



**LAND MANAGEMENT, ENVIRONMENT & SOLID-WASTE:
INSIDE EDUCATION AND BUSINESS IN CENTRAL ASIA
ERASMUS-EDU-2023-CBHE Project Number: 101129032**

MICRO-CREDENTIAL

CIRCULAR ECONOMY FOR LAND AND WASTE MANAGEMENT

13.- Assessment Tools and Indicators of Circular Economy

Activity 2

Quiz: indicators vs outcomes



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Part A. Multiple-choice questions

1. What is an indicator?

- A. A measurable variable used to describe performance or change
- B. A circular economy technology
- C. A type of landfill
- D. A legal permit only

2. What is an outcome indicator?

- A. A measure of whether the desired environmental or resource improvement has occurred
- B. A count of how many meetings were organized
- C. A description of a project budget
- D. A list of staff members

3. Which is an activity indicator?

- A. Tonnes of waste collected separately
- B. Reduction in virgin material consumption
- C. Reduction in groundwater nitrate concentration
- D. Improvement in soil organic carbon

4. Which is an outcome indicator?

- A. Number of recycling containers installed
- B. Number of training sessions organized
- C. Reduction in waste sent to final disposal
- D. Number of staff employed by a project

5. Why can a recycling rate be misleading?

- A. A high rate can coexist with increasing total material consumption
- B. Recycling rates can never be measured

C. Recycling always increases virgin-material use

D. Recycling rates only apply to water

6. Which is an absolute indicator?

A. Tonnes of virgin material consumed per year

B. Kilograms of material per unit product

C. Percentage of recycled content

D. Percentage of waste recovered

7. Which is a relative indicator?

A. Total annual waste generated

B. Total freshwater abstraction

C. Litres of water per kilogram of product

D. Total tonnes of virgin material used

8. Why should absolute indicators be included?

A. Efficiency may improve while total environmental pressure still increases

B. Relative indicators are always wrong

C. Absolute indicators require no data

D. Total resource use is irrelevant

9. A company reduces material use per product by 20% but doubles production. What should be checked?

A. Whether total material consumption has increased

B. Only the colour of the product

C. Only the recycling logo

D. Nothing else

10. Which indicator best measures material circularity?

- A. Share of secondary material actually replacing virgin material
- B. Number of recycling posters
- C. Size of the recycling facility
- D. Number of employees only

11. Which is most directly an environmental outcome?

- A. Ten new composting facilities built
- B. Fifty staff trained
- C. Reduced uncontrolled disposal of organic waste
- D. One circular economy strategy published

12. Why is compost production alone insufficient as a success indicator?

- A. The compost may be contaminated or not actually used
- B. Compost has no relation to circular economy
- C. Organic waste cannot be composted
- D. Compost production always increases pollution

13. Which indicator would help verify compost quality?

- A. Concentrations of contaminants and physical impurities
- B. Number of trucks at the facility
- C. Size of the office
- D. Number of visitors

14. Which indicator best demonstrates real water circularity?

- A. Volume of water reused together with freshwater savings and water-quality performance
- B. Volume of water pumped only
- C. Number of pipes installed

D. Number of treatment workers

15. Why can high water reuse be environmentally problematic?

- A. Salts or contaminants may accumulate in soil or water systems
- B. Reused water never affects land
- C. Water quality is irrelevant
- D. Reuse always eliminates pollution

16. What is a rebound effect?

- A. Efficiency improvements indirectly stimulate higher consumption
- B. A guaranteed reduction in resource use
- C. A type of composting process
- D. A legal prohibition

17. Which is an example of rebound?

- A. More efficient production lowers costs and increases total consumption enough to offset savings
- B. Waste generation decreases in absolute terms
- C. Product lifetime increases
- D. Groundwater quality improves

18. What is burden shifting?

- A. Reducing one impact while increasing another elsewhere
- B. Eliminating all impacts simultaneously
- C. Increasing data accuracy
- D. Reducing the number of indicators

