

Chapter 3: Landforms and Life

Case Study Worksheet — Set A

Name: _____	Class & Section: _____	Date: _____
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Read each case study carefully and answer the three questions that follow it. (5 case studies x 3 questions x 2 marks = 30 marks)

Case Study 1: A Village in the Himalayas

Ramesh lives in a small village high up in the Himalayas. His house is built on a slope, and his family grows crops on narrow steps cut into the hillside near their home. In winter, snow covers the peaks above the village, and the family keeps yaks for milk and wool. Every year, tourists visit the village to go hiking and admire the mountain views, and some of them stay at the small guesthouse Ramesh's family runs. Last monsoon, heavy rain caused a sudden landslide that blocked the only road to the village for several days.

1. What method of farming does Ramesh's family most likely practise, and why is it used in mountain regions?

2. Name one animal mentioned in the passage that is commonly reared in mountain regions, and state one use of this animal.

3. What natural hazard affected Ramesh's village, and why are such hazards common in mountainous areas?

Case Study 2: Mining on the Plateau

Sunita's father works at an iron ore mine on the Chhota Nagpur Plateau in Jharkhand. The plateau where they live is rich in minerals like iron, coal and manganese, and mining is the main source of employment for many families in the area. The land around the mines is rocky, and farming is difficult, so most people depend on the mining industry or on jobs connected to it, such as transport and trade. Sunita has heard that a similar plateau in East Africa is famous for gold and diamond mining.

1. Name the plateau on which Sunita's family lives, and identify two minerals found there.

2. Why is farming difficult on this plateau, and what do most families depend on instead?

3. Name the plateau in East Africa mentioned in the passage and the minerals it is known for.

Case Study 3: Life in the Ganga Plain

Meena's family lives in a village in the Ganga plain in Uttar Pradesh. Her family grows rice and wheat on their fields, and her uncle catches fish in the river nearby. In earlier times, her grandparents depended entirely on rainfall to water their crops, but now the family uses a canal that brings water from a nearby dam, as well as a groundwater pump. Meena has heard her teacher say that the water table in her village has been falling steadily every year, which worries the farmers.

1. Name two crops grown by Meena's family, and identify what kind of crops these are.

2. How has irrigation in Meena's village changed from her grandparents' time to the present?

3. What problem is described at the end of the passage, and why is it a matter of concern?

Case Study 4: A Journey to the Desert

During the winter holidays, Arjun travelled with his parents to the Thar Desert in Rajasthan. He was surprised to see sand dunes stretching for kilometres, and very little vegetation compared to his own city. At night, a local guide sang traditional folk songs about the desert and told stories that had been passed down for generations. Arjun learnt that this desert receives very little rainfall through the year, but that people and animals have found ways to survive there.

1. In which Indian state is the Thar Desert located, according to the passage?

2. What is the main climatic feature of deserts that Arjun noticed during his visit?

3. How does the passage show that desert communities have a rich cultural life despite the harsh environment?

Case Study 5: Climbing a Mountain

Priya read a story about a mountaineer who lost her leg in a train accident but did not give up her dream of climbing mountains. With the support and training of a famous Indian woman mountaineer who had herself climbed Mount Everest years earlier, she trained hard and eventually reached the summit of Everest herself. She then went on to climb the highest peaks on every continent, including a mountain in the icy continent of Antarctica.

1. Identify the two mountaineers referred to in the passage.

2. In which year did the mountaineer who lost her leg climb Mount Everest?

3. Name the mountain in Antarctica that she climbed, as mentioned in the chapter.

Answer Key — Set A

Case Study 1: A Village in the Himalayas

1. Ramesh's family most likely practises terrace farming, in which steps are cut into the mountain slope. This method is used because mountains have steep, rugged terrain, and terracing creates flat surfaces where crops can be grown safely.
2. The yak is the animal mentioned; it is reared for milk and wool, both of which are useful for mountain families in the cold climate.
3. A landslide affected the village. Such hazards are common in mountainous areas because of the steep slopes and loose soil or rock, which can collapse suddenly, especially after heavy rainfall.

