure and security.

Both make up what is known as **wellbeing**.

The wellbeing (welfare + quality of life) of every citizen depends on i) the general state of the society in which they live, and ii) their own particular needs. Many of the welfare needs of individuals vary with age. For example, the young need a good education; the adult with a family needs secure employment; the elderly need some kind of pension and care. There are also more general needs that everyone has. At a practical level, these are welfare needs such as money, housing, healthcare and clean water. But there are needs that are more to do with the quality of life, including democracy, justice and safety.

Whether or not these welfare needs are met depends on the national state of **economic development** (see 4.4.1). In general terms, the higher the level of development, the more a population is likely to have its needs met. If there is economic prosperity, it is likely that there will be money to pay for decent housing, clean water, proper waste disposal and good healthcare. In Bangladesh's case, the way ahead involves first taking two steps – one economic and the other to do with population:

- concentrate on the expansion of the secondary or manufacturing sector and, in so doing, make greater use of the country's labour resources and raw materials (see 4.2.4)
- reduce the rate of population growth by promoting birth control programmes (see 3.1.1).

A combination of increased economic wealth and fewer people promises better welfare. Whether taking these two steps will result in better welfare for all, and the reduction of poverty, depends on other steps being taken.

The further steps that a country might take in order to improve the quality of life of its citizens:

- reducing crime and so increasing personal security
- reforming the justice system and making it fairer and more efficient
- protecting the rights and liberties of all citizens
- making sure that all taxes are paid
- setting up a social security system into which every working person pays according to their earnings. This will provide healthcare and pensions for all and help for the most needy families (see 3.4.3)
- removing discrimination on the basis of gender (see 3.4.4)
- making government more transparent
- ensuring that the interests of all groups in society are represented in Parliament
- promoting the political stability that is so important to national prosperity
- eliminating corruption in business and politics.

These are just 10 possible reforms that would improve the quality of life of many people in Bangladesh. Bangladesh is not alone in needing these and other actions.

Exercises

1. Housing, work and healthcare are three welfare needs. Think of some more and list them.
2. Do the same for quality of life needs.
3. Can you think of any weaknesses in Bangladesh's society that should be corrected? Give your reasons.

Section 4 – The Economy of Bangladesh

4.1 Agriculture

4.1.1 Economic sectors

The economy of a country is like a car engine – it moves a country forward along the development pathway (see 4.4.1). Like most car engines, its power comes from four ‘cylinders’ or what are known as **economic sectors**. Each sector involves distinctive activities.

The **primary sector** is made up of activities directly concerned with the collection and use of natural resources. In most countries, by far the most important of these activities is agriculture. Basically, agriculture is making use of climate and soils. The sector also includes fishing, hunting, forestry, mining and quarrying. So primary activities produce food, energy and raw materials.

The **secondary sector** is concerned with the processing of resources and making them into usable goods. The assembly of parts into a finished product, such as a motor vehicle, is another important aspect of the sector. Manufacturing is a term often applied to all these activities.

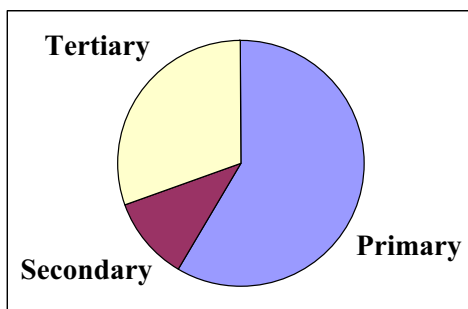
The **tertiary sector** is about providing services. These range from commercial services (for example shops, banks and transport) to personal services (for example hairdressers). The sector also includes public utilities such as the water supply, sewage treatment and electricity. Some tertiary services (particularly shops and markets) provide a link between primary and secondary activities and their final customers.

The **quaternary sector** is relatively new. It contains some activities which used to be included in the tertiary sector. It is made up of professional services that require high levels of skill and expertise. For example, the sector includes health, education and training, research and development, high-tech industry and information technology.

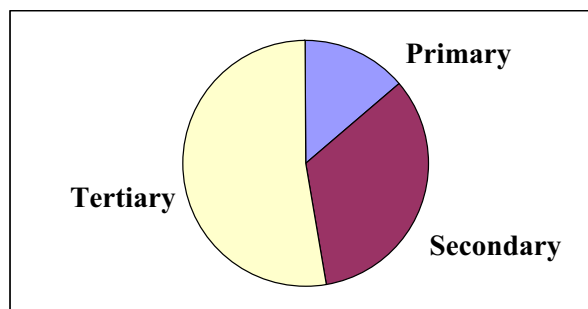
The relative importance of these sectors to a country’s economy tells us about the level of economic development (see 4.4.1). In the early stages, a country’s economy is dominated by the primary sector (usually agriculture) (see diagram in 4.3.1). Food is the basic need. Gradually this is overtaken in importance, first by manufacturing and then by services. The food needed by employees in these last two sectors is produced by others and paid for out of wages.

The relative importance of the sectors is usually measured in terms of either a) the percentage of the workforce found in each sector, or b) the percentage of the country’s economic output or **GDP** (gross domestic product) coming from each of the sectors. The following pie charts use both these measures in looking at the sectors of the Bangladeshi economy.

A. Percentage of all workers



B. Percentage of GDP



Sectors of the Bangladeshi economy

The two pie charts appear to be very different. Pie chart A shows that well over half of the labour force works in the primary sector. The vast majority of these workers are in agriculture. Slightly less than half that number work in the tertiary sector. Pie chart B shows the reverse situation. The primary sector produces less than a quarter of the country's economic wealth, whilst the tertiary sector produces over half. The relative importance of the secondary sector is seen to be greater in terms of creating economic wealth rather than jobs.

The contrasting views of the Bangladeshi economy shown by the pie charts are easily explained. Much of the farming in Bangladesh is small scale and for subsistence only. Crops are grown and livestock reared mainly to feed the farmer and their family. Only a proportion of the food produced by farmers is sold commercially and, therefore, contributes to the GDP. In contrast, although the number of tertiary sector workers is far outnumbered by farm workers, the services they provide are in the main paid for. It is for this reason that they contribute so much more to the country's economic output.

Neither pie chart shows the fourth or quaternary sector mentioned earlier. The reason is that the activities of this sector are only just beginning to appear in Bangladesh. As yet, they employ few people and contribute little to the country's economic wealth. It is likely, however, that the situation will be different in 10 or 20 years' time.

Exercise

The table gives information about the East Pakistan (Bangladeshi) economy in 1960.

	Per cent of workforce	Per cent of GDP
Primary sector	70	57
Secondary sector	12	7
Tertiary sector	18	36

Plot the data in the form of two pie charts. Compare them with today's pie charts.

Write a brief account describing what has happened to the sectors of the economy since 1960.

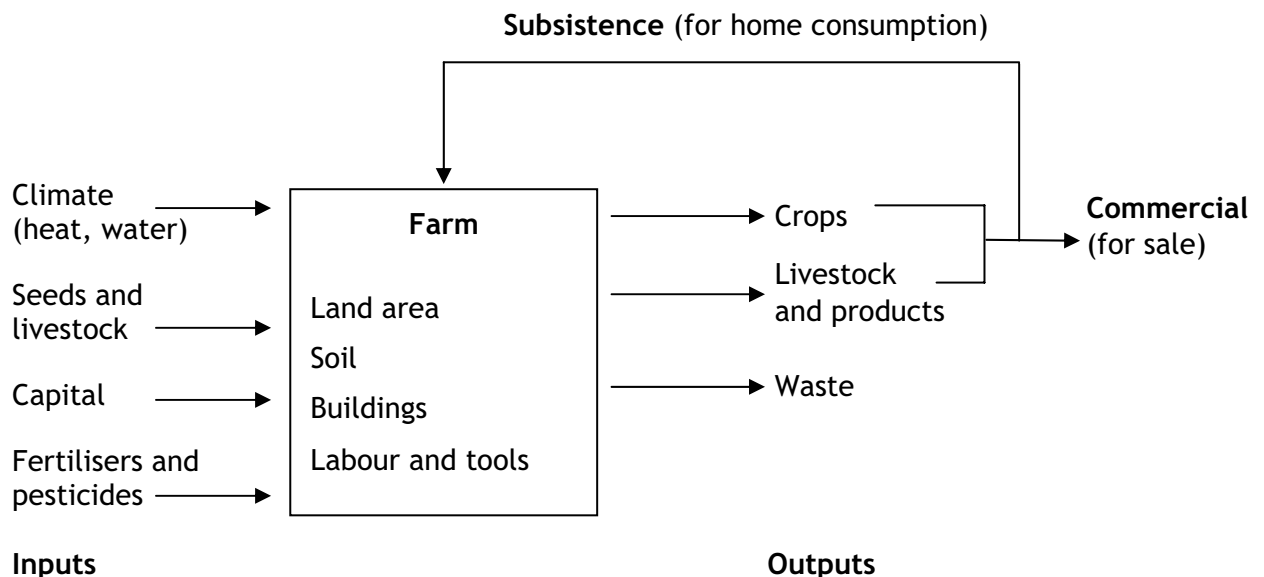
4.1.2 Agricultural systems

Agriculture plays a very important part in employing and feeding people in Bangladesh (see 4.1.1). Bangladesh is primarily an agrarian economy. The key element in this sector is the farm unit and each farm can be seen as a system. This means that whatever is put into the farm (inputs) will produce something (outputs). The diagram below shows the farm system in more detail.

The **inputs** into the system can vary from year to year. For example, the climate varies to some extent. Maybe there will be too much or too little rain. In most years, farmers need to buy varying amounts of seed, new livestock, fertiliser and pesticide. If the farm is doing well, they may be able to invest money (capital) in buying more land and new tools, or on improving farm buildings.

The farm itself is both a **processor** of inputs and a **store** of land, equipment, labour, etc.

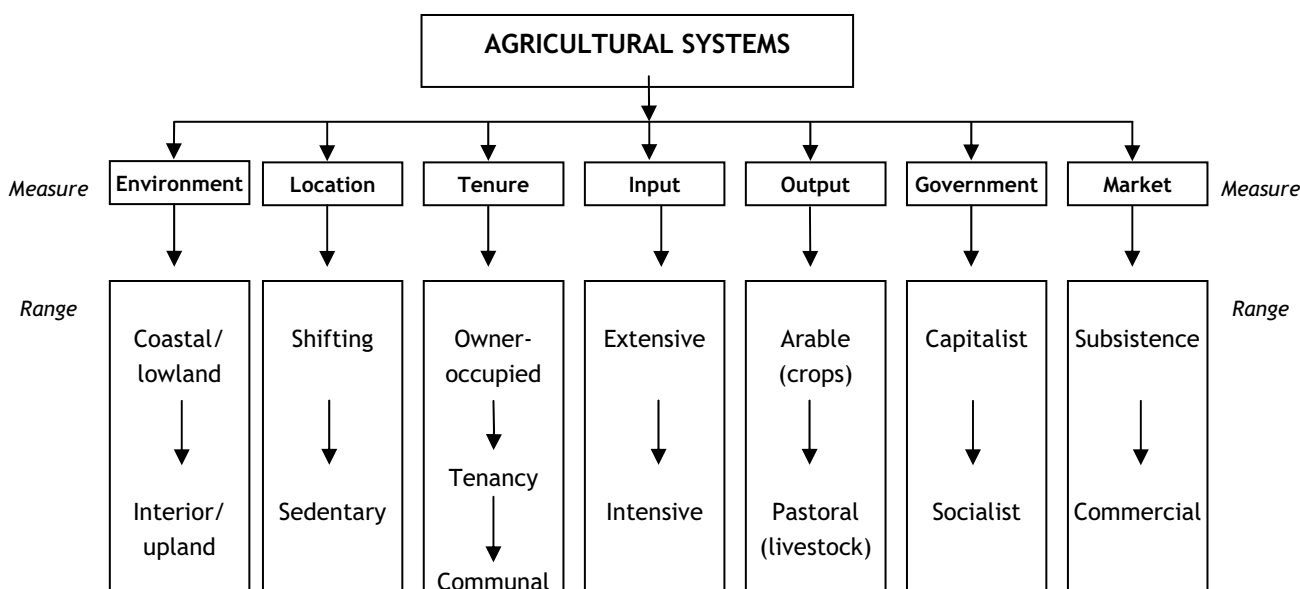
The **outputs** of the system are the crops, livestock and livestock products (milk, meat, hides). If the farm is a subsistence one, then most of the outputs will be consumed by the farming family. If it is a more commercial undertaking, then the outputs will be sold or traded for other things. Some of the outputs (for example waste) will be retained and re-used as inputs (for example as fertiliser in the case of waste).



The farm system

The diagram suggests that there are two different types of agricultural system: **subsistence** and **commercial**. Plantations (tea, rubber) are a particular form of commercial agriculture. In between these two extremes there will be farms that are both, but to varying degrees. It is important, however, to understand that farm systems both in Bangladesh and elsewhere in the world can be classified in other ways. The next diagram shows these different ways. For example, the typical farm system in Bangladesh occupies a lowland environment; is fixed in location (sedentary); is worked intensively as a tenancy; its output is mainly arable and for subsistence. Again, remember that:

- any farm system can be checked off against all seven measures
- for each measure, a gradation exists from one extreme to the other.



Classifying agricultural systems

Crops dominate agricultural production in Bangladesh; only a small fraction is accounted for by livestock-rearing and its products. Rice, jute, sugar cane, pulses, wheat, tea, tobacco, fruit and vegetables are the main crops.

Rice is the dominant food crop, accounting for about 75 per cent of agricultural land use and about 25 per cent of GDP. Bangladesh is the fourth largest rice producer in the world, producing over 25 million tonnes a year. The cultivation of rice varies according to seasonal changes in the water supply.

The first harvest is *aus*. The rice is sown in March or April; it then benefits from the monsoon rains and is harvested during the summer. The largest harvest is *aman*. It takes place in November and December and accounts for more than half the yearly production. With the increasing use of irrigation (see 4.1.3), a third rice-growing season is beginning to emerge, coinciding with the dry season from October to March. Between the rice-growing seasons, farmers do everything possible to stop the land from lying fallow. If water and fertiliser are available, they will grow vegetables, peanuts, pulses or oilseeds.

Jute is by far the most valuable of the cash crops. Bangladesh is the world's largest producer of jute and it used to be the country's number one export (see 4.3.5). Jute is sold on the international market either raw or in the form of manufactured goods (rope, twine, carpet making, etc). This so-called 'golden fibre' is grown on the same land as rice. Each year farmers must decide which of these two crops to plant. Growing jute today is not as profitable as it used to be. There is much competition from synthetic fibres and, as a consequence, the price has fallen. Jute is a highly labour-intensive crop, much more so than rice. This, in a country with too much rural labour, adds to the appeal of growing jute. The yield per hectare is higher for jute than rice.