19. Which example best illustrates burden shifting?

- A. Reducing landfill disposal but increasing energy use and polluted wastewater during recycling
- B. Reducing both virgin materials and emissions
- C. Extending product lifetime
- D. Preventing unnecessary waste

20. Which indicator is especially relevant to landfill diversion?

- A. Tonnes of waste no longer sent to landfill
- B. Number of waste bins painted
- C. Number of employees at city hall
- D. Number of circular-economy reports

21. Why is waste diversion alone not sufficient?

- A. Waste may be shifted to another low-value or high-impact treatment route
- B. Landfill diversion can never be measured
- C. All diverted waste is automatically reused
- D. Disposal has no environmental effect

22. Which is an output indicator for anaerobic digestion?

- A. Cubic metres of biogas produced
- B. Reduction in fossil-energy consumption
- C. Reduction in groundwater contamination
- D. Improved rural resilience

23. Which is an outcome indicator for anaerobic digestion?

- A. Number of digesters built
- B. Tonnes of feedstock treated
- C. Reduction in fossil fuel use and uncontrolled manure emissions

D. Number of project meetings

24. Why should baseline data be established?

- A. To compare performance before and after intervention
- B. To avoid future monitoring
- C. To replace indicators
- D. To eliminate uncertainty completely

25. What is a target?

- A. A desired future performance level for an indicator
- B. A sampling container
- C. A waste category
- D. A treatment process

26. Which indicator best reflects waste prevention?

- A. Total waste generated per capita
- B. Number of recycling bins
- C. Tonnes processed after waste is generated
- D. Number of waste trucks

27. Which is the strongest indicator of product-life extension?

- A. Average useful product lifetime
- B. Number of repair shops alone
- C. Number of repair advertisements
- D. Number of recycling facilities

28. A city opens three repair centres. Which outcome should also be measured?

- A. Whether products are actually used longer and replacement demand decreases
- B. Only the number of buildings
- C. The colour of the centres
- D. The number of signs installed

29. What is a proxy indicator?

- A. An indirect measure used when the desired phenomenon cannot be measured directly
- B. A measurement that is always incorrect
- C. A legal obligation
- D. A recycling technology

30. What is a limitation of proxy indicators?

- A. They may not accurately represent the real outcome of interest
- B. They never require data
- C. They automatically prove causality
- D. They eliminate uncertainty

31. Which is most important when selecting indicators?

- A. Relevance to the objective and ability to support decisions
- B. Using as many indicators as possible
- C. Selecting only easy-to-measure variables
- D. Avoiding outcome indicators

32. Why can too many indicators be problematic?

- A. They may create complexity without improving decision quality
- B. More indicators always mean better assessment
- C. Indicators have no data needs

D. They automatically eliminate trade-offs

33. Which indicator is appropriate for industrial symbiosis?

- A. Virgin inputs avoided through verified by-product substitution
- B. Number of companies invited to meetings only
- C. Number of emails exchanged
- D. Size of participating offices

34. Why should substitution be verified?

- A. Recovered material may be additional rather than actually replacing virgin input
- B. Secondary resources always replace virgin materials automatically
- C. Substitution is irrelevant to circularity
- D. Verification always increases waste

35. Which set provides the strongest evidence of real circularity?

- A. More recycled material, less virgin-material consumption, lower waste disposal and reduced environmental impacts
- B. More recycling bins only
- C. More circular economy strategies published
- D. More project meetings

Part B. True or false

- 36. An activity indicator automatically proves environmental improvement.
- 37. A high recycling rate can coexist with increasing total resource consumption.
- 38. Both absolute and relative indicators can be useful.
- 39. Circular economy indicators should consider rebound and burden shifting.
- 40. More data always guarantee better decision-making.

Part C. Short-answer questions

41. Explain the difference between an activity indicator and an outcome indicator.
42. Why should absolute resource consumption be measured alongside efficiency?
43. Give one example of burden shifting in a circular economy project.
44. Why is a high recycling rate not sufficient proof of circularity?
45. Give three indicators that could demonstrate real circularity in a municipal organic-waste project.