How a Solar Farm Brought New Life to the Gobi Desert

Name Date Class

Reading

1 On the Tibetan Plateau in China's Qinghai Province, engineers have triggered an unlikely **transformation**. The Talatan Gobi Desert, nearly 3,000 meters above sea level, was once defined by sandstorms, persistent drought, and almost no plant life at all. Today, rows of dark blue solar panels stretch toward the horizon in every direction, and beneath them, something nobody fully expected has happened: grass has returned, and local **herders** now bring their sheep to **graze** where there was once only sand and gravel.

2 Construction began in 2011, according to Chinese state media. Decades of drought and overgrazing had pushed **desertification** in the area to around 98.5 percent, leaving the land almost entirely **barren** and unproductive for farming or grazing alike. Local officials decided to **leverage** the region's two greatest natural resources, strong, near-constant sunlight and vast, flat terrain, and began building a large-scale solar power hub on the plateau. The park stretches across several hundred square kilometers and is shared by dozens of solar companies.

3 What nobody fully predicted was how the panels themselves would change the ground beneath them. Rows of solar panels break the force of the wind, cutting **erosion** and reducing wind speed at ground level by roughly half, according to figures reported by Chinese state media. Their shade also lowers the temperature of the soil and slows **evaporation** by around 30 percent, the same reports say. Water used to clean dust from the panels seeps into the ground instead of running off uselessly, giving the soil just enough moisture to support plant life for the first time in decades.

4 As grass began to **thrive** between the rows of panels, a new problem appeared: nobody was cutting it. Tall grass can shade the panels themselves and reduce how much electricity they generate, so engineers needed a low-cost way to keep it in check without heavy machinery or scarce water. The solution already existed nearby. Local herders, including a man named Yehdor, began to graze their animals directly among the panels, and the practice quickly became widespread across the site. Chinese media soon gave the animals a nickname: "photovoltaic sheep."

5 The arrangement works because it forms a self-reinforcing cycle. The **livestock** eat the grass, which keeps it short enough not to shade the panels, and their manure **fertilizes** the soil in turn, encouraging even more grass to grow the following season. Most of the numbers on this recovery come from park managers and state media. In July 2025, a park official told People's Daily that vegetation covered more than 80 percent of the ground and that the park produced about 118,000 tonnes of grass a year. A 2022 China Daily report counted more than 20,000 sheep on the site, owned by herding families who had previously struggled to find usable grazing land.

6 How much of this has been measured independently? The question matters because the park is enormous: by the end of 2024, its grid-connected **capacity** had passed 17 gigawatts, according to Chinese state media. In a 2024 study in the journal *Scientific Reports*, researchers from Xi'an University of Technology compared ground inside one section of the park with land outside it. Using 57 **indicators**, from soil moisture and nutrients to the number of plant species, they rated conditions under the panels as "general," while land outside the park still rated "poor." This was an observational study at a single site, so it points to an improvement linked to the panels but cannot show how large or lasting that improvement will be.

7 There are also good reasons to doubt that this kind of transformation will repeat itself in every desert on Earth. The combination of shade, cleaning water, and grazing may work at Talatan partly because of its altitude, its soil, and an existing local herding culture ready to use the new grazing land. Grass that grows too thick creates its own risks, such as shading the panels and fueling fires in the dry season, which is one reason the grazing continues. Even so, the site offers a rare example of a power project that seems to **sustain** more life than it displaces, creating a small, engineered **microclimate** where almost none existed before it was built. What no study has yet tested is whether that microclimate would survive if the panels were ever removed.

Vocabulary Matching

Match each word from the reading with its meaning. Write the letter on the line.

1	**transformation**	_____	**A** people whose job is to look after groups of animals
2	**herders**	_____	**B** measurements or signs that show the state of something
3	**graze**	_____	**C** to keep something continuing over time
4	**desertification**	_____	**D** to grow or develop well, often unexpectedly
5	**barren**	_____	**E** the process by which a liquid turns into vapor and disappears
6	**leverage**	_____	**F** a small area with different weather or growing conditions than nearby areas
7	**erosion**	_____	**G** having little or no plant life; not productive
8	**evaporation**	_____	**H** for an animal to eat grass growing in a field
9	**thrive**	_____	**I** the gradual wearing away of soil or rock
10	**livestock**	_____	**J** adds nutrients to soil that help plants grow
11	**fertilizes**	_____	**K** the maximum amount something can produce or hold
12	**capacity**	_____	**L** the process by which land gradually becomes desert
13	**indicators**	_____	**M** to use something you already have to your advantage
14	**sustain**	_____	**N** a complete change in the form or nature of something
15	**microclimate**	_____	**O** animals kept and raised on a farm, such as sheep or cattle

Fill in the Blank

Choose a word from the box to complete each sentence. Use each word once. The words are already in the correct form.

barren	**capacity**	**desertification**	**erosion**	**evaporation**	**fertilizes**	**graze**	**herders**	**indicators**
livestock	**microclimate**	**sustain**	**thrive**	**transformation**				