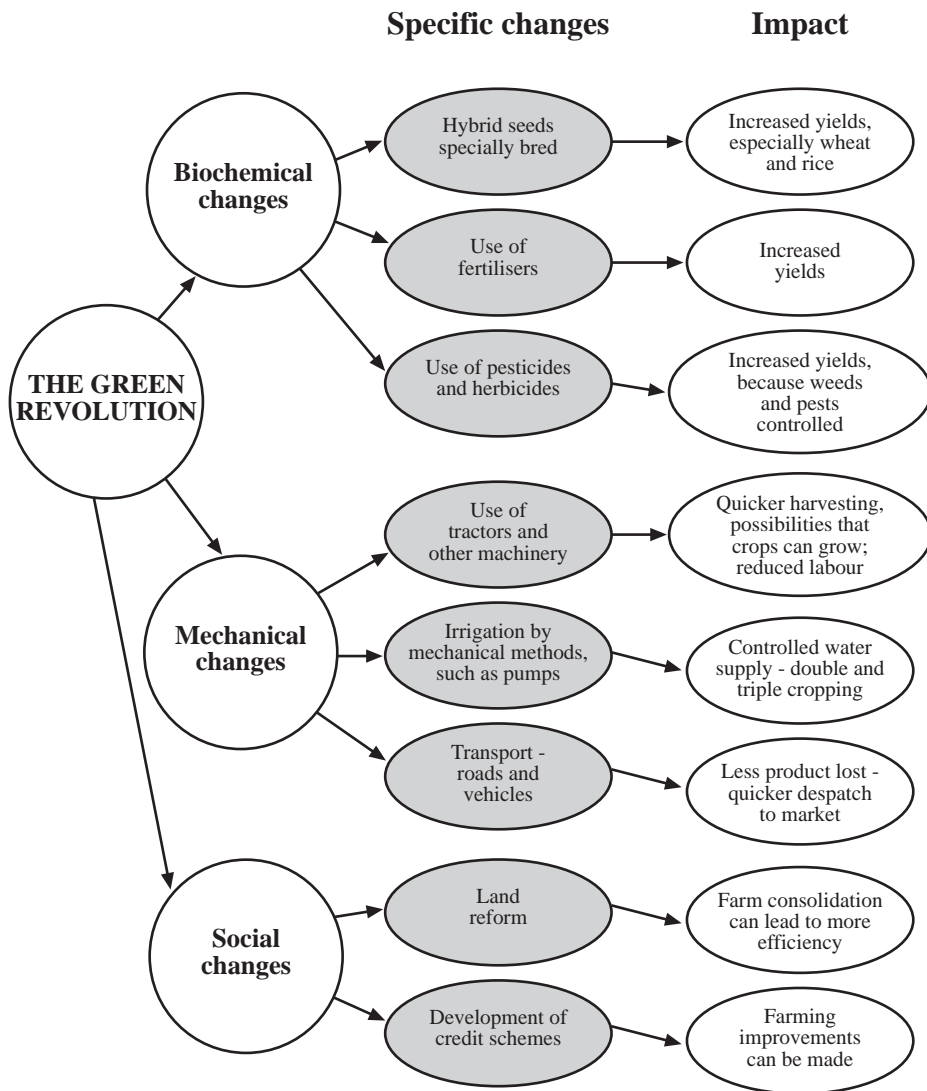
Exercises

1. Distinguish between arable and pastoral, commercial and subsistence, extensive and intensive farming.
2. What are the factors affecting a farmer's decision as to which crops to grow?
3. Find out about the ways in which the Bangladeshi government is trying to make the country self-sufficient in food.

4.1.3 The Green Revolution

The Green Revolution started in the late 1960s. The aims were simply to raise food production and reduce hunger and starvation. This was to be achieved by transferring modern farming technology from HICs to LICs such as Bangladesh. The hope was that the transfer would do much for the country by providing a better food supply for its rapidly-growing population.

The diagram below shows the main changes that made up the Green Revolution. Because Bangladesh was already farming most of the land capable of being cultivated, the only option was to use the existing farmland much more intensively. In short, Bangladesh had to produce more food from the same amount of farmland.



The changes and impacts of the Green Revolution

Perhaps the three most important changes in the Green Revolution were biochemical. Of these, the most crucial was the introduction of new, high-yielding varieties (HYVs) of rice and wheat. The yields of HYVs are up to four times greater than those of traditional varieties. Today, HYVs produce over two thirds of Bangladesh's rice. HYV plants are stronger and so resist the impact of storms. They have a shorter growing period, allowing up to three crops to be harvested in a year. To achieve this, water has to be available and the soil 'fed' with large amounts of fertiliser. Unfortunately, HYVs have been found to be more susceptible to diseases and pests. For this reason, they require large inputs of pesticides (see 4.1.5). One mechanical change that needs to be highlighted is the greater use of irrigation (see 4.1.4).

The introduction of new HYVs has its problems. The need for a heavy use of fertilisers has already been mentioned. Other problems include:

- new seeds have to be bought each year, rather than using seeds from the previous harvest
- HYV crops need careful weed control
- they are less resistant to drought and need careful irrigation
- they provide less straw for thatching and for feeding livestock
- their seeds do not mill or taste so well.

Many farmers have run into serious debt because of the need to buy seeds, fertilisers, pesticides, machinery and motor pumps for raising irrigation water from shallow bore wells. All of these things have been supplied by Trans-National Corporations (TNCs), but at prices many farmers cannot afford. The availability of credit has driven farmers only deeper into debt.

The Green Revolution spread rapidly in the 1970s and 1980s. During the 1990s, people became more aware of the problems. These were not just the problems mentioned above, there were others such as:

- the waterlogging, **salinisation** and declining fertility of soils (see **2.3.2**)
- declining fish stocks due to contamination of rivers by farming chemicals
- more rural unemployment because the use of machinery reduced the need for labour; this encouraged more rural-urban migration (see **3.2.3**)
- increasing health problems, including a rising suicide rate amongst farmers overburdened by debt.

These will be looked at in a little more detail in **4.1.4** and **4.1.5**.

Over the last 35 years, Bangladesh has increased its food grain production from 12 to 38 million metric tonnes. But during the same period, the percentage of a household's income spent on food has remained around 60 per cent. The population increased by over 50 million. Even today, about 32 million people in Bangladesh cannot afford a daily intake of 1800 kilocalories. For LICs as a whole the average daily food intake is 2828 kilocalories; for HICs the figure is 3377. So has the Green Revolution really been a success?

Exercises

1. Why was Bangladesh keen to take part in the Green Revolution?
2. In what ways has the Green Revolution been a success?
3. What do you think is the worst problem caused by the Green Revolution? (Also look at **4.1.4** and **4.1.5**.)

4.1.4 Irrigation

That farmers in Bangladesh have to irrigate their crops may seem strange. After all, the country occupies mainly a huge delta and is often flooded. Why, then, is irrigation necessary? In fact, more than 35 per cent of cropland is irrigated. The reasons lie chiefly with the climate. In the past, agriculture was totally dependent on the monsoon. A poor monsoon meant a poor harvest and the threat of famine. In a normal year, a huge amount of rain falls on the country between June and October (the south-west monsoon) (see 2.2.2). This is added to by the thunderstorms that are common in March and April. Roughly 80 per cent of the annual rainfall is between June and September. In many years, this rainfall is not enough to meet the water needs of farming during the dry or 'rabi' season (the north-east monsoon between November and February). If farmers are to grow crops during the winter months, ways have to be found either to retain some of the summer rain or to tap into groundwater supplies. Thus there are two basic types of irrigation: **surface water irrigation** and **groundwater irrigation**. Both played their part in the Green Revolution (see 4.1.3).

Farming in Bangladesh was traditionally confined to the wet season. Over the last 25 years, however, the demand for food (especially rice) has grown so much that it has outstripped supply. The only solution to the increasing food shortages has been to grow crops throughout the year. This is possible only if a supply of water is available during the dry season. It has been shown that irrigation can increase agricultural productivity, by up to six times, by extending both the growing season and the cultivated area.

The total irrigated area of Bangladesh was 1.5 million hectares 25 years ago. It has more than doubled since and is now close to four million hectares. As the irrigated area has grown, the sourcing of water has changed. In 1980 60 per cent was surface water; today 70 per cent comes from the ground. Three main reasons explain why surface water has become less important:

- there are few, if any, sites in Bangladesh where reservoirs of the size needed could be built; the purpose of such reservoirs would be to store huge amounts of wet season rain for dry season use
- large reservoirs and their canal networks are costly to build; the latter are needed to distribute the water, often over long distances
- the reduced flow of water in the major rivers during the dry season is a problem. This is because 'upstream' countries such as India and Nepal are taking out more water for their own use during the winter months. It is important for agreements to be reached, such as the one with India, guaranteeing a better supply of Ganges water in the dry season.

Major schemes account for less than 10 per cent of the irrigation water. Most of them are multi-purpose. Besides providing water for irrigation, they are aimed at flood control, drainage improvement, environmental protection and fisheries development. The most important schemes are the Karnaphuli project in the south-east, the Tista barrage project in the north, and the Ganges-Kabadak project that serves the south-western part of the country. Other forms of surface water irrigation include catching water in large tanks or containers. This water is then distributed either by pipes or literally carried by people to where it is needed.

Groundwater is brought to the surface in a variety of ways. **Shallow tube wells** supply water for about 60 per cent of the total area under groundwater irrigation. This is by far the most important form of irrigation in Bangladesh. It is a form of irrigation that most farmers can afford. A long way behind come **low lift pumps** (17 per cent), **deep tube wells** (16 per cent) and **non-mechanised irrigation** (7 per cent). Surprisingly, in terms of what it costs, low lift pump irrigation is more cost effective than shallow tube well irrigation. In all these forms of irrigation, pumps are used to lift the groundwater to the surface. Animals, wind, petrol or diesel engines and people provide the power for the pumps.

Irrigation is not all good news:

- too much irrigation can easily lead to the ground becoming waterlogged which is not good for plant life
- **salinisation** is a real problem. Water that has been used to irrigate the soil evaporates during the dry season. This causes salts to form a pan within the upper layers of the soil. That salt pan is poisonous to crops
- the most serious problem is the contamination of the groundwater by arsenic that occurs naturally in some rocks. Using this water on crops means that the poison can enter the human food chain
- in many places water is being pumped at an unsustainable rate. As a result, the water table is falling and wells have to be sunk to greater depths. Shallow tube wells are becoming waterless.

None of this suggests a bright future for groundwater irrigation. Maybe the Bangladeshi government will invest in large surface water projects. These will be expensive to build and run. The worry is that small-scale subsistence farms will lose out to large-scale commercial operations.

Exercises

1. Use the percentage figures in this unit to draw a diagram showing the relative importance of different types of irrigation.
2. Explain why irrigation is being increasingly used in Bangladesh.
3. What is the difference between surface and groundwater irrigation?
4. Describe some of the problems caused by irrigation.

4.1.5 Fertilisers, pesticides and back to basics

The Green Revolution (see 4.1.3) involved a number of developments. The extension of irrigation was one of them (see 4.1.4). Others included:

- double and even triple cropping of HYVs – that is, harvesting a piece of cropland more than once during a year
- intercropping – growing more than one crop at the same time and literally side by side
- using fertilisers and pesticides.

Let's take a closer look at the last of these developments.

Fertilisers

Chemical fertilisers are one of the main inputs for increasing crop production. This is particularly so if a farmer hopes to harvest more than one crop from the same piece of land in a year. However, too much chemical fertiliser is being used and little attempt has been made to balance the chemicals being applied to the soil. As a result, soil fertility is beginning to decline. It is wrong to think that the soil will go on producing more if you heap enough fertiliser on it.

Pesticides

Pesticides are used to kill three different types of pest that affect farm production:

- insects – such as the yellow stem borer which is the most destructive of the pests threatening the rice crop in Bangladesh
- weeds – these take nutrients from the soil and are capable of 'swamping' crops
- diseases – these include fungal growths and various forms of blight.

It is estimated that, in any year, between 10 per cent and 40 per cent of Bangladesh's food production is lost to these pests. It is easy to understand a farmer's keenness to apply pesticides. Something like 800 tonnes of pesticide are used every year, which is leading to a number of issues:

- the widespread misuse and overuse of pesticides is resulting in serious damage to biodiversity and the environment
- the use in Bangladesh of pesticides which are banned under international agreements. For example, DDT is still used to kill swarming insects. This can easily enter the human food chain and when it does, it kills
- farmers regularly buy pesticides packaged in very small quantities without any labelling or guidance as to what they are and how to use them properly
- farmers often work without masks or gloves, and use the incorrect pesticides for the required task. Mixtures are stirred with bare hands and plastic containers may be re-used for carrying drinking water. In short, the use of pesticides is seriously damaging the health of farmers and their families.

Thirty years after the launch of the Green Revolution (see 4.1.3), farmers are now discovering that both chemical fertilisers and pesticides have serious drawbacks. For example, they seriously contaminate groundwater. This causes **eutrophication** (a reduction of oxygen) in ponds and rivers which, in turn, leads to the death of fish and aquatic plants. Contamination also means that poisons are entering the water supplies of towns and cities. The use of fertilisers and pesticides is polluting the environment and reducing biodiversity, and it is killing farmers and their families, and people who have nothing to do with farming. Added to this, buying fertilisers and pesticides has helped to drive many farmers into debt.

An alternative way?

Bearing in mind all the costs associated with the use of fertilisers and pesticides, is there an alternative way of raising food output without the costs? The following case study might have the answer.

The Nayakrishi Andolan movement

There was a time when Mohammad Reazuddin's paddies were being attacked by pests and his yields declining, despite generous use of pesticides and fertilisers. Today he no longer uses these products, but his harvests have improved. This 60-year-old father of seven, who lives in the Tangail district north-west of Dhaka, has renewed confidence in the future.

Reazuddin is one of around 25,000 farmers across Bangladesh who have joined the Nayakrishi Andolan movement. The movement was created to help farmers after the devastating floods of September 1998. It advocates an alternative method of farming – without pesticides or chemicals – and a more community-based approach to farming that draws on traditional knowledge as well as new technology.

From the start, the Nayakrishi Andolan movement has attracted the poorest of the country's farmers, those with less than one quarter of a hectare of land. Farmers who are desperate for an alternative working method. They are the ones who have been forced to sell land because they can no longer afford the rising price of fertilisers and pesticides.

Farmers are taught to improve soil quality by reintroducing natural nutrients such as composts made with water hyacinth. Sugar cane yields have increased thanks to the cultivation of nitrogen-fixing crops such as lentils and beans. Besides rice, farmers have started to grow varieties of pulses, oil seeds and cereals that were once part of the daily diet. Indigenous paddy varieties have reappeared. Fish are returning to ponds and rivers, giving families greater food security. The number of livestock and cash income have nearly doubled since Nayakrishi practices were introduced. Mixed cropping is found to be three times more productive than monocultures.

