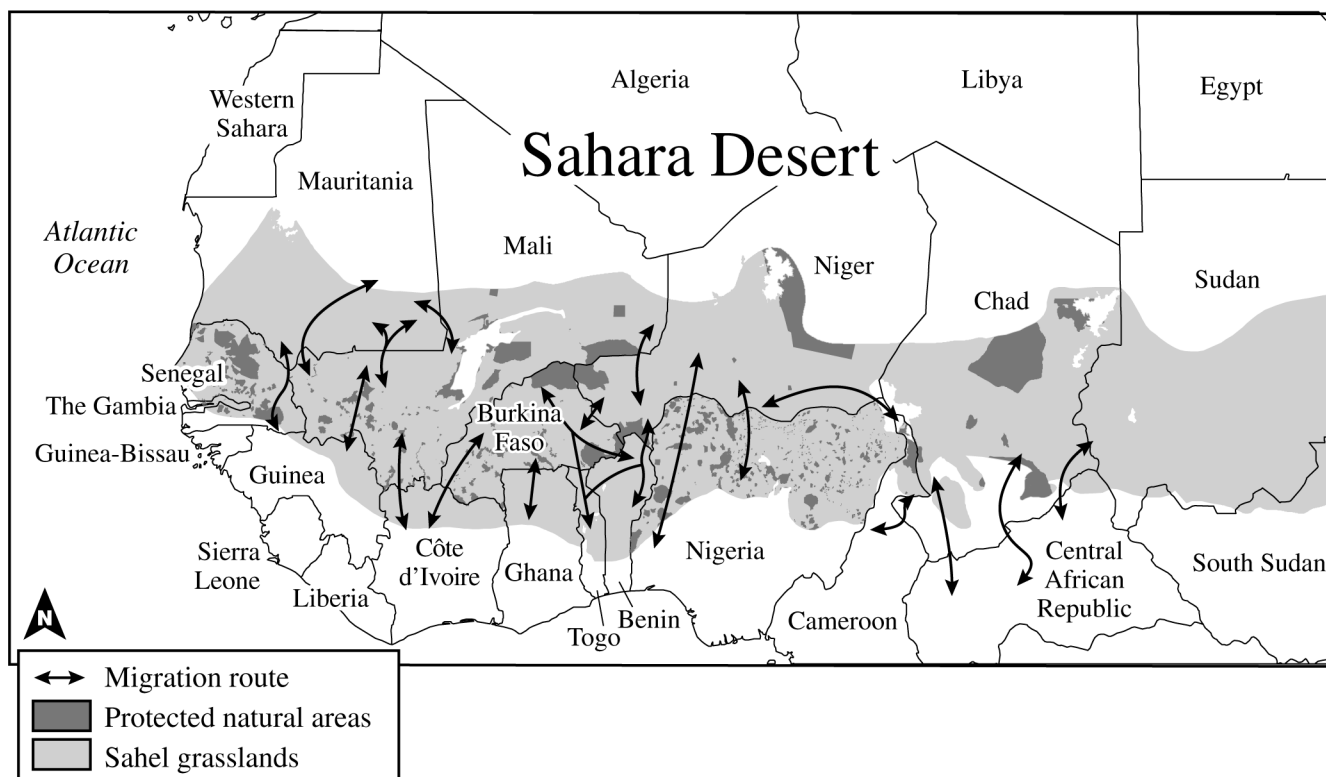


Question 3

PASTORAL NOMADISM IN THE SAHEL REGION OF AFRICA

Source: Food and Agriculture Organization

The Sahel is an environmental transition zone between the Sahara desert and the wet tropical forest regions of Africa. The landscape is a semiarid grassland, having distinct dry and wet seasons, and the region is interspersed with shrubs and small woodlands.

SOURCES OF TENSION RELATED TO PASTORAL NOMADISM

Groups	Potential Sources of Tension
Nomadic herders versus crop farmers	• Damage to fields by migrating herds • Overgrazing by migrating herds • Competition for access to water • Increasing size of crop farms
Nomadic herders versus conservation organizations	• Grazing of protected areas • Degradation of natural habitats
Nomadic herders versus government officials	• Failure to follow regulations on cross-border migration • Activities such as smuggling foreign goods

Source: Organisation for Economic Co-operation and Development

3. Pastoral nomadism is widely practiced in the Sahel region of Africa. The map and table provide information about spatial patterns and social tensions associated with this type of agriculture.
- A. Describe ONE reason for the migration patterns shown on the map.
 - B. Describe ONE cause of desertification in the Sahel region.
 - C. Explain how pastoral nomadism may affect the cultural landscape of the Sahel region.
 - D. Explain ONE way mixed-crop farming could be affected by climatic conditions.
 - E. Using the map and table, explain why expanding protected natural areas may affect the migration routes of nomadic herders in the Sahel region.
 - F. Using the information in the table, explain why farmers' increased use of irrigation may increase conflicts with nomadic herders.
 - G. Explain the degree to which increased access to communication technologies may create cultural convergence among nomadic herders.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

-
- (D) Explain ONE reason why increasing women’s access to education is likely to affect a country’s total fertility rate. 1 point**

Accept one of the following:

- D1. Women with increased access to education spend more time in school and/or have more job opportunities (e.g., higher-paying jobs), which tends to result in delayed age of marriage and/or smaller family sizes.
- D2. Women with increased access to education tend to have more information regarding health care and family planning, and/or the ability to afford family planning, resulting in smaller family sizes.
- D3. Women with higher levels of education tend to migrate to urban areas where residents may have less time, space, and/or need for children as a source of familial labor (as compared to rural areas).
- D4. Women with higher levels of education tend to have higher levels of political empowerment and may choose to have fewer children due to their position or role in society (e.g., equality with men, holding political office, business ownership), and/or nondomestic role in the household.

-
- (E) SDG 8 is to “promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.” Explain ONE way a country’s development of ecotourism might affect economic growth. 1 point**

Accept one of the following:

- E1. A country that has moved to ecotourism would see an increase in jobs or expansion in the service sector of the economy.
 - E2. Ecotourism often results in better-paying, salaried jobs.
 - E3. Ecotourism may result in an increase in tourism revenue, foreign currency, and/or tax revenues.
 - E4. Ecotourism may result in new job opportunities and/or higher-paying jobs in rural areas that lack such opportunities (e.g., communities in or adjacent to national parks or conservation areas).
 - E5. A country whose government may spend money on ecotourism infrastructure projects may negatively affect the overall economy because it diverts resources from other types of infrastructure investments (e.g., education, health care).
 - E6. Ecotourism can result in low-paying jobs and/or informal economy sector jobs that do not contribute positively to the overall economy of a country.
 - E7. Transnational corporations may invest in ecotourism in a country, while sending the profits back to their headquarters, depriving the country of that income.
-

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