

Question 3: Two Stimuli**7 points****(A) Describe ONE reason for the migration patterns shown on the map. 1 point**

Accept one of the following:

- A1. Seasonal migration (transhumance) to move herds to grazing lands and/or water sources.
- A2. Migration to areas with more rainfall during the dry season.
- A3. Migration because the region's climate (arid or semi-arid) is too dry to support grazing year-round and/or to reduce stress on land that has been grazed.
- A4. Movement southward during the dry season and/or northward during the wet season.
- A5. Migration patterns based on cultural or agricultural practices.

(B) Describe ONE cause of desertification in the Sahel region. 1 point

Accept one of the following:

- B1. Overgrazing has removed the grass cover and/or damaged the soil.
- B2. Human population growth and the use of arid land for growing food and/or demand for water have placed the land under added stress.
- B3. Runoff, wind, and/or erosion has removed fertile topsoil.
- B4. Soil erosion caused by climate change, natural drought, increasingly dry climate and/or human activities.
- B5. The use of wood for fuel and building materials has removed natural scrub or shrub landscapes.

(C) Explain how pastoral nomadism may affect the cultural landscape of the Sahel region. 1 point

Accept one of the following:

- C1. Pastoral nomadism affects land use patterns in the region, with much land used for grazing, leaving an imprint of agricultural patterns (e.g., migration routes, traditional sites for seasonal settlements, watering sites, market locations, corrals, animal pens) on the cultural landscape.
- C2. Pastoral nomadism contributes to specific cultural identities and/or shared practices in groups with migrant lifestyles, leaving an imprint on the landscape (e.g., types of temporary settlements, meeting places, market locations) and/or infrastructure that supports communication (e.g., signs, cell phone towers).
- C3. Pastoral nomadism affects the built environment, with many nomadic herders constructing portable and/or seasonal (temporary) dwellings.
- C4. Pastoral nomads follow long-established seasonal migration routes or seasonal temporary settlements, thus maintaining local traditions and/or agricultural practices (e.g., animal husbandry, dairying, celebrations) that leave an imprint on the cultural landscape.

(D) Explain ONE way mixed-crop farming could be affected by climatic conditions. 1 point

Accept one of the following:

- D1. The availability of annual or seasonal rainfall (e.g., drought) results in crop or animal losses.
- D2. Variables and/or extremes in annual and/or seasonal temperatures may prevent or enable the cultivation of certain plant crops or animals.
- D3. Farming is affected by floods in areas where there are seasonal monsoons, hurricanes, and/or intense storms.
- D4. Farming is affected by changes in temperature or rainfall which may cause farmers to substitute one crop for another, and/or change farming techniques.
- D5. Changes in temperature, precipitation, frequency, and/or the intensity of storms may limit plant crops or impact the overall health of animals.

(E) Using the map and table, explain why expanding protected natural areas may affect the migration routes of nomadic herders in the Sahel region. 1 point

Accept one of the following:

- E1. Nomadic herders may have to make detours to avoid crossing protected natural areas, or use corridors established by governments, thus altering their traditional migration routes.
- E2. Newly expanded protected natural areas may disrupt established migration routes traditionally used by nomadic herders.
- E3. Protected natural areas may bring nomadic herders into conflict with conservation organizations or forestry services as they may differ on the use of protected areas for grazing, and/or concern about the impact of herding on natural habitats.
- E4. Nomadic herders who travel through or graze animals in protected areas may risk legal consequences (e.g., fines) and begin to avoid those routes.
- E5. Protected areas may preserve grassland habitat and/or prevent the loss of potential grazing lands, allowing nomadic herders to continue their traditional migration routes.
- E6. Protected areas may conserve traditional migration routes for herders under agreements with governments or conservation organizations.
- E7. Nomadic herders who cross international borders may encounter tensions with government officials who enforce migration policies and/or inspect for contraband items.

- (F) Using the information in the table, explain why farmers' increased use of irrigation may increase conflicts with nomadic herders. 1 point

Accept one of the following:

- F1. Increased use of irrigation may increase the amount of land that can be cultivated for crops, cutting off migration routes and/or limiting the use of such lands for transporting or grazing herds during seasonal migrations.
- F2. Increased use of irrigation may increase the amount of land that can be cultivated for crops and eliminate areas where nomadic herders could set up temporary settlements and/or corrals or pens.
- F3. Increased use of irrigation may deplete water supplies used by nomadic herders and/or cause competition between herders and farmers to water livestock and/or crops during pasturing or seasonal migrations.
- F4. Overuse of irrigation in dryland (arid) environments may lead to soil salinization that could reduce the amount of food for animals (forage) or land for grazing that is available for migrating herds.
- F5. Irrigation may lead to runoff carrying chemical fertilizer or pesticides into bodies of water where herders drink and/or water their livestock, increasing tensions between nomadic herders and farmers.

- (G) Explain the degree to which increased access to communication technologies may create cultural convergence among nomadic herders. 1 point

Statement of a moderate to high degree

AND

Accept one of the following:

- G1. Increased use of mobile phones, television, and/or the internet may expose herders to cultural influences from outside of their community and make herder culture less unique and/or expose nomadic herders to the cultural or social norms of external communities.
- G2. Increased use of global communication systems may cause herders to use more widely spoken languages and make indigenous language use less common.
- G3. Increased consumption of external music, literature, art, and/or holidays may diminish the cultural interest of herders to practice or maintain indigenous traditions within herder communities.

OR

Statement of a moderate to low degree

AND

Accept one of the following:

- G4. Increased exposure to outside cultural influences (e.g., music, languages, information) may mobilize nomadic herders to unite to protect their culture, resulting in a stronger cultural identity among nomadic herders.
- G5. Limited access to communication technologies due to cost or connectivity may hinder cultural convergence.
- G6. Nomadic herder communities may reject increased access to communication technologies to resist the forces of globalization and/or maintain traditional lifestyles.

Total for question 3: 7 points