Control over seeds is critical for farming communities. Nayakrishi farmers use HYVs provided they can collect and preserve the seeds. Crop seeds are stored in community centres located in every village. Farmers obtain them free of charge at the time of sowing and, after the harvest, must return twice the amount unless the harvest is poor. These community-run centres are an insurance against damage to seedlings in case of bad weather.

Farmers with slightly more land are starting to see the economic benefits of organic farming. As word of Nayakrishi Andolan spreads, organic products are gaining a reputation for being more nutritious and have started to earn higher prices in local markets. One leader has summed up this promising and sustainable alternative in this way:

'We insist that agriculture is not a factory or an industry. Agriculture is a way of life, a cultural practice. Our movement is about cultivating a happier relationship with nature.'

So really it is a matter of back to basics!

Exercises

1. Explain why pesticides are reducing biodiversity.
2. Write a short essay entitled: 'Fertilisers and pesticides as human hazards.'
3. How would you try to promote the Nayakrishi Andolan movement in a farming area near you?

4.2 Manufacturing

4.2.1 Leading manufactures

Manufacturing is what the secondary sector of the economy is all about. It is the processing of raw materials (for example jute) into partly-finished (for example hessian) and finished (for example carpets) products. The term **industry** is sometimes wrongly applied just to this sector. Industry refers to any form of economic activity, from the mining and fishing industries of the primary sector to the hotel and music industries of the tertiary sector (see 4.1.1).

Manufacturing accounts for about 30 per cent of Bangladesh's GDP but employs only 13 per cent of the country's workers (see 4.1.1). Manufacturing in Bangladesh falls into two broad types: **traditional** (the cottage industries – see 4.2.3) and **modern**. The modern types are the country's leading manufactures. In 1971 **jute** was the major industry in the newly independent Bangladesh with mills producing huge quantities of yarn and twine. These were then made into a range of products, from carpets and wall coverings to a variety of fabrics such as canvas, hessian, sacking and laminated cloth. Today there are 75 jute mills, employing about 125,000 workers. The three centres of the industry are Dhaka, Chittagong and Khulna. However, the jute industry is no longer the country's leading manufacture. It has declined for a number of reasons:

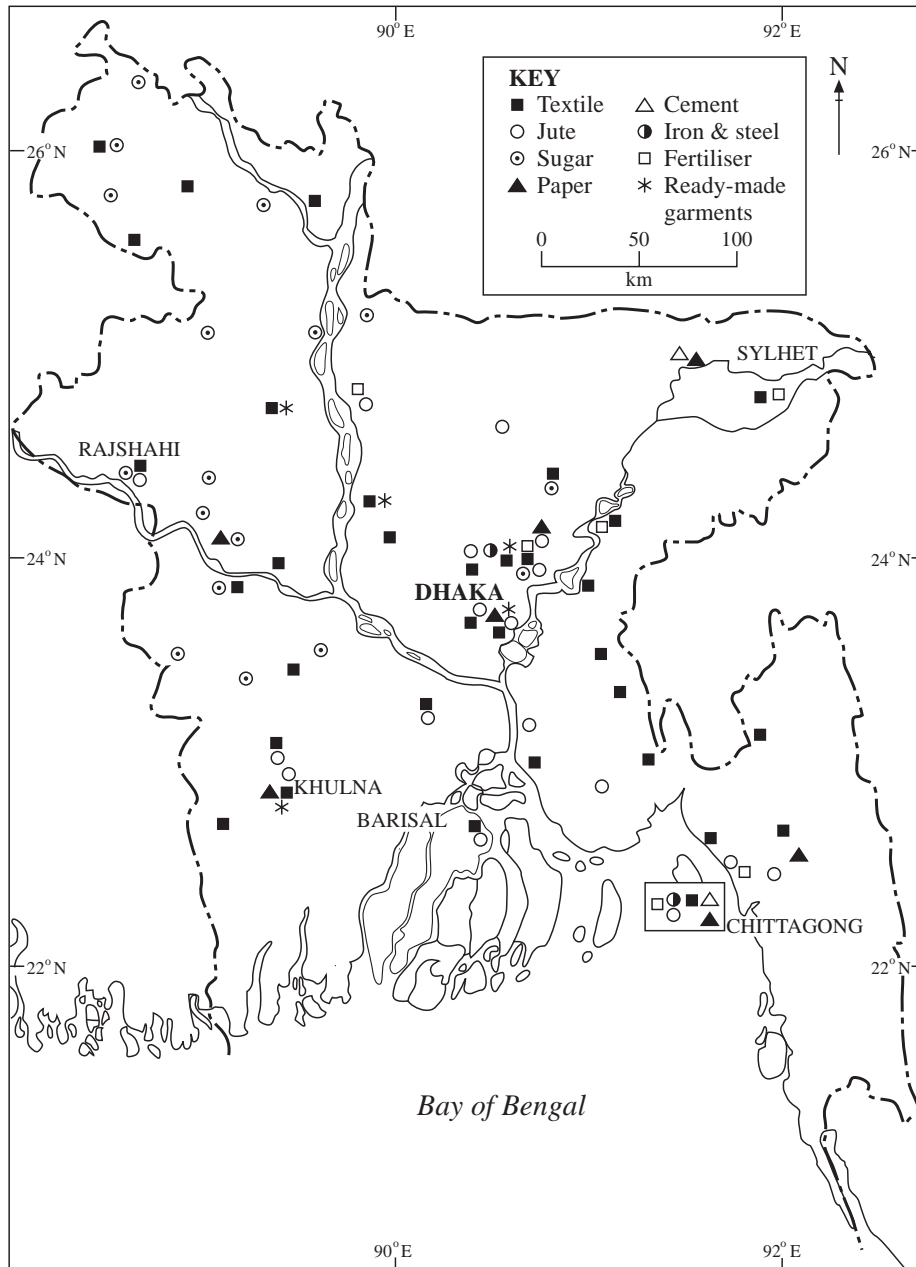
- competition from cheaper synthetic substitutes, such as polypropylene
- poor management and huge losses
- the inefficiency of the industry in terms of wastage and the use of energy
- labour problems
- frequent changes in government policy between nationalisation and privatisation.

The making of **ready-made garments (RMG)** is relatively new, but is now the leading manufacture. This is partly the outgrowth from the much older cotton industry which still produces yarn and huge amounts of cloth. But this industry has had its problems with shortages of skilled labour (see 4.2.5), raw materials and power, as well as poor management. The RMG industry took off in the late 1970s. Today it employs around 1.8 million workers, about 80 per cent of whom are women. As the industry has grown, it has encouraged the expansion of linked industries. These supply things such as fabrics, yarns, accessories and packaging materials. In addition, it has created a large demand for services like transportation, banking, shipping and insurance. All these have created many more jobs.

Despite using local raw materials, the RMG industry is highly dependent on imported supplies. For example, about 90 per cent of woven fabrics and 60 per cent of knit fabrics are imported to make garments for export. Clearly, it would be much better if Bangladesh were able to produce more of the raw materials. This is hindered by problems of power supply, transport and communication. Bangladeshi labour is much less efficient than competitor producers such as Hong Kong and South Korea.

Bangladesh sells garments to about 30 countries, but these exports are concentrated in two major markets: the European Union and the USA. RMG products (mainly shirts, jackets and trousers) account for nearly a quarter of all exports.

The map below shows the distribution, not just of the jute and RMG industries, but also other leading manufactures. Clearly, there is quite a variety. There are the **heavy industries** producing materials such as steel, cement, paper and sugar that are processed further into finished goods. In contrast, the **light industries**, such as RMG, tobacco, rubber, textiles and pharmaceuticals, produce mainly finished goods ready for marketing to consumers. The map on the next page shows very clearly that much of Bangladesh's manufacturing is concentrated in and around Dhaka and Chittagong.



Map showing the distribution of the main manufactures in Bangladesh

Exercises

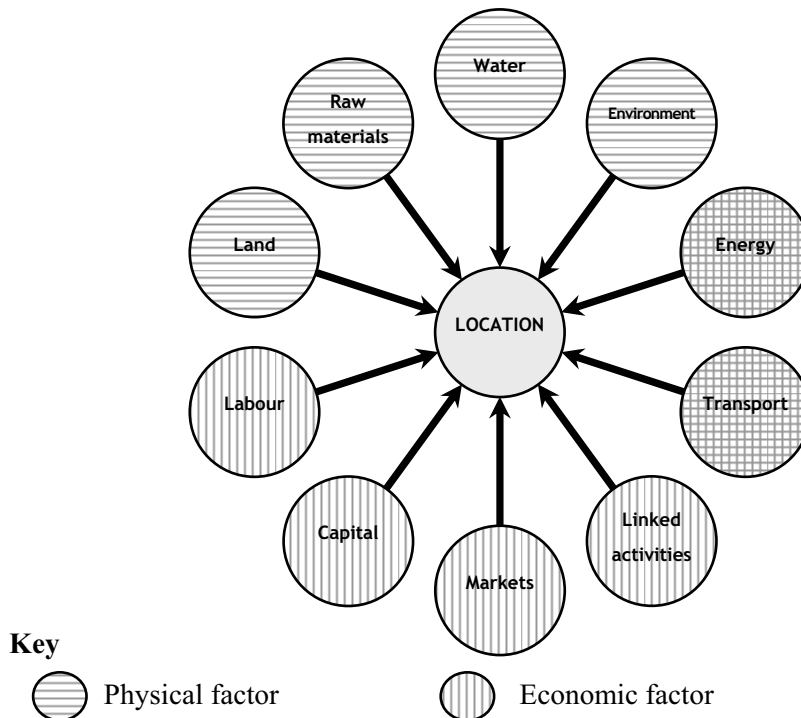
1. Explain the significance of each of the five reasons given for the decline of the jute industry.
2. Suggest reasons for the sudden rise of the RMG industry.
3. Select two industries (one heavy and one light). Describe and compare their distributions.

4.2.2 Location factors

Location is where things are in the world. Most industries (economic activities) have particular location needs and will be drawn to those locations where their needs (**location factors**) are best met. Why? Because by occupying such a location they are likely to reduce their overall costs. Reduced costs usually mean greater profits.

The diagram below shows 11 main factors which affect the location of manufacturing. They fall into two broad categories: physical and economic.

Let's take a brief look at all of them to see their influence on the distribution of manufacturing in Bangladesh.



Factors affecting industrial location

The physical location factors include the following.

Land – All manufacturing enterprises need a building of some sort. This can range from a small room, or hut, to a factory complex made up of large structures. All buildings, large or small, occupy land. In general, the more land a factory needs, the more important the cost of land becomes. For this reason, large factories tend to be found on cheaper land on the edges of cities rather than on expensive land in the centre.

Raw materials – A lot of manufacturing involves processing primary commodities (raw materials) into products. If the raw materials are bulky or heavy, the industry will locate close to them to save on transport costs. The same applies if much of the raw material is wasted during processing. Some examples of Bangladesh manufactures whose location is strongly influenced by raw materials include **fertilisers** (made from natural gas), **glass** (made from sand, salt and limestone) and **cement** (made from limestone and clay).

Water – Many of the heavier industries require large quantities of water (for example **steel**). This is why large factories are often found along riversides. The **shipbuilding** industry needs a waterfront location for another reason.

Transport – The availability of a good transport network of roads, railways and airports is very important to modern industries – to receive their raw materials or components quickly and send their products quickly to the markets. Bangladesh is slightly unusual in that river transport is much used, particularly to move heavy raw materials.

Energy – Virtually all manufacturing requires energy. In the past, when coal and water were the main energy sources, this had quite a strong influence on industrial location. This is not so today, because much manufacturing uses electricity. The advantage of electricity is that it can be made available almost anywhere.

Environment – Today, with increasing concern about the use of non-renewable resources (see 2.3.1), pollution (see 2.4.4) and the state of the environment, tougher regulations are being introduced. The effect of these regulations is to discourage industry from setting up in particular areas.

The following are economic location factors.

Labour – All manufacturing needs labour. It is not just a matter of having access to a given number of workers. For many industries, it is the type of labour that is important and, particularly, its cost and skills. The need for labour explains why so much of Bangladesh's manufacturing is found in the leading cities.

Capital – This is the money that is invested to start, run and expand a business. The amount of capital available will determine the size and location of a factory.

Markets – The importance of being near to markets (where products are sold) depends on the goods being produced. For example, fragile goods (**glass, ceramics**) need to be produced close to their markets so that they do not get damaged or deteriorate on route. Bulky goods (for example **paper**) need to be made close to the market because of high transport costs. Nearness to market is not so important to other types of manufacture.

Linked activities – A lot of manufacturing involves **process chains**. The **motor vehicle** and **electrical goods** industries, for example, involve assembling parts and components made and supplied by different factories. Clearly, the nearer an assembly plant is to those suppliers, the greater the savings in transport costs.

The last factor is **government policy**. Governments can exert a strong influence on industrial location. They can encourage or discourage industrialists from setting up in particular areas.. In short, manufacturers do not always make their location decisions just on physical and economic factors.

Exercise

Check that you understand the significance of each of the 11 location factors.

Which one do you think is the most significant in Bangladesh? Give your reasons.

4.2.3 Cottage industries

Cottage industries are small-scale production units that are family based or owned. They operate with small amounts of capital. They represent the earliest industries of the country and pre-date the colonial period. The production process is based on:

- local raw materials
- inherited artistic skills
- simple, local technology.

Production units often use staff hired on a full- or part-time basis. To be officially recognised as such a cottage industry unit should not employ more than 10 people, if it is using power-run machinery. If it does not use power, then it can employ up to 20 people.

Cottage industries developed originally in rural areas but, whilst some remain there, others have since moved into towns. They have been attracted there by the benefits from better transport and marketing facilities. The cottage industries of Bangladesh produce an amazing variety of goods and use all sorts of raw materials (see the table below).

Main groups	Typical activities
Food and drink	Processing milk, fruit, fish, honey and tobacco
Textiles and leather	Cotton, silk and jute goods; embroidery; processing hides; making shoes
Timber and furniture	Wooden toys; boatbuilding; hat making; cane and bamboo goods
Paper and packaging	Processing of waste paper; making playing cards and paper flowers
Chemicals, petrol and rubber	Printing and dyeing; making cosmetics, ceramics, rubber footwear, polythene bags and medicines
Non-metallic	Sand-collecting; making buttons and bracelets
Metallic	Electro-plating; making locks and keys, bicycles, bronze and brass utensils

Some cottage industries of Bangladesh

Over the centuries, various locations have come to specialise in particular products. Most often the specialisation has happened because of the availability of a certain raw material. The skills involved in the production have been handed down within families from one generation to the next. As a result, the locations have developed a national reputation, not just for the type of product but also for its quality. Some examples are given in the next table.

