

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

# Assessment of Sustainability Knowledge: Question Domains

A Report from the Environmental and Social Sustainability Lab  
(ESSL ASK2-2014)



**THE OHIO STATE UNIVERSITY**

COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES

School of Environment and Natural Resources  
The Ohio State University  
2021 Coffey Rd  
Columbus, OH 43210

## About the Environmental and Social Sustainability Lab

The Environmental and Social Sustainability (ESS) Lab is a community of scholars working to build scientific understanding of environmental and social sustainability in an interdisciplinary context. We collaborate to describe, analyze, and communicate environmental problems and potential solutions. We are staffed by a core group of affiliated faculty members and students representing a range of social sciences with focus on the environment and natural resources. In addition to a core of faculty leaders, the Environmental and Social Sustainability (ESS) Lab serves as a clearing-house, tailored to particular projects, by gathering research and support personnel from across the campus and nation as needed.

### Environmental and Social Sustainability Lab, School of Environment and Natural Resources, The Ohio State University

Adam Zwickle  
Tomas Koontz  
Andy Bodine (Department of Psychology)  
Kristina Slagle  
Anna C. McCreery  
[essl@osu.edu](mailto:essl@osu.edu)



### In conjunction with the Office of Sustainability, University of Maryland

Mark Stewart  
Nicole Horvath



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The Assessment of Sustainability Knowledge (ASK) questions cover all three sustainability domains, including environmental, economic, and social sustainability. Although there is necessarily some overlap in content, the questions have been sorted into the three domains based on the type of knowledge that would be necessary for a correct answer.

Some questions are also hypothesized to overlap domains; possible overlapping domains are identified where relevant below.

## Questions on Environmental Sustainability

1. What is the most common cause of pollution of streams and rivers?
  - a. Dumping of garbage by cities
  - b. Surface water running off of yards, city streets, paved lots, and farm fields
  - c. Litter near streams and rivers
  - d. Waste dumped by factories
  - e. Don't know
  
2. Ozone forms a protective layer in the earth's upper atmosphere. What does ozone protect us from?
  - a. Acid rain
  - b. Climate change
  - c. Sudden changes in temperature
  - d. Harmful UV rays
  - e. Don't know
  
3. What is the name of the primary federal agency that oversees environmental regulation?
  - a. Environmental Protection Agency (the EPA)
  - b. Department of Health, Environment, and Safety (the DHES)
  - c. National Environmental Agency (the NEA)
  - d. Federal Pollution Control Agency (the FPCA)
  - e. Don't know
  
4. What is the primary benefit of wetlands?
  - a. Promote flooding
  - b. Clean the water before it enters lakes, streams, rivers, or oceans
  - c. Keep the number of undesirable plants and animals low
  - d. Provide good sites for landfills
  - e. Don't know

5. Which of the following is an example of sustainable forest management?
  - a. Setting aside forests to be off limits to the public
  - b. Never harvesting more than what the forest produces in new growth
  - c. Producing lumber for nearby communities to build affordable housing
  - d. Putting the local communities in charge of forest resources
  - e. Don't know
  
6. In the U.S., what do we currently do with the nuclear waste generated by nuclear power plants?
  - a. Use it as nuclear fuel
  - b. Sell it to other countries
  - c. Dump it in landfills
  - d. Store and monitor the waste
  - e. Don't know
  
7. What are the potential effects of global climate change?
  - a. Loss of habitats
  - b. Less severe weather
  - c. Loss of ozone layer
  - d. Decrease in sea level
  - e. Don't know
  
8. Living in Maryland, we see signs about entering the Chesapeake Bay Watershed or about "Saving the Bay." Which of the following is the greatest pressure leading to the degradation of the Bay's ecosystem? [*Adapt this question to a local water system*]
  - a. Dredging for sand
  - b. Litter that flows from streams and rivers into the Lake
  - c. Application of fertilizer on lawns and farms
  - d. Gas-powered boats
  - e. Don't know
  
9. The most significant driver in the loss of species and ecosystems around the world is...
  - a. Overhunting/overharvesting
  - b. Conversion of natural spaces into human developments (farmland, cities, etc.)
  - c. Acid rain
  - d. Breeding of animals in zoos
  - e. Don't know

10. Of the following, which would be considered living in the most environmentally sustainable way?
- a. Recycling all recyclable packaging
  - b. Reducing consumption of all products
  - c. Buying products labeled "eco" or "green"
  - d. Buying the newest products available
  - e. Don't know

*This question is hypothesized to overlap the environmental and social domains:*

11. What factors influence the human population's impact on Earth?

- A. Size of the population
  - B. Amount of materials used per person
  - C. Use of technology that lessens our impact
- a. A, B, and C
  - b. A and B, but not C
  - c. B and C, but not A
  - d. A, but not B or C
  - e. Don't know

12. Put the following list in order of the activities with the largest environmental impact to those with the smallest environmental impact:

- A. Keeping a cell phone charger plugged into an electrical outlet for 12 hours
  - B. Eating one McDonald's quarter-pound hamburger
  - C. Eating one McDonald's chicken sandwich
  - D. Flying in a commercial airplane from Washington D.C. to China
- a. A, C, B, D
  - b. D, A, B, C
  - c. D, C, B, A
  - d. D, B, C, A
  - e. Don't know

## Questions on Economic Sustainability

13. Which of the following is the primary reason that gasoline prices have risen over the last several decades in the U.S.?
- Growing percentage of gas stations owned by large corporations
  - Increasing oil discoveries overseas
  - Higher rates of state and federal gasoline tax
  - Increasing global demand for oil
  - Don't know