Case Study 2: Mining on the Plateau

1. Sunita's family lives on the Chhota Nagpur Plateau, which has rich reserves of iron and coal (also manganese).
2. Farming is difficult because the plateau land is rocky and generally less fertile; most families depend on mining and related industries such as transport and trade for their livelihood.
3. The passage mentions the East African Plateau, which is known for gold and diamond mining.

Case Study 3: Life in the Ganga Plain

1. Meena's family grows rice and wheat, which are both food crops.
2. Earlier, the family depended entirely on rainfall (rainfed agriculture), but now they use canal irrigation from a dam as well as groundwater pumps.
3. The problem described is the falling water table, or depletion of groundwater. It is a concern because continued overuse could leave less water available for irrigation and drinking in the future.

Case Study 4: A Journey to the Desert

1. The Thar Desert is located in Rajasthan, in the northwest of the Indian subcontinent.

2. Arjun noticed that the desert receives very little rainfall (precipitation) through the year, which is the defining climatic feature of deserts.
3. The passage shows this through the local guide singing traditional folk songs and telling stories passed down for generations, reflecting the strong oral and cultural traditions of desert communities.

Case Study 5: Climbing a Mountain

1. The passage refers to Arunima Sinha (who lost her leg) and Bachendri Pal (who trained and supported her, and had earlier become the first Indian woman to climb Everest).
2. Arunima Sinha climbed Mount Everest in 2013.
3. She climbed Mount Vinson, the highest peak in Antarctica.

Chapter 3: Landforms and Life

Case Study Worksheet — Set B

Name: _____	Class & Section: _____	Date: _____
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Read each case study carefully and answer the three questions that follow it. (5 case studies x 3 questions x 2 marks = 30 marks)

Case Study 1: Waterfalls of the World

During a geography project, three students each researched a different waterfall. Aisha studied the Victoria Falls, located on the Zambezi River in southern Africa. Rohan studied the Nohkalikai Falls, which drops down 340 metres from the Cherrapunji Plateau in Meghalaya. Kabir studied the Jog Falls, located on the Sharavati River in the Western Ghats. All three students found that their waterfalls were connected to plateaus or high ground with steep edges, where rivers drop suddenly to lower land.

1. Name the river on which the Victoria Falls is located, and the region of the world it is found in.

2. From which plateau does the Nohkalikai Falls drop, and approximately how many metres does it fall?

3. What common feature do all three waterfalls share, according to the passage?

Case Study 2: Choosing a Vacation Spot

A family is planning a vacation and is deciding between two destinations. The first is a hill station in the mountains, known for its cool climate, forests of pine and deodar, and adventure activities such as hiking and paragliding. The second is a historic city on a river plain, known for its fertile farmland, boat rides on the river, and pilgrimage sites along the riverbank. The children in the family want to go trekking, while the grandparents prefer a place that is easier to travel around on foot.

1. What type of trees are mentioned as being found at the mountain hill station, and what kind of forest do they belong to?

2. Why might the plains destination be easier for the grandparents to travel around, based on what you have learnt about the terrain of plains?

3. Suggest one activity from the passage that is only possible at the mountain destination, and one that is only possible at the plains destination.

Case Study 3: The Story of a River

A river begins high up in the Himalayas, where melting snow feeds a small mountain stream. As the stream flows down, it is joined by smaller rivers, or tributaries, and grows larger. When it reaches the plains, the river slows down and begins depositing the sediments of rock, sand and silt that it has carried from the mountains. Over time, this has created a wide, fertile plain where millions of people now live, growing crops and travelling by boat along the river's gentle course.

1. Where does the river in the passage originate, and what feeds it at its source?

2. What are 'tributaries', and what happens to the river as they join it?

3. Explain how the passage shows that a river helps to create fertile land in the plains.

Case Study 4: A Poem About Mountains

In an old Sanskrit poem, the poet Kalidasa describes the Himalayas as a great mountain range stretching from the Western to the Eastern oceans, like a measuring rod laid across the Earth. The poem describes the mountains as the abode of snow, home to many creatures, and a place of great spiritual importance. Students in a class discussed how this ancient poem shows that people have admired and respected mountains for thousands of years.