Product	Locations
Bronze and brass	Chapainawabganj, Islampur
Cane and bamboo	Sylhet
Carpets	Nisbetganj
Combs	Jessore
Lac dye	Nawabganj
Pottery	Comilla
Silk	Rajshahi, Bholahat, Nawabganj
Weaving and hosiery	Narsingdi, Baburhat, Bhairab, Tangail

Some locations famous for particular cottage industry goods

Until recently, the government failed to realise the importance of cottage industries. For example, in the year 2000 cottage industries had a six per cent share of the GDP. The sector has an important part to play in reducing poverty through providing employment, especially in rural areas. In addition to this economic importance, the sector is significant because it helps to preserve the culture and heritage of Bangladesh.

The government has now set up the Bangladesh Small and Cottage Industries Corporation (BSCIC). This helps to promote cottage industries and provides advice to individual units. So far, 30 small industrial estates have been set up and another 50 are under construction. Around 5000 units have registered with the Corporation, and these provide work for over 50,000.

Some non-government organisations (NGOs) have also been set up. They are trying to draw attention to the artistry and skills of cottage industry workers. They organise groups of cottage industry people in different parts of the country. They provide technical and financial support. They buy the products for re-sale through specialised showrooms in towns and cities.

Bangladesh, like other low-income and less-developed countries, is discovering that cottage industries can provide a special opportunity for poor people. Through the jobs and income that cottage industries create, there is a chance of breaking out of the **cycle of poverty** (see 3.4.3). The prospects for cottage industries will look even better if Bangladesh is able to expand its tourist industry.

Exercises

- Do some research.
 - What cottage industries are in your local area?
 - Why are they there?
 - How are they doing – well or struggling?
 - How do they view their prospects?
- Explain the link between the growth of tourism and the prosperity of cottage industries.

4.2.4 Increasing output

At the moment, the manufacturing industry creates just over a quarter of Bangladesh's economic wealth. With per capita Gross National Income (GNI) standing at US\$ 470 Bangladesh is today classified as a 'low-income economy' (see 3.4.1). It is a poor country by global standards. This means that it has a long way to go in terms of becoming more developed and creating more wealth for its citizens. Manufacturing can make a big contribution to both these things. What needs to be done to raise the output of Bangladesh's manufacturing so that it contributes more to the development and economic prosperity of the country?

First, let us look at how the different branches of manufacturing have been performing in recent years. The table below lists the more important branches of manufacturing. The output of each industry in 1989 is taken as being equivalent to 100. So any increase in output will be shown by a number greater than 100; a decrease by a number less than 100.

Manufacture	Index value in 2002	Manufacture	Index value in 2002
Food, beverage and tobacco		Chemicals	
Processing fish and seafood	201	Fertiliser	110
Flour milling	151	Pharmaceuticals	418
Sugar	186	Insecticides (DDT)	53
Soft drinks	294	Paint and varnishes	672
Cigarettes and tobacco	395	Matches	80
Textiles		Non-metallic products	
Cotton	111	Glass products	581
Jute	69	Rubber footwear	74
Ready-made garments	770	Cement	503
Wood		Metals	
Wood products	182	Metal products	197
Paper	387	Machinery and equipment	109

Manufacturing production in Bangladesh (1989–2002) [1989 = 100]

The industries contributing most to the growth of the manufacturing sector were those with 2002 index values greater than, say, 400. Those industries with values between 200 and 400 were holding their own, while those with values between 100 and 200 were rather stagnant. Only four industries actually declined in output.

Now let's take up the question raised at the beginning of this section. What needs to be done to increase the output of Bangladesh's manufacturing industries? Here are some possible answers.

Development of power resources. Most forms of manufacturing need large amounts of power, particularly electricity. There is a need to increase the generation of electricity and to extend the grid systems that distribute it. Coal, oil and gas are the main fuels used in the generation of electricity. Bangladesh possesses all three resources but more needs to be done to open up more reserves.

Improvement of transport and communication networks. Efficient transport is critical in the assembly of raw materials and the marketing of goods. The physical geography of Bangladesh hinders the development of fast and efficient road and rail networks (see 4.3.4).

More and better airports are needed for movement within the country and for international travel. Good modern communications are vital if manufacturers are to keep in touch with overseas markets.

More capital investment. Industries cannot expand without the investment of new capital. Banks need to make loans available on easier terms. Foreign investment, by transnational companies, needs to be encouraged.

Political stability. Industrial development is accelerated if political stability, peace and discipline exist within a country. Law and order need to be maintained.

Government support. Although most factories are now privatised, the government can help in a variety of ways, such as investing heavily in the country's infrastructure (roads, electricity supply, etc), encouraging the modernisation of industry, and offering tax concessions and other incentives to manufacturers.

Penetration of overseas markets. Industries need to be more aggressive in their search for markets for their goods. The increased demand needed to boost Bangladeshi manufacturing lies in the overseas rather than the domestic market.

Agricultural development. A fair amount of Bangladeshi manufacturing involves processing agricultural products such as cotton, tobacco, sugar and leather. The output of these industrial raw materials needs to be raised.

Research and development. Part of the secret of industrial success lies in making the most of modern technology, using it to improve production methods, develop new products and find new markets.

Exercises

1. Look at the table and identify (a) those industries showing the greatest increases in output and (b) those industries with stagnant or declining outputs. In both cases, suggest reasons for the output trend.
2. Of the eight steps suggested to improve manufacturing output in Bangladesh, which do you think are the two most important. Give your reasons.

4.2.5 Labour issues

In the previous topic, we looked at some of the things that could be done to help manufacturing play a more important part in Bangladesh's economic development. However, we did not include what is perhaps one of the greatest challenges facing the country's manufacturers – labour. The challenge is not about the number of workers. Bangladesh has more than enough workers, but not enough with the right skills. This is just one of a number of issues that are to do with labour, other labour-related issues are:

- the export of labour
- women in the workforce
- child labour.

Skills

The shortage of skilled labour is hindering the growth of manufacturing in Bangladesh – despite the fact that the country has a large and underemployed workforce. The lack of technical education and training means that the efficiency of labour is low. Labour lacks the sophisticated technical knowledge needed by modern industry. More colleges are needed to provide vocational training and industrial firms have a role to play in ensuring that employees have the necessary skills.

Export of labour

Bangladesh earns a large amount of foreign money by exporting labour to the Middle East, Europe and North America (see 3.2.4). The money comes in the form of what are known as **remittances** (money sent back by overseas workers to their families in Bangladesh). In 2003 remittances amounted to over US\$3 billion. This export of labour is a mixed blessing. On the one hand, in a country where there are not enough jobs for everyone, it makes sense that surplus labour should look for work abroad. On the other hand, it is unfortunate that many of those working abroad are those with the skills that are badly needed in Bangladesh. These skilled workers earn higher wages abroad than in Bangladesh but they are, in effect, recruited by overseas companies as cheap labour.

There is another aspect. While they are abroad, quite a high proportion of these workers benefit from training. This makes it all the more important to persuade them to return to Bangladesh rather than remain working overseas.

Women in the workforce

Perhaps one of the most remarkable features of manufacturing in Bangladesh over the last 25 years has been the rise in the percentage of women in the labour force. The number one manufacturing industry today – the ready-made garment industry – has a labour force which is 75 per cent female. There are many benefits to having more women in the workforce (see 2.4.4), but there are two particular issues. The first is that women are paid less, although they carry out many of the same jobs as men. Secondly, girls tend to miss out on education more than boys. This means that there is a big job to be done in terms of training young women and giving them the necessary skills before they start work.

Child labour

Child labour is defined as the employment of children age 5-14 years. Poverty is the single most powerful force that drives families to find paid work for their children and so help increase family income. Just over 20 per cent of households in Bangladesh rely on working children. Child labour is not illegal in Bangladesh, but the law discourages employing children under 14 years of age in factories. Children are found working in family-run handicraft workshops and factories (see 4.3.3). There are laws regarding matters such as minimum wages, working hours, type of work, health and safety, but these laws are not enforced to any great extent.

Census statistics suggest that about 20 per cent of the total child population (5-14 years) work. The proportion is higher in the case of boys (22 per cent) than girls (16 per cent). Most child labour is found in agriculture (65 per cent). Only around 10 per cent of children work in manufacturing, but they are much more exposed to risk and hazardous work in factories.

While children can play a vital part in fighting off family poverty, there is a social downside. This includes neglected schooling and the mistaken idea among poor families that their survival depends on having large numbers of children and then sending them out to work.

The conclusion to be drawn from this discussion is that Bangladesh has a large workforce, but much of it is underemployed. Surplus labour could be an important resource, but that resource is underperforming and lacking in skills and training. In this age of economic globalisation (see 4.4.3), Transnational Corporations (TNCs) are constantly looking for cheap but well-trained labour. If Bangladesh's workforce were to become more skilled, then it could see an economic boom. TNCs would be attracted to invest in the country, particularly in new factories. If this happened, Bangladesh could soon be home to a range of modern industries, and manufacturing could play a much more powerful part in the economic development of the country.

Exercises

1. What are the advantages and disadvantages of exporting labour?
2. Find out what sort of paid work a) women are doing outside manufacturing and b) children are doing in factories.
3. Why are TNCs constantly on the lookout for cheap, skilled labour?

4.3 Services

4.3.1 The diversity of services

As seen in 4.1.1, the tertiary sector creates just over half of Bangladesh's economic wealth. In terms of employment, its share is half that. These two figures immediately tell us that, relative to the primary and secondary sectors, workers in the tertiary sector are much more productive. In other words, on average, they generate more wealth.

The tertiary sector of the economy is often referred to as the 'service sector'. We might define a **service** as something that is carried out or provided for the benefit of others (people or businesses). The tertiary sector is made up of a wide range of diverse services. We can group or classify them as follows.

FIRE (finance, insurance and real estate) – This group includes banking, insurance securities, stockbrokers and estate agents.

Business services – These include legal services (solicitors, lawyers), advertising, architecture and design, public relations and a variety of consultancy services.

Transport and communications – Road haulage, railways, shipping and local transport (taxis and buses) make up the transport component. Communications include the media (newspapers, television and radio) and aspects of information technology.

Wholesaling and retailing – Markets, shops and stalls as well as warehousing and storage.

Personal services and entertainment – Hotels, cafés and restaurants, hairdressers, repair and maintenance (cars, household equipment), private schools and all forms of amusement (cinemas, shows).

Government services – The civil service, the armed forces and the provision of public services (schools, healthcare, police, fire and rescue services).

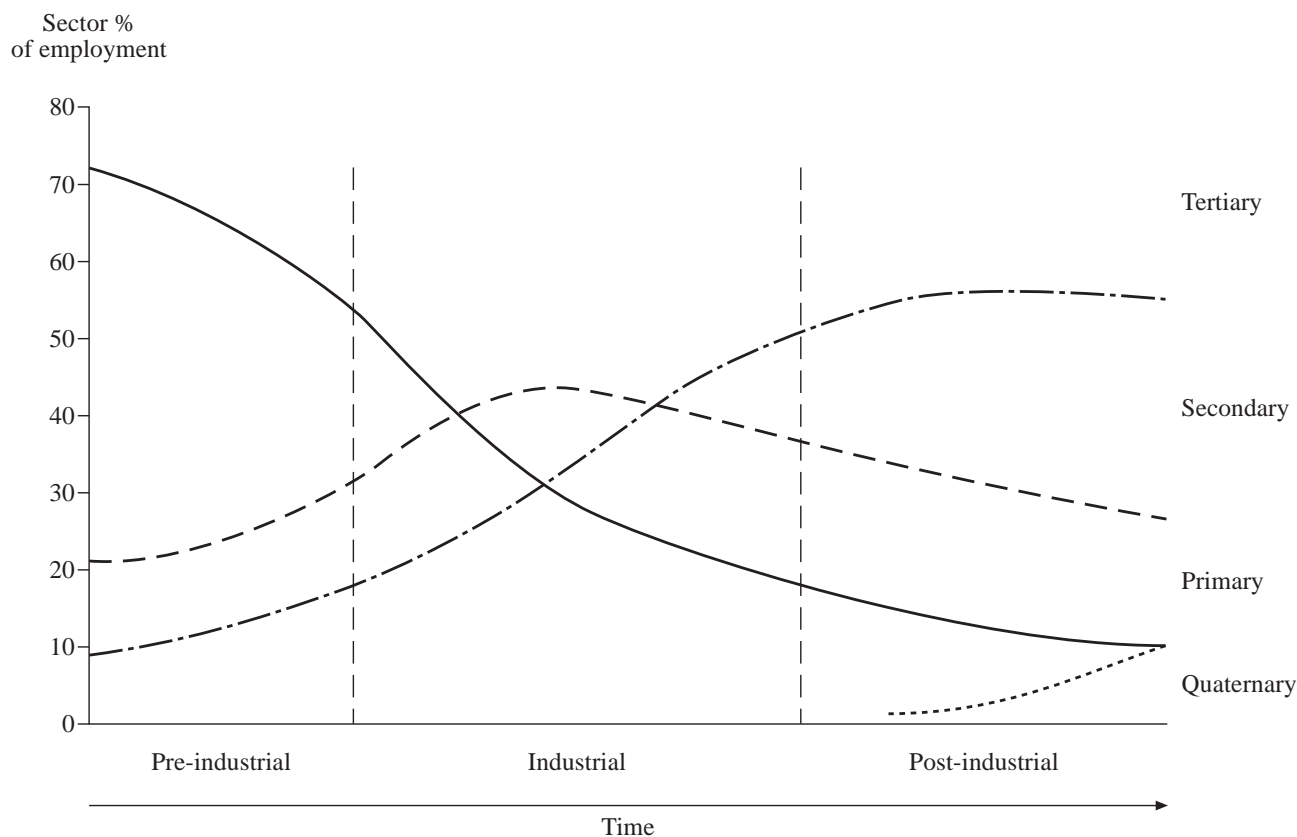
Non-profit-making agencies – Includes charities, religious organisations and museums.

Some economists make a distinction between **consumer services**, such as retailing, personal services and entertainment, and **producer services** providing services for other firms, such as FIRE and business services.

Another way to distinguish between them is on the basis of how often they are used. For example, shopping and using some form of transport may be undertaken on a daily basis. Less frequent would be a visit to the hairdresser or the cinema.

Complicating the situation is the increasing recognition of a **quaternary sector** (see 4.1.1). This is said to contain what are often known as 'knowledge-based services'. They are used mainly by producers and include FIRE and business services. These services are concerned with the collection, generation, storage, retrieval and processing of computerised knowledge and information. Research and development (R and D) is perhaps the most widely recognised component of this relatively new quaternary sector.

A further complication is provided by what is often referred to as the **informal sector** (see 4.3.3). In fact, the activities of this 'sector', whilst they are mainly of a service kind, also extend to the secondary or manufacturing sector.