*This question is hypothesized to overlap the economic and environmental domains:*

14. Many economists argue that electricity prices in the U.S. are too low because...
- They do not reflect the costs of pollution from generating the electricity
  - Too many suppliers go out of business
  - Electric companies have a monopoly in their service area
  - Consumers spend only a small part of their income on energy
  - Don't know

15. Which of the following is the most commonly used definition of economic sustainability?
- Maximizing the share price of a company's stock
  - Long term profitability
  - When costs equal revenue
  - Continually expanding market share
  - Don't know

*This question is hypothesized to overlap the economic and environmental domains:*

16. Which of the following is a leading cause of the depletion of fish stocks in the Atlantic Ocean?
- Fishermen seeking to maximize their catch
  - Reduced fish fertility due to genetic hybridization
  - Ocean pollution
  - Global climate change
  - Don't know

*This question is hypothesized to overlap the economic and environmental domains:*

17. Which of the following countries has now passed the U.S. as the biggest emitter of the greenhouse gas carbon dioxide?
- China
  - Sweden
  - Brazil
  - Japan
  - Don't know

*This question is hypothesized to overlap the economic and environmental domains:*

18. Imagine you are one of the many fishermen who rely on the fish you catch from Lake Erie as your main source of income. The Fisherman Council determined that each fisherman must limit his/her catch to 5 tons per year to maintain the fishery. You decide to catch 6 tons of fish this year. [Adapt this question to a local water system]

What could be the results of your decision?

- A. You make more money this year than you would have if you caught 5 tons of fish
  - B. You make less money this year than you would have if you caught 5 tons of fish
  - C. The total number of fish that are available to catch each year could decrease
  - D. Fishermen, including you, could go out of business
- 
- a. B, C, and D, but not A
  - b. B and C, but not A or D
  - c. A and C, but not B or D
  - d. A, C, and D, but not B
  - e. Don't know

*This question is hypothesized to overlap the economic and social domains:*

19. The best way to support a local economy, such as the economy of Columbus, is to buy goods (groceries, clothing, toiletries, etc)...[Adapt this question to your town/city]

- a. At large chain stores that may employ workers from the local community
- b. Online from discount retailers
- c. From stores that sell locally-produced goods
- d. From second-hand/thrift stores
- e. Don't know

20. Imagine that we had to pay for all the costs associated with the goods we use every day. What would go into calculating the true costs of a product?

- a. The cost of raw materials to make the product
- b. The cost of environmental damage caused by production
- c. The cost of health care for employees who manufacture the product
- d. All of the above
- e. Don't know

## Questions on Social Sustainability

21. Which of the following is the most commonly used definition of sustainable development?
- Creating a government welfare system that ensures universal access to education, health care, and social services
  - Building a neighborhood that is both socio-demographically and economically diverse
  - Meeting the needs of the present without compromising the ability of future generations to meet their own needs
  - Setting aside resources for preservation, never to be used
  - Don't know
22. Over the past 3 decades, what has happened to the difference between the wealth of the richest and poorest Americans?
- The difference has increased
  - The difference has stayed about the same
  - The difference has decreased
  - Don't know
23. Higher levels of education generally lead to...
- Lower levels of voter turnout
  - Greater annual earnings
  - Larger family size
  - Higher self esteem
  - Don't know
24. The wealthiest 20% of people in the U.S. own approximately what percent of the nation's privately held wealth?
- 20%
  - 35%
  - 50%
  - 85%
  - Don't know

*This question is hypothesized to overlap the social and economic domains:*

25. Which of the following is the best example of environmental justice?
- Urban citizens win a bill to have toxic wastes taken to rural communities
  - Government dams a river, flooding Native American tribal lands to create hydro-power for large cities
  - All stakeholders from an indigenous community are involved in setting a quota for the amount of wood they can take from a protected forest next to their village
  - Multi-national corporations build factories in developing countries where environmental laws are less strict
  - Don't know



*This question is hypothesized to overlap all three domains:*

26. Using resources, like fossil fuels, can create economic growth. However, future generations may be disadvantaged if the current generation overuses these resources. Which of the following principles can we follow if we do not want to disadvantage the next generation?
- Renewable resources such as fish, soil, and groundwater must be used no faster than the rate at which they regenerate.
  - Nonrenewable resources such as minerals and fossil fuels must be used up quickly to encourage the development of renewable substitutes.
  - Pollution must be emitted at current levels so that natural systems can maintain the ability to absorb them, recycle them, or render them harmless
  - None of the above are true
  - Don't know

*This question is hypothesized to overlap the social and environmental domains:*

27. Which of the following statements about water is true?
- Globally, water for personal use such as washing dishes, doing laundry, and bathing is the major user of water resources.
  - Globally, freshwater reserves (aquifers) are used faster than they are replenished.
  - Floods and severe weather will increase the availability of clean drinking water.
  - Because water is a free and abundant resource, it is not a major concern for most countries.
  - Don't know

*This question is hypothesized to overlap the social and economic domains:*

28. Workers around the world face a variety of social injustices, including low wages, poor working conditions, and lack of access to education. To help improve conditions for these workers you can:
- Support corporations that do not allow workers to join labor unions
  - Buy the newest products to keep factories around the world open
  - Purchase products from companies that conduct business in a socially responsible manner
  - Support large corporations because they generally have more money to pay their workers
  - Don't know



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210 Kottman Hall  
2021 Coffey Road  
Columbus, OH 43210

Phone 614.292.2265

Fax 614.292.7432

URL [senr.osu.edu](http://senr.osu.edu), [ess.osu.edu](http://ess.osu.edu)

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