1. Who is the poet mentioned in the passage, and what does he compare the Himalayas to?

2. According to the poem, between which two oceans does the Himalayan range stretch?

3. What does this case study suggest about how people have viewed mountains throughout history?

Case Study 5: Five Landscapes, Five Poems

In an ancient Tamil poetry collection, poems were grouped according to five different landscapes, each linked to a particular mood and occupation. One set of poems was about mountains and the excitement of hunting and gathering. Another was about fertile plains and the daily rhythms of farming. A third was about the coast and the life of fishing communities. A student researching this collection noted how closely each landscape's poems were tied to the way people who lived there earned their living.

1. What is this classification of five landscapes in ancient Tamil poetry called?

2. Name the landscape linked with hunting and gathering, and the landscape linked with farming.

3. What does the student's observation suggest about the relationship between landform and occupation?

Answer Key — Set B

Case Study 1: Waterfalls of the World

1. The Victoria Falls is located on the Zambezi River, in southern Africa.
2. The Nohkalikai Falls drops from the Cherrapunji Plateau, falling approximately 340 metres.
3. All three waterfalls are connected to plateaus or high ground with steep edges, where rivers drop suddenly to lower land.

Case Study 2: Choosing a Vacation Spot

1. Pine and deodar trees are mentioned; these are conifer trees found in montane forests.
2. Plains have a flat or gently undulating surface without large hills or deep valleys, so walking around is generally much easier than on the steep, rugged terrain of mountains.
3. Hiking or paragliding is possible only at the mountain destination because of its rugged terrain and height; boat rides on the river are possible only at the plains destination because of the gentle river flow there.

Case Study 3: The Story of a River

1. The river originates high up in the Himalayas, and it is fed by melting snow at its source.
2. Tributaries are smaller rivers that join a larger river; as they join, the main river grows larger in size and volume.
3. As the river slows down in the plains, it deposits the sediments of rock, sand and silt that it carried from the mountains; over time, this builds up a wide, fertile floodplain suitable for agriculture.

Case Study 4: A Poem About Mountains

1. The poet is Kalidasa, and he compares the Himalayas to a measuring rod laid across the Earth.
2. According to the poem, the Himalayan range stretches from the Western to the Eastern oceans.

3. This case study suggests that people have admired, respected and even considered mountains spiritually significant for thousands of years, not just as physical landforms but as places of cultural and religious importance.

Case Study 5: Five Landscapes, Five Poems

1. This classification is called the five tinais.
2. Kurinji (mountainous regions) is linked with hunting and gathering, while Marudam (fertile agricultural plains) is linked with farming.
3. The observation suggests that the type of landform a community lives in strongly shapes its occupation and, in turn, its culture, moods and traditions — showing a deep connection between landforms and life.

Chapter 3: Landforms and Life

Case Study Worksheet — Set C

Name: _____	Class & Section: _____	Date: _____
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Read each case study carefully and answer the three questions that follow it. (5 case studies x 3 questions x 2 marks = 30 marks)

Case Study 1: Comparing Two Mountains

In a class project, two students compared two mountains. Rahul studied Mount Everest, which lies between Tibet (China) and Nepal, is called 'Chomolungma' by Tibetans, and is the tallest mountain in the world. Fatima studied the Aravalli Range in India, which is much older and has rounded, worn-down peaks because of erosion over millions of years. Their teacher explained that mountains can be classified as 'young' or 'old' depending on how recently they were formed.

1. Between which two regions does Mount Everest lie, and what is it called by Tibetans?
2. Why does the Aravalli Range have rounded peaks instead of sharp ones?
3. Based on the passage, would you classify Mount Everest and the Aravallis as young or old mountains? Give a reason.

Case Study 2: The Roof of the World

A group of students studying world geography learnt about the Tibetan Plateau, which is the largest and highest plateau in the world, with an average altitude of about 4,500 metres. It stretches almost 2,500 kilometres from east to west — roughly the same distance as travelling from one end of India to the other. Because of its enormous height, the plateau is often called the 'Roof of the World'. The students compared this to the Deccan Plateau in India, which is much older and was formed by volcanic activity long ago.