The sector model

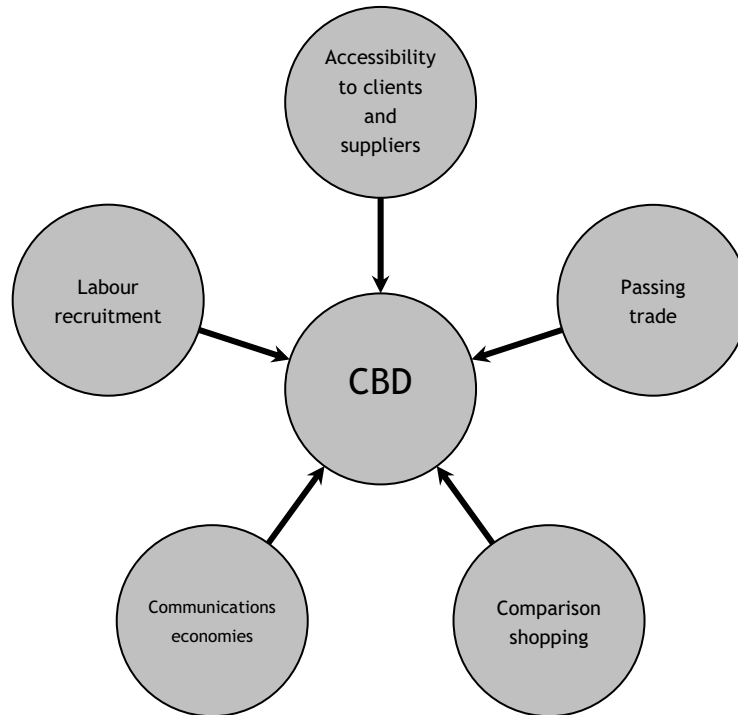
Finally, the point needs to be made that the relative importance of the sectors changes with economic development. In the pre-industrial stage, the primary sector is the most important. During the next stage, the secondary sector rises to prominence. Eventually, however, in the post-industrial stage, the tertiary or service sector becomes dominant. Its growth reflects, among other things, the greater personal spending on services that comes with development (see 4.4.1). This, in turn, encourages the provision of a widening range of diverse services.

Exercises

1. Check whether all the seven service groupings are represented in your home town or city.
2. What do you think is the significance of the frequency with which a service is used?
3. Taking information from 4.1.1, mark on the sector model what you think is Bangladesh's present position
4. Find out what is meant by 'post-industrial'.

4.3.2 The location of services

Most of the services described in 4.3.1 are located and concentrated in towns and cities. More particularly, they tend to be clustered in the centres so as to define what is referred to as the **central business district (CBD)**. There are five related reasons for this.



Factors encouraging the concentration of services in town and city centres

Services have to be **accessible** to clients and suppliers. Many of the people they serve live in rural areas. Rather than having services scattered uneconomically across the countryside, it makes sense to concentrate them in locations that can be reached from quite large surrounding areas. In this respect, they cannot do better than to locate in towns and cities. Why do they locate in towns and cities? The answer is that most towns and cities are nodal points in transport networks.

There is another side to this concentration of services. The greater the clustering, the more people are going to be persuaded to visit, particularly if they are able to use several different services during a single visit. Clustering also encourages what is called **casual business** or **passing trade**. For example, a person goes to town to pay money into the bank. As they walk from the bus terminal to the bank they pass shops. Suddenly, their eye is caught by a bargain and, in no time at all, they have bought something that they had no intention of buying when they left home. So, in this sense, different businesses can share the benefits of being clustered.

One thing many service clients like, particularly shoppers, is to be able to look around and compare products and prices. This is known as **comparison shopping**. Again, this is possible when shops cluster. The same principle applies to other services.

There is quite a large volume of business between services. For example, there are many transactions between banks and insurance firms and between advertising agents and the media. Often these transactions rely on face-to-face meetings, which can take place easily only if the businesses are located close to each. Again, a town or city centre provides a suitable location. There are what are called **communications economies**.

Finally, it is important to remember that these services are labour-intensive. They require a large number of workers. Clearly, towns and cities with their large populations are able to supply much of the required labour. But more often than not, urban services will also recruit some of their workers from the surrounding countryside and villages. This leads us back to the first point concerning accessibility. The transport links of a town or city centre make recruitment (whether employees are local residents or commuters) that much easier.

There is one more important point to make about the location of services. We need to look again at the idea of a settlement hierarchy (see **3.3.1**). There is a relationship with settlement size – the larger the size of a settlement, the more services it will have. There are more customers within the settlement and, a large settlement may also provide services for a large surrounding area.

There is a second aspect to this relationship. As we move up the settlement hierarchy, say from city to regional capital, there will be more shops, banks etc. The range of services will also become wider and will include an increasing number of specialist services. Sitting at the top of the hierarchy is Dhaka – the primary service centre in Bangladesh. Some services are so specialist that they are found only in Dhaka and people have no choice other than to travel to the capital, no matter where they might live.

Exercises

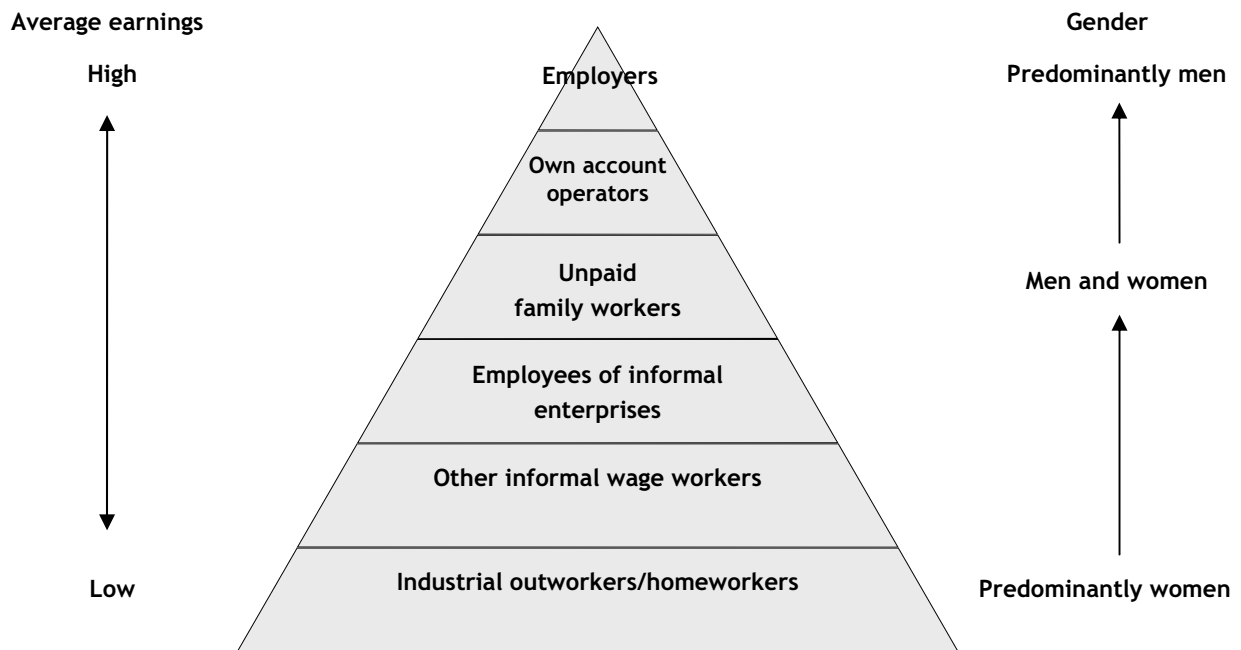
1. Why is accessibility important in explaining the concentration of services in the central areas of towns and cities?
2. Give some examples of specialist services that are found in settlements towards the top of the settlement hierarchy.

4.3.3 Informal activities

In a country such as Bangladesh, where there is surplus labour and consequent **underemployment** (people work less than full time even though they would prefer to work more hours), people must find ways of making a living outside the normal job market (see 4.2.5). This might involve selling matches or shoelaces on the street, ice-cream vending, shoe shining, rubbish collecting or scavenging bottles and other types of waste for recycling. These ways of making a living might be added to by begging, petty crime or prostitution.

This type of employment is an important part of the economy of many large cities around the world. Bangladesh is no exception. This part of the economy is sometimes known as the **informal sector**. The term 'sector' is slightly misleading because it does not stand as a sector in its own right alongside the conventional economic sectors – primary, secondary, tertiary and quaternary. It does, however, fall mainly within the tertiary sector since many of the activities are of a service kind. It might be more appropriate to refer to it as the **informal sub-sector**.

An interesting group of informal activities falls under the heading of **paratransit** or **informal transport**. These arise from the inadequacy of transport, particularly in towns and cities. They usually take the form of minibuses, hand-drawn and motorised rickshaws, scooters and pedicabs (tricycles used as taxis). Whilst these paratransit modes flourish because they are meeting a demand for transport, they frequently add to the problem of congestion on already busy roads.



Gender differences within the informal sub-sector

Within the informal sub-sector, it is possible to recognise, as shown by the diagram, distinct groups of workers: employers, home workers, industrial outworkers, own account workers and waged workers. In Bangladesh, as elsewhere, there are significant differences between these groups when it comes to wages or earnings. Employers earn most, home workers the least. There are also noticeable gender differences between the groups. The employer group is predominantly male; the home worker group predominantly female. In the other two groups, there is a balance between men and women.

In Dhaka alone it is estimated that there are nearly half a million children involved in informal activities. Most of them work from dawn until dusk, earning on average 14 taka a day to help support their families (see 4.2.5). Their jobs range from beggars and scavengers (or rag pickers) to domestic servants and money collectors on tempos and other forms of mini-transport. These children work in vulnerable conditions, exposed to hazards including street crime, violence, drugs, sexual abuse, toxic fumes and substances, without adequate safety protection and carrying heavy loads. The children often suffer extremely poor health due to their working conditions. This leads to serious health and developmental problems.

It is recognised that these informal activities may have some benefits. For example, they provide a wide range of cheap goods and services that would otherwise be out of reach for many people. They also allow average wages to be kept low. This, in turn, means that transnational corporations are not persuaded to look elsewhere for cheap labour. Despite these benefits, it is also recognised that one of the effects of informal rather than formal employment is increasing poverty, particularly in urban areas (see 3.4.3). Informal jobs do not break the cycle of poverty. Other associated problems include:

- insecurity in terms of work and income
- high exposure to work-related risks
- no health, disability, unemployment or life insurance
- uncertain legal status
- few rights or benefits
- lack of organisation.

Clearly, there is a serious downside to informal activities. However, poverty is such that many are driven to accept these considerable costs.

Exercises

1. Make a list of the informal activities that you can see in the area around your home.
2. Explain why informal activities relieve rather than reduce urban poverty.

4.3.4 Transport networks

Transport, the movement of people and commodities from place to place, is vital to economic development. It is often confused with communications. **Communications** are the means by which people contact each other to exchange ideas or information. The growth of information and communications technology (ICT) has greatly increased the importance of communications in drawing people, places and businesses closer together as part of the global community (see 4.4.3).

It is impossible for a country to survive in today's world without good transport connections. These have to be at two scales. Firstly, there is **international transport** that provides links with the outside world, particularly by air and sea. Bangladesh has three international airports (Dhaka, Chittagong and Sylhet). In the year 2000, the two main seaports, Chittagong and Mongla, handled 14.8 million tonnes of international trade.

Equally important is domestic transport which links the different parts of a country. Good domestic transport networks help to create national unity, as well as being important for economic reasons. Let's take a brief look at each of the main modes of transport within Bangladesh – waterways, railways, roads and airways.

Inland waterways

The waterways of Bangladesh spread throughout the country to create a 'natural' transport network. Waterways were the original transport network and they are still a vital part of the national transport system. There are almost 8400 km of inland, navigable waterway – a combination of innumerable rivers and canals. Out of the total waterways, around 5000 km remain navigable throughout the year; the remaining 3000 km can be used only during the rainy season. Among the river ports, Dhaka, Narayanganj, Goalanda, Barisal and Khulna are particularly important.

The inland waterways are valuable in the movement of heavy or bulky goods. For example, much of the jute crop is carried in this way to inland markets and seaports. Sand, gravel, cement and timber are other commodities carried in large quantities by the waterways. Around 1.6 million tonnes of cargo is transported each year. Passengers too are carried in considerable numbers, roughly 2.25 million per year.

The overriding attraction of inland waterways is that they provide cheap transport. However, there is a downside. For example disadvantages as slowness, the cost of keeping channels navigable by frequent dredging, the limited number of ghats and jetties and the poor safety record. On the other hand, we need to recognise that the boats on the inland waterways provide an invaluable ferry service. Where bridges cannot be built, ferries help overcome the barrier effect of rivers and link together stretches of road.

Railways

The railway network is state-owned and involves 2745 km of track. Trains operate over 60 routes on two distinct gauges – broad and one-metre wide. The latter gauge accounts for two thirds of the network. At present, the overall network carries about 40 million passengers a year and nearly four million tonnes of goods.

The railway network is not in good condition. The engines and rolling stock are old and frequently break down, with long stretches of track poorly maintained. Railways are important in moving bulky goods and should not be allowed to run down completely. In addition, the network reaches and serves much of the country. During times of severe floods, roads are often more frequently dislocated than the railway. As a result, the railways play an important role in distributing emergency help and generally managing the disaster.

Roads

Since Independence, much has been done to extend and improve the road network. The national system now has 25,000 km of paved road and there has been an enormous increase in truck, bus and private car traffic. All the big towns and cities have extended their network of metalled roads. When it comes to moving people and goods within urban areas, road transport is by far the most used form of transport, ranging from the rickshaw to the articulated lorry. In areas where there is no river or rail transport, roads provide the necessary links.

Perhaps the worst aspect of the roads is the degree to which the network is disrupted by Bangladesh's rivers. Where it is impossible or too costly to build bridges, ferries have to be relied on adding to journey times. Roads are much more prone to flood damage and disruption than the railway. The relatively low cost of road transport is constantly rising due to increases in the cost of fuel.

Airways

There are 11 airports in Bangladesh which operate domestic services – Dhaka, Chittagong, Jessore, Rangpur, Sylhet, Comilla, Cox's Bazar, Thakurgaon, Syedpur, Rajshahi and Barisal. Although a costly mode of transport, internal air routes have contributed greatly to the opening up of remote areas. For example, the Dhaka-Rajshahi flight takes only one twentieth of the time it takes to travel between the two cities by rail. The great advantage of air transport is that, unlike road and rail, it is not hindered by the many rivers that characterise Bangladesh. The airways are used for the quick movement of people, post and perishable goods.

