

Name: _____ Date: _____

Answer Key: The Geopolitics of Survival: A 9th Grade Human-Environment Analysis

Synthesize complex scenarios involving transboundary water rights, anthropogenic biomes, and the socio-economic repercussions of altering planetary systems.

1. The construction of the Great Green Wall across the Sahel region primarily represents which specific mode of human-environment interaction aimed at reversing desertification?

Answer: B) Large-scale ecological modification to restore ecosystem services

The Great Green Wall is an active intervention (modification) designed to combat land degradation and restore fertile soil by planting a massive belt of trees.

2. The 'Resource Curse' (Paradox of Plenty) suggests that nations with abundant natural resources often experience less economic growth than nations with fewer resources.

Answer: A) True

This paradox explores how total dependence on a single resource can lead to economic volatility and political instability, a core concept in human-environment dependence.

3. The use of ____ in Southeast Asian agriculture allows farmers to modify steep mountainous terrain to reduce soil erosion and manage water runoff.

Answer: C) Terrace farming

Terracing is a classic example of environmental modification where the landscape is reshaped into steps to make agriculture viable on slopes.

4. Analyzing the Kazakh side of the Aral Sea, what was the primary driver for the environmental collapse that led to the 'Dust Bowl' effect in that region?

Answer: C) Diverting tributary rivers for large-scale cotton irrigation

Soviet-era irrigation projects diverted the Amu Darya and Syr Darya rivers, leading to the desiccation of the Aral Sea and catastrophic local climate changes.

5. Building earthquake-resistant 'base isolation' foundations in California is an example of environmental modification rather than adaptation.

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Answer: B) False

This is adaptation; the humans are adjusting their building techniques to survive the existing natural conditions of the environment without changing the environment itself.

6. The concept of ____ describes the total amount of land and water area required to provide the resources an individual or nation consumes and to absorb its waste.

Answer: B) Ecological Footprint

The ecological footprint measures human demand on nature and highlights our dependence on and impact on environmental systems.

7. Which scenario best illustrates the 'consequence' aspect of interaction specifically regarding the Urban Heat Island (UHI) effect?

Answer: D) Concrete surfaces absorbing radiation and raising city temperatures

The UHI effect is an unintended consequence of modification (paving surfaces) where human-built environments trap heat, altering local microclimates.

8. In the Maldives, the construction of the 'Great Wall of Male' and the creation of the artificial island Hulhumalé are responses to the threat of ____.

Answer: B) Rising sea levels

Low-lying island nations must modify their coastlines or build new land as an adaptation strategy against climate-driven sea-level rise.

9. The use of 'Qanats' (underground aqueducts) in ancient Persia is an example of a sustainable modification to utilize groundwater in arid climates.

Answer: A) True

Qanats allowed for the transport of water across long distances with minimal evaporation, showing how humans modify water systems to survive in deserts.

10. When evaluates the impact of 'Cloud Seeding' in regions like the UAE, which category of interaction is primarily being utilized to address water scarcity?

Answer: A) Direct environmental modification of atmospheric conditions

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Cloud seeding is a technological modification where humans attempt to trigger precipitation by dispersing substances into the air, altering natural weather patterns.