

2016 AP[®] HUMAN GEOGRAPHY FREE-RESPONSE QUESTIONS



Photo Y



Photo Z

Photo Y, © Richard van Kesteren / age fotostock; Photo Z, © Sisse Brimberg / Cotton Coulson / Keenpress / Exactostock

3. The pictures show two types of agriculture in the world.
- A. Identify the grain crop shown in each photo.
 - B. Discuss TWO economic differences between subsistence agriculture and commercial agriculture.
 - C. Identify ONE environmental impact resulting from the type of agriculture shown in photo Y.
 - D. Identify ONE environmental impact resulting from the type of agriculture shown in photo Z.

STOP

END OF EXAM

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Question 3

A. Identify the grain crop shown in each photo: (1 point total)

(1 point for identification of both)

Photo Y

Rice (wet or paddy rice is OK)

Photo Z

Wheat, oats, barley, rye, flax, millet, triticale,
canola, rice (only upland or dry)

B. Discuss TWO economic differences between subsistence agriculture and commercial agriculture. (4 points total)

4 points (2 points for a difference and a corresponding comparison) + (2 points for a difference and a corresponding comparison)

	Subsistence	Commercial
Labor/mechanization/technology	High inputs of human labor or intensive Hand tools/limited mechanization Low technology	Low inputs of human labor or extensive Machinery/mechanization High technology
Economic purpose	Family or communal For households With surplus to local markets	Profit drive/agribusiness For trade Large scale markets (reg./nat./global)
Size or scale of farm	Small plots	Large farms
Level of Economic development	Predominant in LDCs/less developed	Common (but not limited to) MDCs/developed
Financial investment	Low levels of financial/capital investment	High levels financial/capital investment, loans
Inputs	Lower use of chemical fertilizers and pesticides	Higher levels of chemical fertilizers and pesticides
Percent labor in agriculture	Countries have higher percent of labor force in agriculture	Countries have lower percent of labor force in agriculture
Gender	Large percent of farm workers are female	Small percent of farm workers are female

C. Identify ONE environmental impact resulting from the type of agriculture shown in Y. (1 point total)

1. **Habitat loss:** Destruction of natural wetlands, lakes, streams, forested regions; loss of species (aquatic/terrestrial plants and animals)
2. **Water quality:** Pesticides and fertilizers used in paddy farming or to control mosquitoes can affect bird reproduction and downstream aquatic ecology
3. **Increased wetlands:** Increased water surface areas for migratory birds, reptiles, sedentary fish, or other water-dependent species.

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Question 3 (continued)

4. **Changes to natural systems by landscape modification:** Specific to rice farming: terracing, diversion of streams, rivers, deforestation, increase in arable land and wetlands; and increased CH₄ emissions from organic decomposition in rice paddies adds to the greenhouse effect.
5. **Disease:** Increases water borne disease, mosquitoes, malaria, and other diseases.
6. **Soil quality:** Improvement from burning rice straw, deposition/sedimentation.
7. **Air quality:** Smoke from burning rice paddies/straw; CH₄ (methane) from organic decomposition.

D. Identify ONE environmental impact resulting from the type of agriculture shown in Z. (1point total)

1. **Air quality:** Degradation from spraying agricultural chemicals (herbicides, pesticides, fertilizers), vehicle exhaust, and dust:
2. **Water quality:** Downstream effects of water diversion, increased sedimentation, and chemical pollution; dead-zones in lakes and oceans at or near the mouths of rivers.
3. **Soil quality:** Erosion, nutrient loss, moisture capacity loss, salinization, land exhaustion, accumulation of agricultural chemical (herbicides, pesticides, fertilizers)
4. **Modified biodiversity:** Destruction of natural grasslands, wetlands, plains' fauna and flora; super pests; decreased crop variety from monoculture Airborne or other mechanized pesticide spraying damages natural insect ecology and harms animals that prey upon insects; agricultural chemicals and vehicle exhaust contribute to greenhouse effect.
5. **Water availability:** Depletion of streams, groundwater, and aquifers from irrigation in dry regions or during dry climate cycles.