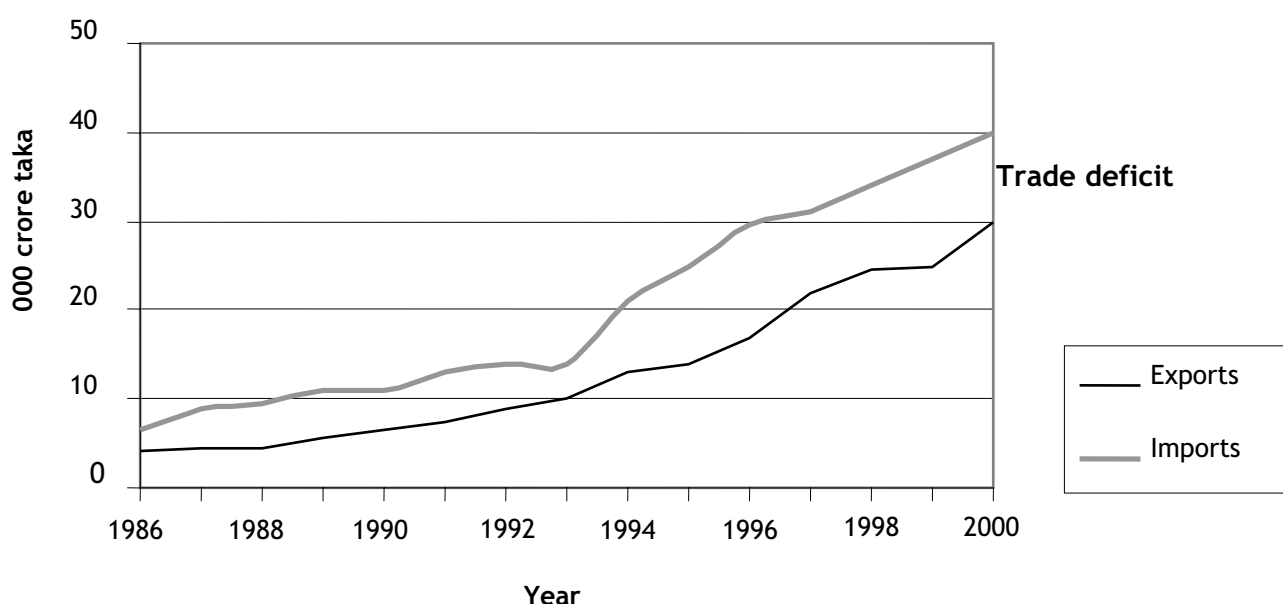
Exercise

Make a two-column table and for each of the four modes of transport, list their advantages and disadvantages.

Is one mode better than all the rest?

4.3.5 International trade

The prosperity of Bangladesh, as with any other country, depends on its international trade: selling to and buying from other countries. Sales are referred to as **exports**, purchases as **imports**. What is critically important is the ratio of exports to imports – the **trade balance**. If a country sells (exports) more than it buys (imports), then the balance of trade is described as **favourable**. It is a good situation for a country because there is more money coming into the country than is going out; there is a **trade surplus**. If, however, the situation is reversed with imports exceeding exports, then the trade balance is **unfavourable**. There is a **trade deficit** because more money is being paid out than is being received. Unfortunately for Bangladesh, the graph below shows that its balance of trade has been unfavourable for a long time. In fact, it has been that way ever since Independence. In 2007, the trade deficit amounted to \$US4.5 million.



Bangladesh's balance of trade (1986-2000)

Let's look at both sides of Bangladesh's trade situation. As for exports, the main commodities are shown in the table below.

Export commodity	Per cent of exports (by value)
Ready-made garments	22.5
Prawns and shrimps	5.9
Leather and leather goods	4.4
Jute goods	2.9
Raw jute and jute yarn	2.0
Tea	0.4
Others	61.9

Bangladesh exports (2000-2001)

There are two important points to note about the commodities that make up Bangladesh's exports:

- they reflect the recent fortunes of key industries (see 4.2.1), namely the decline of the jute industry (jute and jute products were for a long time the number one export) and the rise of the garment industry
- most of Bangladesh's exports involve small quantities of a lot of commodities, ranging from tea and spices to handicrafts and paper.

The main buyers of Bangladesh's exports are the USA (24 per cent), Germany (12 per cent), the UK (10 per cent), France (5 per cent), the Netherlands (4 per cent) and Italy (4 per cent).

The make up of Bangladesh's imports is shown in the table below.

Import commodity	Per cent of imports (by value)
Textiles	26.2
Machinery	15.8
Mineral products	8.2
Chemicals	8.1
Cereals and other	6.8
Vehicles	6.8
Others	28.1

Bangladesh's imports (2000-2001)

Basically, imports are a mix of raw materials and manufactured goods. What is perhaps surprising is the inward shipments of textiles (both raw cotton and manufactured goods) and cereals (wheat and rice). The imports come mainly from China (18 per cent), India (13 per cent), Japan (seven per cent) and Singapore (five per cent).

We can say that the pattern of Bangladesh's international trade is essentially one of exporting to the USA and Europe and importing from elsewhere in Asia. The country's trade links are global. The key question is – how can the country turn its present balance of trade from unfavourable to favourable? The answer lies in economic development (see 4.4.1).

Exercises

1. Show the data in the two tables in the form of appropriate diagrams.
2. Can you explain why only 0.4 per cent of Bangladesh's exports go to India, and yet 13 per cent of its imports come from there?
3. Suggest reasons why Bangladesh's imports come mainly from Asia.
4. What sort of developments in Bangladesh might help to change the balance of trade?

4.4 Development

4.4.1 The development process

What does ‘the development of Bangladesh’ actually mean? It is a much-used phrase these days.

Development is the use of resources and available technology to bring about an increase in the standard of living within a country. It is therefore a process of change that allows countries to become more prosperous.

The development process is complex, involving a number of different strands. Many believe that at the heart of development lies economic growth. This provides the power that drives all other aspects of development, such as:

- meeting the basic human needs of food, water and shelter
- encouraging social justice, equal opportunities and freedom of speech
- reducing poverty, ignorance and disease.

As individuals we hope that development will lead to a better quality of life and a chance to fulfil our potential. In short, improved **wellbeing** for all.

The economic growth that drives development is generated by the exploitation of natural resources. But for that to happen, two critical things are needed: the human resources of an enterprising workforce and technology. Whilst agriculture is an important part of the economy, economic strength comes more from:

- the secondary and tertiary sectors (see 4.1.1)
- international trade (see 4.3.5)
- involvement in economic globalisation (see 4.4.3).

The issue of how best to measure development is discussed in 4.4.2. For the moment we just need to know that the World Bank classifies all countries according to four categories based on per capita income (see the table below).

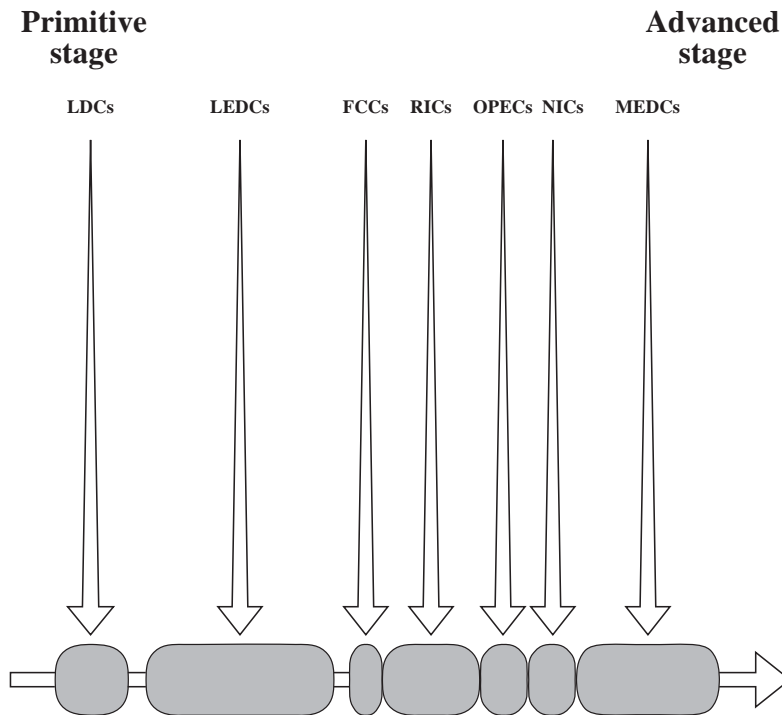
Category	Per capita income (\$)	Sample countries
Low income	935 or less	Bangladesh, Myanmar, Pakistan
Lower middle income	936–3705	China, India, Sri Lanka
Upper middle income	3706–11,455	Malaysia, Saudi Arabia, S Korea
High income	11,456 or more	Australia, Japan, Singapore

World Bank development classification

You may come across other classifications of countries. For example, the distinction is often made between **LICs** (low income countries) and **HICs** (more economically developed countries). Some classification systems also recognise **LDCs** (least developed countries) – a small group made up of the world’s poorest countries (for example Ethiopia and some other African countries). These align roughly with the World Bank scheme. The LDCs and LICs make up the low income and lower middle income countries, while the HICs are the high income countries.

That leaves the World Bank upper middle income countries. There are three or possibly four different groups involved here:

- **OPECs** – the oil and petroleum exporting countries (for example Saudi Arabia)
- **NICs** – newly industrialised countries (for example South Korea)
- **RICs** – recently industrialising countries (for example India)
- **FCCs** – the former communist countries (for example Russia); some of these are ranked today as lower middle income.



The development pathway

So we might think of development as a pathway (see the diagram above) that leads from being an LIC (low income country) to becoming an HIC (high income country). In between, there are a number of critical points (for example RIC and NIC). Countries vary in terms of the progress they make along the pathway – some move quite quickly and reach the end, whilst others move more slowly, and some may never become HICs.

What does Bangladesh need to do to progress along the development pathway? The short answer is that it needs to concentrate on expansion of its economy.

Exercises

1. Make a list of all the things that you think are a part of development.
2. Put the following countries into what you believe to be their correct World Bank category: Afghanistan, Bhutan, Hong Kong, Iran, Nepal, Thailand and Vietnam.
3. What needs to be done to make Bangladesh's economy grow?

4.4.2 Measuring development

Having identified the essential character of development, how is a country's state of development best measured? Each year the World Bank reports on the state of development in all countries. It uses the following set of **development indicators**:

- GNP (gross national product) per capita – that is the total value of a country's economic output in a year divided by the total population
- the balance of payments – the degree to which the trade balance is favourable or unfavourable
- energy consumption per capita – this rises with development
- the number of people per doctor
- life expectancy
- adult illiteracy – the percentage who cannot read and write.

These are quite a mix of indicators but they reflect the fact that development involves a number of different strands. The importance attached to economic growth is evident in the first three indicators. As we have seen in 4.4.1, the World Bank uses the first indicator to produce its fourfold classification. The last three indicators are more to do with social conditions, particularly health and education.

Development indicator	Bangladesh	India	Malaysia	Japan
Adult illiteracy (per cent of population)	64	48	16	0
Life expectancy (years)	61	61	70	79
People per doctor	12,884	2459	2441	608
Infant mortality (per 1000 live birth)	64	59	23	4
Food intake (calories per day)	2019	2395	2888	2903
Human development index	0.547	0.619	0.811	0.953

Some international comparisons using social indicators

Let's concentrate more on the social aspects of development. How does Bangladesh measure up? How does it compare with countries in the other three categories of the World Bank economic classification? How does it compare with the following Asian countries?

- India – a lower middle income country
- Malaysia – an upper middle income country
- Japan – a high income country.

The first five indicators in the above table are straightforward, but the **human development index** (HDI) needs a little explanation. It is widely used in making international comparisons. It is a multiple measure that takes into account per capita income, adult literacy and life expectancy. Index values can range from 0 (undeveloped) to 1 (completely developed).

All these indicators, however, have one serious limitation. They are national averages only. They do not tell us about the developmental differences that might exist within a country, between different regions or between different groups of people (for example rich and poor).

The simple message that we can see from the above table is that, in terms of development, Bangladesh has a long way to go. That is not meant to be a negative statement but should be seen as a positive challenge. There are a number of problems that Bangladesh has to tackle, including the:

- heavy burden of frequent and serious natural hazards (see 2.4)
- high rate of population growth (see 3.1.1)
- shortage of industrial raw materials and energy (see 4.2.4)
- shortage of modern technology and skilled labour (see 4.2.5).

All these problems can be conquered, except possibly the first, one which would mean a better showing in terms of development indicators. More importantly, there would be the promise of a better future – but would all the citizens of Bangladesh share in that future?

Exercises

1. Why does development normally increase energy consumption?
2. Apart from the human development index, which of the indicators in the table do you think is the best? Explain your choice.
3. Make a list of what you think are the benefits of development.

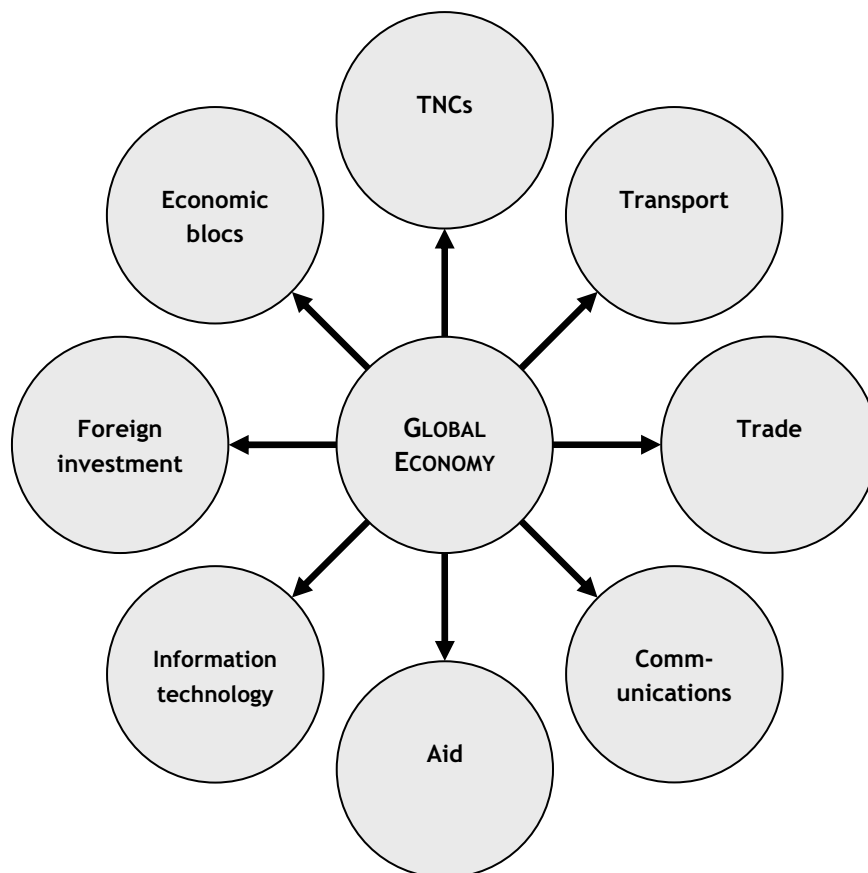
4.4.3 Economic globalisation

Economic globalisation is a topic discussed today in almost every country of the world, because it is a process that now reaches virtually every corner of the globe. It is drawing countries together in economic terms. No country can afford to be outside this growing global, economic community.