1 Engineers triggered an unlikely _____ in the desert landscape.

2 Local _____ now bring their sheep to graze beneath the solar panels.

3 The farmer lets his goats _____ on the hillside every morning.

4 Decades of drought pushed _____ in the area to nearly 100 percent.

5 The land was almost entirely _____ before the solar project began.

6 The panels help cut _____ by reducing wind speed at ground level.

7 Shade from the panels slows _____ , keeping the soil moist for longer.

8 Grass began to _____ unexpectedly between the rows of solar panels.

9 The _____ eat the grass and help keep it short for the panels.

10 The sheep's manure _____ the soil, helping more grass grow.

11 The new hospital will double the city's _____ for treating patients.

12 Test scores are only one of several _____ of a school's quality.

13 The project seems to _____ more life than it displaces.

14 The shaded panels created a small _____ where grass could grow.

Comprehension Questions

Answer in your notebook or discuss with a partner. Questions 10 to 12 are IELTS-style.

1 What was the Talatan Gobi Desert like before the solar farm was built, and how has it changed?

2 Why did local officials choose this site for a large-scale solar power hub?

3 How do the solar panels affect wind speed and evaporation at ground level?

4 Why did engineers need a way to manage the grass growing under the panels, and what solution did they use?

5 Where do most of the figures on the site's recovery come from, according to paragraph 5?

6 How does the cycle of grazing, manure, and grass growth work at the site?

7 What did the 2024 study in Scientific Reports find, and what are its limits?

8 Why might this kind of transformation not repeat in every desert?

9 Do you think this project counts as restoring a "natural" ecosystem, or something else? Use evidence from the reading to explain your answer.

IELTS-Style Questions

10 **True, False, or Not Given:** *"The 2024 study found better conditions under the panels than on land outside the park."* Explain your answer using evidence from the reading.

11 **Yes, No, or Not Given:** *"The writer believes the Talatan results will repeat in every desert."* Explain your answer using evidence from the reading.

12 **Author's purpose:** Why does the writer point out that most figures come from park managers and state media, and then describe an independent study? Is the aim to reject the official figures, to help readers judge the evidence, or something else?

True or False

Circle T (true) or F (false) according to the reading. Write a correction for each false statement on the dotted line.

1 **T / F** The reading says the Talatan Gobi Desert was once defined by sandstorms and drought.

2 **T / F** Desertification in the area reached around 98.5 percent before construction began.

3 **T / F** Officials chose the site because it received unusually heavy rainfall.

4 **T / F** The solar panels increase both wind speed and evaporation at ground level.

5 **T / F** Herders were paid to bring heavy machinery to cut the grass.

6 **T / F** Animal manure at the site helps fertilize the soil and encourage more grass.

7 **T / F** The 2024 study rated land outside the park as "poor."

8 **T / F** The 2024 study proved that the improvement under the panels will last.

9 **T / F** The reading says this kind of transformation will repeat in every desert.

10 **T / F** The reading says thick grass can help fuel fires in the dry season.

Discussion Questions

Talk with a partner or in a small group. The questions move from personal to more abstract.

1 Before reading this, would you have guessed that a solar farm could help grass grow in a desert? What did you imagine deserts and solar farms had in common?

2 Does it surprise you that engineers needed animals, not machines, to solve the problem of grass growing too tall?

3 Have you ever seen a solar farm or a wind farm in person? What did the land around it look like?

4 Many large projects, from dams to highways, change the land around them. Can you think of one that changed land for the worse?

5 In your country, are there any large solar or wind energy projects? What effects, positive or negative, have they had on local communities or land?

6 The herders in the story benefited directly from the solar farm through new grazing land. Can you think of other examples where a big project unexpectedly helps local people?

7 The reading says thick grass can fuel fires in the dry season. Do you think unexpected problems like this are common in large engineering projects?

8 Most figures in the reading come from park managers and state media. How much should readers trust figures from the people who run a project?

9 Would you call Talatan a success for the environment, for energy, or for both? What evidence would change your mind?

10 If you were a local government official, would you want a project like this in your area? What questions would you ask before agreeing to it?

11 Large solar farms are often built in remote, sparsely populated regions. Who do you think should benefit most from the electricity and jobs they create?

12 Would you consider herding sheep under solar panels an attractive job? What skills do you think it would require?

13 Why might it be hard for independent scientists to study a large project like this one? What would make their work easier?

14 Deserts that look empty are still ecosystems. Should any deserts be protected from solar development, even if panels might help plants grow?

Language Focus: Cause and Effect Language

Cause and effect language shows how one thing leads to another. Writers use connecting words and phrases such as so, which, giving, and creating to link a cause to its effect, especially when describing a chain of changes.

In the reading:

- "Tall grass can shade the panels themselves and reduce how much electricity they generate, **so** engineers needed a low-cost way to keep it in check…"
- "The livestock eat the grass, **which keeps** it short enough not to shade the panels…"
- "Water used to clean dust from the panels seeps into the ground instead of running off uselessly, **giving** the soil just enough moisture to support plant life…"

Practice: Rewrite this sentence using a cause-and-effect connector: *"The panels provide shade. The soil stays cooler and moister."*

Activities and speed challenge
englishbridges.com/lessons/solar-farm-gobi-desert

Notes