

Guidebook

Sapphire, Level 29, 860L

Text Type: Report

Summary: These pages explore the Tibetan Plateau (the origin of many Asian rivers). The Ganges and Brahmaputra River are discussed, specifically utilisation and concerns for long-term sustainability.

Themes/Ideas: Importance of river systems to human life; how human actions effect river systems

Text Features: maps, photos, headings, labels, bold text within paragraphs

Vocabulary:

- **glacier:** slow moving river/ mass of ice
- **monsoonal rain:** seasonal reversing of wind direction that brings rain
- **plateau:** an area of fairly level high ground
- **river basin:** land that water flows across on its way to a river
- **river delta:** a fertile area developed from sediment deposited by a river
- **silt:** fine sand/clay carried by running water, then left as sediment on the bottom of the river
- **tributary:** a river or stream that flows into a larger river or lake

Rivers of the World: Asia

? **Focus Question:** What is the Tibetan Plateau and which Asian rivers originate from there?

PREPARE & READ

- Explain that these pages are from a guidebook on rivers of the world.
- Note that the first page provides an overview of Asian rivers, while the second page concentrates on two of these rivers.
- Ask students to read the card.

READ CLOSELY

Vocabulary

On the first page, look at the three nicknames for the Tibetan Plateau (in bold text). How do these names help you visualise the importance of the plateau? Why are these nicknames featured with inverted commas around them? **2 3**

Author's Purpose/Intention

The author has used different maps on the front and back of the card. Why do you think they did this? Why does the second map show more detail? **1 4**

... The map on the front of the card shows the major rivers that originate on the Tibetan Plateau, showing the basic/main structure of the river system. The second map shows the tributaries that flow into two of the large rivers. This is helpful because the text states that "along with its tributaries, it [the Ganges] spreads across a quarter of India". Without the detailed map, it would be hard to visualise how the smaller rivers cover so much land.

Illustrations and Text

The card includes photos of a farmer tilling the rich soil near the banks of the river and a fisherman from the Ganges River. How do these illustrations indicate the essential role the river plays for the people living there? There is one very important use of the river which is not illustrated. What is it? **6 10**

Draw Conclusions

The author highlights several issues that currently threaten the Ganges, and identifies one way that India is trying to protect the Ganges. Why does the author label this as "an important first step" in saving the river system? **9**

... The author states that India is implementing strategies to encourage people to reduce pollution in the Ganges. Although cleaning up the river would be beneficial, there are many other things affecting the river. Fixing one problem may not be enough to help the river survive into the future. Farming and industry practices may need to change. The effects of deforestation—increasing silt—may need to be halted and somehow reversed. Rising sea levels and a changing climate will need to be taken into account. These are complex problems that will need creative solutions.

RIVERS OF THE WORLD: ASIA

1 The Tibetan Plateau is a vast, high-altitude region in central Asia, often referred to as the 'Roof of the World'. It is the source of several major Asian rivers, including the Ganges and Brahmaputra.

2 Often called the 'Roof of the World', the Tibetan Plateau is the largest, highest plateau on Earth. It is surrounded by the world's tallest mountains, including the mighty Everest. The plateau has also been called the 'Water Tower of Asia', but that's not because of its rainfall. Annual precipitation is so low - 100 to 300 mm a year - that some areas are classified as desert. Much of the rain falls as hail in this cold, lofty land. The mountain ranges that ring the plateau are the Himalaya, Kunlun, Qilian and Karakoram mountains. These are home to towering, snow-covered peaks and tens of thousands of glaciers. It's the summer melting of these glaciers and snowfields

3 that gives rise to the plateau's reputation as a water tower. Ten of Asia's mightiest rivers spring from here. Yet another nickname for the plateau is the 'Third Pole'. It holds the largest reserves of water outside the north and south poles. This water is bound up in glacial ice and snow. As the glaciers melt they feed the rivers. They bring life-giving water to the 1.3 billion people living in the river basins. But herein lies the problem. Earth's climate is changing. The ice in the Third Pole is melting at a faster pace than anywhere else in the world. So what happens when the glaciers are gone? What will happen to Asia's life-giving rivers?

Salween River, Burma (Myanmar)

5 In the top ten countries with the world's highest populations are India (with over 1.25 billion people) and Bangladesh (with almost 170 million). That's more than 1.4 billion people living in an area that's a third the size of Europe and less than half the size of Australia. So how do all these people manage to survive?

Many of them live around the rivers. The rivers provide protein-rich fish for eating. They bring water to nourish the food crops. The silt they carry makes the farmlands more fertile. Trade and travel happen on the water. The rivers form a rich part of the social and spiritual lives of the people living around them.

6 The Ganges River begins in the western Himalayas. Along with its tributaries it spreads across a quarter of India. It brings water to hundreds of millions of people. Farmers have irrigated their crops with Ganges water for thousands of years. The dams sustain them in the dry seasons and droughts.

4

7 The Brahmaputra River originates on the northern slopes of the Himalayas in Tibet, where it is called the Yarlung Tsangpo. It emerges from the mountains to enter the north-eastern regions of India. From there it flows south through Bangladesh. It meets the Ganges to form a large, fertile delta that drains into the Bay of Bengal.

8 But the Ganges-Brahmaputra river system is in crisis. Cities discharge rubbish and sewage into these sacred rivers. Intensive farming and industry have added to the pollution. Deforestation has caused excess silt to flow into the rivers. This increases the risk of severe flooding during the annual monsoonal rains. Yet in the dry season parts of the rivers can dry out.

9 Another serious issue facing this river system is rising sea levels. Over time, sea water could threaten to flood this significant resource. To protect the Ganges-Brahmaputra for future generations to use and enjoy, action needs to be taken now. In 2014 the Government of India announced an integrated Ganges development project called Namami Ganga. This project champions changes that will help clean up the water. This is an important first step in the complicated process of saving the river system.

10 Taking the reel

Ganges fisherman repairing nets

Satellite image of the delta

DISCUSS

These questions can be used for paired discussion. Ask students to use the text to support their reasoning. Then ask them to share their conclusions with the group.

- The author uses rhetorical questions at the bottom of page one. Why are these effective tools to engage a reader?
- The card mentions that the Brahmaputra River runs through Tibet, India and Bangladesh. How does this fact make it difficult to implement conservation measures?
- What surprised you most about the Tibetan Plateau? How could you find out more about these critical river systems?

WRITE

Have students choose either one of the following options for writing, or do both.

- Make a table that lists the important human uses for the Brahmaputra and Ganges Rivers in one column, and the challenges currently facing these rivers in another column. Tick those challenges that may be able to be influenced by human intervention in a positive way. **(Information/Explanation)**
- Why is the care and maintenance of the Brahmaputra and Ganges Rivers important globally and not just for people living in Tibet, India or Bangladesh? Use facts from the card to support your answer. **(Opinion)**

Extension Question: The second page deals with the Ganges and Brahmaputra rivers together. Why did the author do this?