What are the signs that Bangladesh may be getting involved in economic globalisation? There are a number:

- big foreign companies are becoming involved in the production of primary commodities such as tea, jute and natural gas
- new factories are being set up to produce goods that are sold both in Bangladesh and overseas
- foreign manufactured goods are being imported
- Bangladesh receives foreign aid; some of this is used to set up development projects such as dams and electric power stations
- Bangladeshis are emigrating to find work in other countries (for example the UK)
- each year more foreign tourists are visiting Bangladesh's tourist attractions (for example Cox's Bazar).

These features confirm that Bangladesh's economy is becoming tied up with the global economy.



Factors behind economic globalisation and the growth of the global economy

The above examples and diagram allow us to look at the process in a little more detail. The major players are the **transnational corporations (TNCs)**. They are very large companies with factories and offices in a number of different countries, all controlled from headquarters (HQs) mostly located in HICs, such as Japan, USA and the UK. Their business interests are wide and varied. For example:

- they are involved in the research and development (**R and D**) of new commodities (for example mobile phones) and services (for example call centres)
- they are investing in setting up new factories and offices in low-cost locations to tap into local markets and at the same time produce goods and services for markets around the world. The cheapness of labour is a critical consideration
- they are involved in the production of primary products, from industrial raw materials (for example jute) and energy (for example oil) to fresh fruit and vegetables for supermarkets in HICs.

Whichever business they are in, TNCs are driven by one thing – to make as much profit as possible from the expanding global economy.

Transnational companies have been helped by three major strides in technology:

- advances in **transport** – people and commodities can now be moved quickly and cheaply over long distances
- advances in **communications** – these mean that HQ staff can be constantly in touch with employees and businesses around the world
- advances in **information technology** – computers are now capable of storing and analysing huge quantities of information used in making important decisions about production and marketing.

The spread of economic globalisation is also tied up with a more general growth in **international trade** and **foreign investment**. **Foreign aid** (for example the backing of development projects) and membership of regional **trade blocs** (for example ASEAN) also play a part.

Bangladesh is starting to enjoy some of the benefits (for example more jobs, wider markets) of economic globalisation. If it wishes, however, to develop at a faster pace, then it will need to become even more involved in the global economy. To do this might require taking some unpopular steps, such as:

- welcoming more TNCs into the country
- producing more for export than for consumption in Bangladesh
- buying cheap foreign goods rather than local manufactures
- becoming more involved in regional trading blocs.

This could mean that the cost of economic growth and prosperity is that Bangladesh loses its economic independence. In this respect, Bangladesh would be no different from any other country.

Exercise

Find out:

1. The names of some TNCs operating in Bangladesh. What are their business interests in the country?
2. About a development project in Bangladesh that has been supported by foreign aid.
3. The names of regional organisations of which Bangladesh is a member.

4.4.4 Divisional differences

The two previous topics have looked at development at a national level. National averages can often hide the fact that significant differences in development exist within a country. The level of development can vary from place to place (ie regionally) and from one social or ethnic group to another.

Here we are concerned only with how development varies from place to place within Bangladesh. The most striking contrasts in development are between urban and rural areas – hence the large volumes of rural-urban migration (see 3.2.3). The main differences in development between rural and urban areas are to do mainly with job opportunities and better services (such as schools and colleges). Employment and education are regarded as providing a ‘gateway’ to a better life. Urban development does have its downside – poor and unsanitary housing, bad environmental pollution and disease.

Development contrasts also exist between the six regional divisions of Bangladesh. These were suggested by the population differences that came to light in 3.1.4 and 3.1.5. Unfortunately, there are few official statistics available to help us to compare the six divisions.

Measure	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet
Per cent of national land area	10	23	21	13	24	9
Per cent of national population	8	18	26	13	28	7
Population density (persons per sq km)	610	711	1 243	650	869	627
Per cent share of working population	10	18	31	13	23	5
Adult literacy (per cent)	55	43	43	46	41	39
Per cent urban	19	30	30	25	15	2

Some indicators of divisional differences in Bangladesh

The information in the table above shows that there are some differences in development between the regional divisions. Differences will always exist as no two places are exactly the same. In Bangladesh’s case, significant elements are differences in:

- relief and drainage – compare the flood plains of Dhaka with the hilly country of Chittagong
- climate and soils – compare ‘food basket’ Rajshahi with Khulna and its mangrove swamps
- the resource base – compare mineral-rich Sylhet with mineral-poor Khulna
- importance of the three economic sectors – whilst agriculture is the most important in all divisions, the cities of Chittagong and Dhaka are major centres of manufacturing and services
- urbanisation – four divisions have metropolitan cities; Barisal and Sylhet do not and for this reason are less urbanised.

At the moment, these differences are not great. They could become a major issue if and when:

- the pace of development increases
- transport is improved and people become more mobile.

What will happen is that parts of the country, such as the surrounding areas of Dhaka and Chittagong, will become development hotspots. They will attract many of the new businesses and more people. At the same time, remoter parts of the country (such as the Hill Tracts) will lose out as people are drawn away by the opportunities elsewhere. In short, differences in levels of development will increase. The development pattern of Bangladesh will then show what is known as a **core-periphery** structure. The **cores** are the strong and rapidly developing areas (the winners); the peripheries are the remoter areas which slip behind (the losers). It is likely that there will be more rivalry between the divisions, as each one struggles to claim its share of the development action.

Exercise

Can you identify any differences in development within your home division?

If 'yes' – what are those differences? How have they come about? Do they pose any particular problems?

If 'no' – look again!

4.4.5 Making it sustainable

Although Bangladesh is not yet very far along the development pathway (see 4.4.1), development has already made some unfavourable marks on the environment (what is called the **human or ecological footprint**):

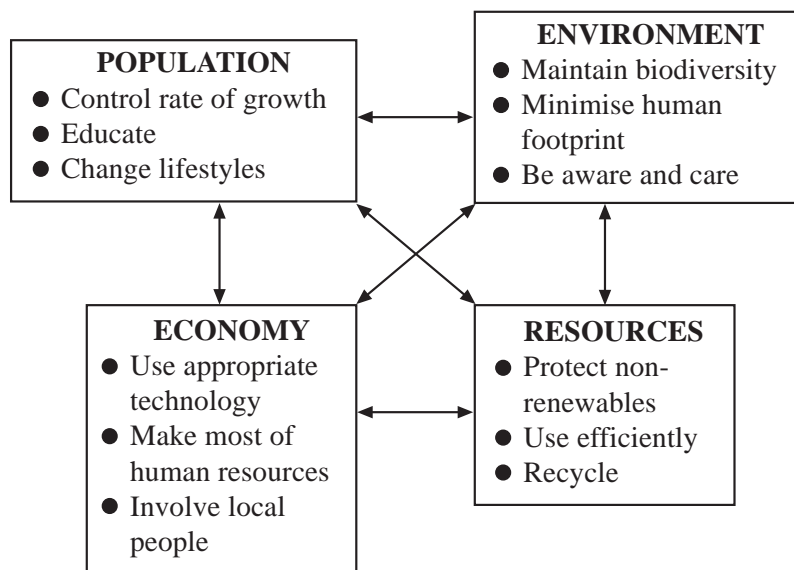
- pollution of rivers and groundwater
- pollution of the air by factory smoke, open fires and motor vehicle exhausts
- loss of biodiversity through the felling of primary forests for timber; the destruction of wildlife habitats
- exploitation of non-renewable resources, particularly oil and natural gas.

Some of this environmental damage has serious knock-on effects for people. Just think of the health problems that result from pollution.

If the things listed above are the environmental costs of Bangladesh's present level of development, then the worry is how bad they will become when development really takes off. One way to address the problems caused by development is to promote what is called **sustainable development**. It is a form of development that meets the needs of people today and future generations. It is development that minimises the human footprint.

Sustainability is like having a bank account or investment that produces interest. If we live off the interest, not the capital, then the future will be secure (sustainable). If we live off the capital, however, it will gradually disappear altogether.

The diagram below shows that sustainable development has four key elements which are closely linked.



Key elements in sustainable development

Let's look at each of the elements and see what is needed in order to make development more sustainable.

Population

- Cut the rate of population growth and ensure that population growth does not outstrip resources.
- Educate people, particularly about the scarcity of resources and the need to protect the environment.
- Persuade people to change their lifestyles – to waste less.

Resources

- Remember that non-renewable resources will run out one day.
- Use all resources as efficiently as possible – cut out waste.
- Encourage people to recycle waste (for example paper, glass, metal, plastics) as much as possible.

Economy

- Use appropriate technology – the latest technology is not always the best; give serious thought to tried and tested methods.
- Make the most of human resources.
- Be sure that economic decision makers take into account the interests of local people and local areas. This is difficult in the era of economic globalisation and TNCs.

Environment

- Maintain biodiversity – protect endangered plant and animal species.
- Minimise the human or ecological footprint (ie environmental damage).
- Be aware of, and care for, the environment.

Sustainable development is not always the cheapest form of development. In which case, the situation becomes more difficult for poorer countries such as Bangladesh. Equally, there are actions that even the poorest countries can take to make matters more sustainable. It is perhaps in the population element of the diagram that two of the most effective actions can be taken:

- checking population growth by family planning
- educating the young in why it is so important to protect the environment and conserve resources.

Exercises

1. Explain the link between environmental pollution and illness.
2. In your own words, explain each of the following terms: ‘the human footprint’, ‘sustainable development’.

Appendix 1

Glossary

This glossary covers over 200 terms. It contains terms used in setting out the essential content of the three sections. It is hoped that students will become familiar with and understand them.

Words in **bold** within each entry indicate that those terms are covered elsewhere in the glossary.

abstraction	Removal of water from rivers, lakes or groundwater for human use.
accessibility	The ease with which people can get to a particular place.
affluence	The general level of prosperity enjoyed by a population.
age-sex pyramid	A diagram showing population structure.
agro-forestry	Combining agriculture and forestry, as in the planting of windbreaks in areas suffering from wind erosion or growing trees for fuel.
aid	Help provided by more wealthy nations (HICs) to less well-off nations (LDCs and LICs), mainly to encourage development .
alternative energy resources	Solar, tidal and wind power; sources of energy that are renewable and offer an alternative to fossil fuels .
appropriate technology	Know-how and equipment, provided as part of aid programmes, that are suited to the basic conditions prevailing in the receiving country.
aquaculture	The use of waters, particularly lakes, ponds and artificial tanks, to raise and harvest fish and plants for food. Also known as fish farming.
arable farming	A type of agriculture in which the emphasis is on the growing of crops.
atmosphere	The mixture of gases, predominantly nitrogen, oxygen, argon, carbon dioxide and water vapour, that surrounds the Earth.
bar graph	A diagram made up of bars that are drawn proportional in length to the quantities they represent.
base-level	The lowest level to which a stream or river can erode its valley.
biodiversity	The variety of species in an ecosystem .
biomass	The total amount of living material found in a given area.
built-up area	The artificial landscape of a town or city with its buildings, transport networks and urban land uses.

capacity (of a stream)	The load of a river at a particular time or location.
carnivores	Animals or plants that eat animals.
central business district (CBD)	The central area of a town or city dominated by shops, restaurants, cinemas, offices and hotels.
channel	The part of a valley floor occupied by the flowing water of a stream or river.
channelisation	The straightening, deepening, widening or lining of a river's course, mainly to reduce the risk of flooding.
choropleth map	A map that shows spatial information by means of a scheme of shadings (or colours) that represent different degrees of density, for example of population.
climate	Generalised or average weather .
commercial farming	The production of crops and livestock for sale.
commuter	A person travelling daily to and from a place of work located some distance from their home.
confluence	The meeting of a river and its tributary .
conservation	The protection of things such as wild animals and plants, their habitats, fine scenery, historic buildings, etc. This is because of a growing awareness of their amenity and value, and often because they are scarce or threatened.
conservative margin	A plate boundary where two tectonic plates are moving parallel to it but in opposite directions.
convective rainfall	Rain caused by uplift and the condensation of moisture.
counterurbanisation	The movement of people and jobs from major cities to smaller cities and towns or into rural areas.
cross-section	1) The profile revealed when a section is taken through a feature, such as across a valley. 2) A 'snapshot' or typical sample of society at a moment in time.
crude birth rate	The number of births in a year per 1000 of the total population.
crude death rate	The number of deaths in a year per 1000 of the total population.
cycle of poverty	A sequence of events experienced by disadvantaged people and areas in which one problem leads to another and so makes this worse.
cyclone see tropical cyclone	
decentralisation	The movement of people, shops, offices and factories away from city centres and the inner city towards suburban and edge-of-city locations.
delta	A low-lying area found at the mouth of a river and formed of material deposited by the river.
deforestation	The felling and clearance of forested land.

density	The number of things (people, houses, rivers, etc) per unit area.
dependency ratio	The number of children (aged under 15) and old people (aged 65 and over) related to the number of adults of working age (between 15 and 64).
deposition	The dropping of material that has been picked up and transported by rivers, wind or glaciers.
deprivation	The degree to which an individual or an area is deprived of services, decent housing, adequate income and local employment.
Developed World	This comprises the industrialised countries (HICs) of North America, W. Europe, Japan, Australia and New Zealand.
Developing World	A term used rather loosely (along with ‘developing country’ and LIC) to denote the relatively poor and less-developed countries located mainly in Africa, Asia and Latin America.
development	The progress of a country in terms of economic growth, the use of technology and human welfare.
development gap	The difference in standards of living and wellbeing between the world’s richest and poorest countries (between HICs and LDCs/LICs , between the Developed and Developing World).
discharge	The quantity of water that passes a given point on the bank of a stream or river within a given period of time.
distributary	A branch of a river that flows away from the mainstream and does not return to it, as in a delta .
dot map	A map showing the distribution of something (for example volcanoes, people) by the location of dots of uniform size.
drainage basin	The area drained by a river and its tributaries, bounded by a watershed .
drought	A long, continuous period of dry weather.
earthquake	A natural hazard caused by a sudden or violent movement within the Earth’s crust, often along a plate boundary , followed by a series of shocks.
ecological footprint	The impact on the environment of the human demands for water, energy, food, materials and waste disposal.
economic globalisation	The economic processes that are causing higher levels of interdependence between countries. These processes include trade , overseas foreign investment and aid . Transnational companies play an important role in promoting economic globalisation.
economic sector	A major division of an economy. Most commonly, four sectors are recognised: primary (agriculture, fishing, mining), secondary (manufacturing), tertiary (services) and quaternary (R and D, information processing).