1. What is the average altitude of the Tibetan Plateau, and what nickname is given to it because of this height?

2. Approximately how far does the Tibetan Plateau stretch from east to west?

3. How was the Deccan Plateau formed, according to the passage?

Case Study 3: Farmers of the Floodplain

A group of farmers in the Ganga plain gathered to discuss the coming farming season. One elder farmer recalled how, in his youth, the entire village depended only on the monsoon rains for irrigation, and a poor monsoon often meant a poor harvest. Now, most farmers use canal water and groundwater pumps to water their fields throughout the year. A younger farmer pointed out that this has helped increase production of rice and wheat, but warned that the groundwater level in their area has been dropping every year.

1. How did farmers in the elder farmer's youth mainly water their fields?

2. What two methods of irrigation are used by farmers today, according to the passage?

3. What warning does the younger farmer give, and why is it important?

Case Study 4: Animals of the High Mountains

A wildlife photographer spent a month in the Himalayas photographing animals adapted to the mountain environment. She captured images of a snow leopard stalking prey on a rocky slope, a herd of ibex grazing near the snowline, a golden eagle soaring above a valley, and a yak grazing calmly near a mountain village. She noted that each of these animals had special adaptations, such as thick fur or strong lungs, that helped them survive the cold, thin air and steep terrain of the mountains.

1. Name any three animals the photographer observed in the Himalayas.

2. What kind of adaptations does the passage mention that help these animals survive in the mountains?

3. Why do you think thick fur would be a useful adaptation for an animal living in the mountains?

Case Study 5: A Trip Across Three Landforms

During a school trip, students travelled from a mountain hill station, through a mineral-rich plateau region with several mines, and finally arrived at a wide, fertile river plain where farmers were harvesting rice. Their teacher asked them to note down one main economic activity they observed at each stop. At the hill station, they saw terrace farming and a few homestays for tourists. At the plateau, they saw large open mines. At the plain, they saw extensive paddy fields and boats on the river.

1. What economic activities did the students observe at the mountain hill station?

2. What economic activity did the students observe at the plateau, and why is this activity common there?

3. How did the activities observed in the plain differ from those observed in the mountains and plateau?

Answer Key — Set C

Case Study 1: Comparing Two Mountains

1. Mount Everest lies between Tibet (China) and Nepal, and Tibetans call it 'Chomolungma', meaning 'Mother Goddess of the World'.
2. The Aravalli Range has rounded peaks because it is a very old mountain range that has been worn down by erosion over millions of years.
3. Mount Everest, part of the Himalayas, would be classified as a young mountain because it has tall, sharp peaks, while the Aravallis would be classified as old mountains because they are rounded and worn down.

Case Study 2: The Roof of the World

1. The Tibetan Plateau has an average altitude of about 4,500 metres, and it is nicknamed the 'Roof of the World'.
2. It stretches almost 2,500 kilometres from east to west.
3. The Deccan Plateau was formed by volcanic activity long ago, and it is one of the oldest plateaus in the world.

Case Study 3: Farmers of the Floodplain

1. In the elder farmer's youth, farmers mainly depended on monsoon rains (rainfed agriculture) to water their fields.
2. Today, farmers use canal water and groundwater pumps for irrigation.
3. The younger farmer warns that the groundwater level is dropping every year; this is important because continued depletion could threaten the long-term availability of water for farming and daily use.

Case Study 4: Animals of the High Mountains

1. The photographer observed the snow leopard, the ibex, the golden eagle and the yak (any three of these).

2. The passage mentions adaptations such as thick fur and strong lungs, which help animals cope with the cold temperatures and thin air of high altitudes.
3. Thick fur would help keep an animal warm in the very cold temperatures found at high altitudes in the mountains, especially in areas that remain snow-capped for much of the year.

Case Study 5: A Trip Across Three Landforms

1. At the hill station, the students observed terrace farming and tourism-related activity (homestays).
2. At the plateau, they observed mining; this is common on plateaus because they are rich in mineral deposits such as iron, coal and other resources.
3. In the plain, the main activities were farming (rice cultivation) and river-based transport (boats), which are possible because of the flat, fertile land and gently flowing river — quite different from the terrace farming of the mountains and the mining of the plateau.