ecosystem	An organic community of plants and animals interacting with their environment.
ecotourism	A form of tourism which aims to conserve fragile ecosystems and ensure that its benefits (jobs, income) are retained within the local area.
energy resources	The means of providing motive force, heat or light. They include electricity, gas, steam and nuclear power, together with fuels such as coal, oil and wood.
environment	The natural or physical surroundings where people, animals and plants live.
epicentre	The point on the Earth's surface which is directly above the focus of an earthquake .
erosion	The wearing down of the land by water, ice, wind and gravity.
ethnic group	A group of people sharing the same characteristics of race, nationality, language or religion.
evaporation	The changing of a liquid into vapour or gas at a temperature below its boiling point.
evapotranspiration	The transfer of water to the atmosphere by evaporation and plant transpiration .
exports	Items transported out of a country for sale abroad as part of its trade .
eye of storm	The calm area at the centre of a tropical cyclone (typhoon).
flood plain	That part of a valley floor over which a river spreads during seasonal floods.
focus	The point of origin of an earthquake .
food chain	A sequence in which organisms serve as the food for the next in the chain, as grass does for herbivores , and herbivores do for carnivores and humans.
forced migration	A movement of people caused by a push factor such as religious persecution or famine.
foreign investment	Undertaken by companies to extend their business interests overseas. It might involve creating a new source of raw materials (for example a mine), setting up a branch factory, opening new retail outlets or buying shares in a foreign company.
fossil fuel	Combustible materials made from the fossilised remains of plants and animals, for example peat, coal, oil and natural gas.
free trade	When trade between countries is not restricted by quotas , tariffs or the boundaries of trade blocs .

genetically modified (GM) food	Food coming from crops and livestock that have been genetically engineered to improve productivity and disease-resistance. The scientific techniques include either transferring genes from one organism to another or changing genetic materials within an organism.
ghetto	Part of a town or city containing a high proportion of one particular ethnic group .
global warming	A slow but significant rise in the Earth's temperature. It may be caused by the build up of excessive amounts of carbon dioxide in the atmosphere which increase the greenhouse effect .
globalisation	See economic globalisation .
green belt	A mainly rural area around a city in which development is strictly controlled to prevent the further outward spread of the built-up area and two neighbouring towns from coalescing.
green revolution	The application of modern farming techniques in developing world countries. This includes particularly the cultivation of high-yielding varieties of crops, the use of fertilisers and pesticides, water control and the introduction of machinery. Whilst it has done much to raise food production, there have been costs such as environmental damage, rising farmer debt and increased rural-urban migration .
greenfield site	A plot of land in a rural area that has not yet been subject to any urban development.
greenhouse effect	The warming of the Earth's atmosphere because pollution is preventing heat from escaping into space.
greenhouse gases	Carbon dioxide and other gases absorbed into the Earth's atmosphere – a cause of global warming .
gross domestic product (GDP)	The total value of goods and services produced by a country during a year. When expressed as per head of population (per capita), it provides a widely-used measure of national prosperity and development .
groundwater	Water held below the water table .
heavy industry	An industry involving large quantities of materials, such as steel making, shipbuilding and petrochemicals.
herbivore	An animal that obtains most of its food from eating plants.
HIC	An abbreviation of 'high income country'. One of a number of terms (along with 'developed country') used when referring to the countries of the First World .
high-tech industry	Manufacturing involving advanced technology, such as the making of microchips and computers. It also includes genetic engineering, communications and information technology.
honeypot	A place of particular appeal and interest that attracts large numbers of visitors.

human development index (HDI)	Used as measure of development in a country and for making international comparisons.
hydrograph	A graph on which variations in a river's discharge are plotted against time.
hydrological cycle	The unending movement of water between land, sea and atmosphere.
impermeable	Rocks that do not allow water to pass through them.
imports	Goods and services brought into a country from another as part of trade .
industry	Any form of economic activity.
infiltration	The movement of water from rain or melting snow into the ground.
infant mortality	The average number of deaths of infants under one year of age per 1000 live births per year.
informal sub-sector	This is largely made up of jobs over which there is little or no official control. It includes jobs such as childminding, domestic cleaning and street vending.
inner city	That part of the built-up area close to the CBD , often characterised by old housing, poor services and brownfield sites .
interdependence	The drawing together of the countries of the world by the processes of economic globalisation .
intermediate technology	The simple, easily learned and maintained technology used in a range of economic activities serving local needs in LICs.
irrigation	The supply of water to the land by means of channels, streams and sprinklers in order to permit the growth of crops in dry areas or at dry times of the year.
isopleth	A line drawn on a map joining points of equal value, as on a contour map or a weather chart showing temperatures (isotherm) or rainfall (isohyet).
LDC	An abbreviation of 'least developed country' – one of the world's poorest countries.
LIC	An abbreviation of 'low income country'. One of a number of terms (along with 'developing country') used when referring to the countries of the Third World .
levee	A bank of sediment formed along the edge of a river channel deposited by floodwater.
life expectancy	The average number of years a person might be expected to live.
light industry	The manufacture of products that are light in bulk and use small amounts of raw materials.

line graph	Used to plot the relationship between two variables, as between population and time.
load	The materials transported by a stream or river.
location	The position or place in the world occupied by a particular object. Usually measured in terms of latitude and longitude.
malnutrition	Ill-health resulting from a diet that is inadequate in terms of either quantity or vital minerals and vitamins.
meander	A pronounced bend in a river.
migration	The permanent or semi-permanent movement of people from one location to another.
million city	A city with a population exceeding one million.
mixed farming	A type of commercial agriculture concerned with the production of crops and the rearing of livestock on one farm.
monsoon	A seasonal reversal of wind direction resulting in alternate wet and dry seasons.
multiplier effect	The consequences or repercussions of a particular action or decision.
natural hazard	A natural event (for example earthquake, flood, landslide, volcanic eruption) that threatens or causes damage, destruction and death.
natural increase	A growth in population produced when the crude birth rate exceeds the crude death rate .
natural resource	Anything that occurs in a natural state and that is useful to people.
network	A set of interlinking lines (rivers, roads, railways, etc).
NIC	An abbreviation of ‘newly industrialising country’. A term used to describe certain countries (mainly in South East Asia) which over the last 30 years have show high rates of economic development .
non-renewable resource	A material that cannot be restored after use. Examples include fossil fuels and minerals.
overgrazing	Putting too many animals on grazing land so that the vegetation cover is gradually destroyed.
overpopulation	More people living in an area than can be supported by it.
oxbow	A crescent-shaped lake formed when a river breaks across the neck of a well-developed meander .

pastoral farming	A type of agriculture concerned mainly with the rearing of livestock, for meat, milk, wool or hides.
peak flow	The maximum discharge of a river after heavy precipitation .
perception	The way in which an individual or group views and evaluates a particular situation or environment .
percolation	The process by which water moves downward through rock.
permeable	The quality of rocks and deposits that allows water to pass through them.
pie graph (diagram)	A diagram in which a circle is divided into sectors. The circle represents the total values; the sectors are proportional to each value expressed as a percentage of the total.
plate boundary	The line separating two adjacent tectonic plates .
pollution	A condition when environments (particularly air and water) become adverse to the normal existence of living organisms. Sources of pollution range from sewage outflows and agricultural fertilisers to factory chimneys and motor vehicle exhausts.
population structure	The make up of a population in terms of the age and sex of its people.
porous	The ability of rocks and deposits to hold water.
precipitation	The deposition of moisture on the Earth's surface, in the form of dew, frost, rain, hail, sleet or snow.
primary sector	See economic sector .
pull factor	Something that attracts a migrant to a new location (for example freedom, a better job).
push factor	Something in the home area that forces or persuades a migrant to move away (for example persecution, poverty).
quality of life	Similar to welfare , but more about personal satisfaction, happiness and security . Part of wellbeing .
standard of living	See welfare and wellbeing .
quaternary sector	See economic sector .
quota	A limit imposed on the quantity of goods produced, purchased or sold, as often applies in international trade .
recycling	The re-use of resources. The collection of waste materials (paper, glass, metals) and their conversion into new and useful products.
redevelopment	When applied to the built-up area , it means demolishing all existing buildings and starting afresh.
refugee	A person who flees their country to avoid war, the threat of death, oppression or persecution.

relief	The physical shape of the Earth's surface, its mountains and valleys, plains and plateaus.
remittances	Money sent back home to family and friends by people living or working abroad.
renewable resource	A resource which is not diminished when it is used; it recurs and cannot be exhausted (for example wind and tidal energy).
resource	Something which meets the needs of people.
Richter scale	A scale, ranging from 0 to 10, used in measuring the magnitude of earthquakes .
risk assessment	Judging the amount of damage an area might expect from any given natural hazard .
runoff	The amount of water leaving a drainage basin over or through the ground.
rural-urban fringe	A zone of transition between the edge of the built-up area and the surrounding countryside.
rural-urban migration	The movement of people from the countryside into towns and cities; an important part of urbanisation .
salinisation	The build up of salt 1) at or near the surface of a soil by evaporation, and 2) in coastal areas where sea water seeps into the groundwater .
scale	The relationship between a distance on a map or plan and the corresponding distance on the ground.
secondary sector	See economic sector .
seismograph	An instrument used for measuring the occurrence and magnitude of an earthquake 's shock waves.
services	A range of activities making up the tertiary economic sector.
settlement hierarchy	A grouping of the settlements of an area according to any one of a number of criteria, including population size, extent and the services provided. In many countries the hierarchy runs: hamlet – village – town – city – metropolis or capital city.
shanty town	An area of makeshift and unsanitary housing, often occupied by squatters , and found mainly in and around LIC cities.
socio-economic group	A group of people distinguished by employment, income and social characteristics such as education and family status.
soil erosion	The removal of soil by wind and water and by the movement of soil down slope.
squatter	Anyone who occupies a building or land without the legal right to do so.
standard of living	The degree to which the needs and wants of a population are satisfied. This degree is one of the measures of development . Part of wellbeing .

storm surge	An unusually rapid rise in sea level caused by the passage of a deep cyclone .
subsistence farming	The production of crops and livestock mainly for the support of the farmer and their dependants, not primarily for sale or trading.
suburbanisation	The outward movement of people and businesses towards the edge of the built-up area.
suburbs	The mainly residential parts of a town or city at or close to the edge of the built-up area.
sustainable development	A form of development involving a wise use of resources and appropriate technology without badly damaging the environment. It meets the needs of today without preventing future generations from meeting their needs.
tariff	A duty or tax charged by a country on its imports from other countries; a customs duty.
tectonic plate	A rigid segment of the Earth's crust which can 'float' across the heavier, semi-molten rock below. Continental plates are less dense, but thicker than oceanic plates.
terrace	1) A level or nearly level strip of land bordering a river, lake or sea. 2) One of a series of steps cut into a hillside to provide cultivatable land in an area of steep relief .
tertiary sector	See economic sector .
tornado	A highly destructive revolving storm.
trade	The buying and selling of goods and services between countries.
trade balance	The difference between a country's imports and its exports. Where the former exceed the latter, the balance is referred to as 'unfavourable', and 'favourable' when the situation is reversed.
trade bloc	A group of countries bound together by free trade agreements that exclude others.
transnational company (TNC)	A huge enterprise which operates on a global scale and is involved in a wide variety of businesses.
transpiration	The loss of water vapour from a plant.
transport	The movement of people and commodities from one location to another.
tributary	A stream or river flowing into a larger one.
tropical cyclone	A weather system of intense low pressure and violent winds formed over tropical seas. When they reach land, their energy rapidly disappears, but not before causing considerable damage.
tsunami	A huge sea wave caused by an earthquake .
typhoon	The name given to tropical cyclones in Asia.

underemployment	Where people have some work, but the job does not keep them fully occupied.
urban	Relating to, or characteristic of, a town or city.
urban fringe	The outer edge of the built-up area .
urban renewal	The revival of old parts of the built-up area by either installing modern facilities in old buildings (known as ‘improvement’) or opting for redevelopment .
urban sprawl	A haphazard and loose spreading of the built-up area.
urbanisation	The process of becoming more urban, mainly through more and more people living in towns and cities.
voluntary migration	This involves people who have chosen (not been forced) to move. Perhaps they have been persuaded to migrate by pull factors such as better housing or a higher paid job.
water table	The level below which the ground is saturated.
watershed	The dividing line between one drainage basin and another.
weather	The condition of the atmosphere at a particular time.
welfare	The general condition of a population in terms of diet, housing, healthcare, education, etc. Part of wellbeing .
wellbeing	Difficult to define, but it is often thought of as an umbrella term that takes into account quality of life, standard of living and welfare .

Appendix 2

Question command words

Examination success depends on showing the examiner that you know and understand the subject matter set out in the specification. How do you do this? By answering the questions as directly as possible. The key to this lies in having a clear understanding of the **command words** used in the question. Each command word carries a precise instruction and has a precise meaning. It is recommended that you familiarise yourself with the glossary of command words set out below.

Analyse	Break something down into its parts to show cause and effect.
Apply	Use knowledge and apply it to a situation/problem.
Assess	Weigh up two or more arguments/possible solutions, state the pros and cons and draw a conclusion – another way of asking for <i>Evaluation</i> .
Calculate	Work out answers using arithmetic; working should always be shown.
Classify	Place in groups according to shared qualities or characteristics.
Compare	Note similarities and differences, drawing on your knowledge, which may require a conclusion supported by evidence.
Compile	Produce a collection of evidence, by assembling material from a range of sources.
Complete	Finish, for example, a document or a sentence.
Consider	Think carefully about or take into account when making a judgement – not just a statement of knowledge.
Decide	Make a choice between the available options and support your choice with relevant evidence.
Define	State the meaning of a term as clearly as possible and support it with an example.
Demonstrate	Either show your understanding of an idea or how the idea can be applied to a problem.
Describe	Use words to show what something is or how it works – paint a word picture.
Differentiate	Recognise or identify the difference between two or more things.
Discuss	State both sides of a problem and draw conclusions.

Distinguish	State the differences between two areas/concepts/issues.
Do you agree	A problem is given and you are asked to agree or disagree.
Do you think	Look at options and draw a conclusion.
Draw on	Apply your knowledge to a situation or a problem.
Evaluate	Weigh up the pros and cons of a situation/problem and then draw conclusions (making judgements).
Examine	Look at a situation/problem applying your knowledge and using appropriate information.
Explain	Can be used at different levels: expand something clearly by providing detail.
Give	Similar to <i>State, List, Identify</i> or <i>Name</i> , requires you to show your knowledge.
Give an example of	From your knowledge, give a case study or other example.
How	How something works or is applied to a situation/problem.
Identify	See <i>Give</i> .
Justify	Confirm a conclusion or judgement by reference to evidence/case study.
List	See <i>Give</i> .
Name	See <i>Give</i> .
Organise	Arrange systematically or in order.
Outline	A brief description of a concept, problem or theory.
Predict	Say what is likely to happen based on evidence.
Recognise	Identify as already known, for example see the differences only.
Select	Choose from a number of options.
Show	See <i>Explain</i> .
State	See <i>Give</i> .

Suggest	Put forward your ideas relating to a problem or issue.
To what extent	What is the impact likely to be?
Understand	Knowledge with meaning.
Weigh up	Look at the pros and cons of a situation/problem and draw conclusions.
What is	See <i>Define</i> .
What would be	What would happen if something occurred.
Why	See <i>Explain</i> .

***Acknowledgement from page 137**

The text on page 137, 'The Nayakrishi Andolan Movement,' has been adapted from an article by Kamal Mostafa Majumder, a journalist based in Dhaka, and can be found on UNESCO's website (www.unesco.org).

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