



CC6 Quiz Mock Lecture Notes

Sustainability: Society, Economy and Environment (Nanyang Technological University)



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Week 1 (20 qns)

Sustainability development must balance which of the following dimensions?

- A. Economic and military
- B. Social, economic, and environmental
- C. Technological and political
- D. Cultural and historical
- E. Educational and financial

Correct Answer: B. Social, economic, and environmental

Who is Peter Bakker in the context of sustainability?

- A. A Nobel laureate in Chemistry
- B. President of the World Business Council for Sustainable Development
- C. An environmental activist
- D. A United Nations Secretary-General
- E. A fictional character from a sustainability novel

Correct Answer: B. President of the World Business Council for Sustainable Development

When did Peter Bakker make a notable quote about sustainability at a forum?

- A. 2010
- B. 2011
- C. 2012
- D. 2013
- E. 2014

Correct Answer: C. 2012

The term 'sustainable development' was popularized by which report?

- A. The Paris Agreement
- B. The Brundtland Report 1987
- C. The Kyoto Protocol
- D. The Rio Declaration

Correct Answer: B. The Brundtland Report

Which international agreement aims to address climate change by reducing greenhouse gas emissions?

- A. The Paris Agreement
- B. The Montreal Protocol
- C. The Trans-Pacific Partnership
- D. The G7 Summit

Correct Answer: A. The Paris Agreement

Interdisciplinary approaches to sustainability are important because:

- A. They focus solely on environmental science
- B. They provide more comprehensive solutions to complex problems
- C. They are less expensive to implement
- D. They prioritize economic growth over environmental concerns

Correct Answer: B. They provide more comprehensive solutions to complex problems

Which of the following is not a principle of sustainability?

- A. Conservation of biodiversity
- B. Equitable resource distribution
- C. Maximization of resource extraction
- D. Reduction of waste and pollution

Correct Answer: C. Maximization of resource extraction

Week 2 Part 1

What demographic characteristics are commonly associated with poverty, according to the material?

- A. Predominantly urban, elderly, and highly educated
- B. Predominantly rural, young, and undereducated
- C. Predominantly suburban, middle-aged, and with tertiary education
- D. Predominantly urban, of mixed age groups, and with secondary education

Correct Answer: B. Predominantly rural, young, and undereducated

Which group is disproportionately represented among the poor globally?

- A. Men
- B. Women
- C. Children
- D. Elderly

Correct Answer: B. Women

What is a significant factor in determining the effectiveness of aid directed towards poverty alleviation?

- A. The amount of aid provided
- B. The geographical location of the recipients
- C. The targeting and proper use of the aid
- D. The political stability of the donor country

Correct Answer: C. The targeting and proper use of the aid

Which of the following statements best represents the course material regarding the regional distribution of extreme poverty?

- A. Extreme poverty is evenly distributed across all regions.
- B. Extreme poverty is predominantly an urban phenomenon.
- C. The regional proportion of extreme poverty is higher in rural areas.
- D. Extreme poverty has been completely eradicated in most regions.

Correct Answer: C. The regional proportion of extreme poverty is higher in rural areas.

Week 2 Part 2

What is a core aspect of social inclusion?

- A. Ensuring that every human being can meet basic needs
- B. Limiting access to education and resources
- C. Focusing only on economic growth
- D. Promoting individual prosperity over community well-being

Correct Answer: A. Ensuring that every human being can meet basic needs

What does the Gini coefficient measure?

- A. The overall wealth/income of a country
- B. The quality of life or general economic well-being
- C. The statistical measure of income or wealth distribution among a population
- D. The rate of unemployment

Correct Answer: C. The statistical measure of income or wealth distribution among a population

By 2030, what income growth goal is set for the bottom 40% of the population?

- A. Growth at a rate lower than the national average
- B. Decline in income
- C. Stagnation of income
- D. Growth at a rate higher than the national average

Correct Answer: D. Growth at a rate higher than the national average

How do redistribution policies like progressive taxation and social transfers typically affect income inequality?

- A. They exacerbate income inequality by favoring the wealthy.
- B. They have no impact on the distribution of income.
- C. They are intended to reduce income inequality.
- D. They increase income inequality by disproportionately taxing the poor.

Correct Answer: C. They are intended to reduce income inequality.

Week 3

What is a strategy to enhance food security by reducing dependence on a single source of food imports?

- A. Monoculture farming (growing one type of crop only)
- B. Diversifying sources of import supply
- C. Reducing overall food production
- D. Increasing export quotas

Correct Answer: B. Diversifying sources of import supply

What emerging concept in sustainable food production emphasizes the reuse and recycling of materials to form a closed-loop system?

- A. Linear economy
- B. Circular economy
- C. Open system agriculture
- D. Monocropping systems

Correct Answer: B. Circular economy

What is a significant challenge faced by rice production as mentioned in the material?

- A. Excessive water availability
- B. Decreased global demand
- C. Increasing difficulty due to environmental factors
- D. Oversupply in international markets

Correct Answer: C. Increasing difficulty due to environmental factors

What role does rice production, which is becoming increasingly difficult, play in the circular economy?

- A. It exemplifies the challenges of adapting traditional agriculture to sustainable models.
- B. It has no relevance to the circular economy.
- C. It is an example of an industry resistant to change.
- D. It demonstrates the success of circular economy principles in agriculture.

Correct Answer: A. It exemplifies the challenges of adapting traditional agriculture to sustainable models.

How is the circular economy, which aims to eliminate the concept of 'end of product life,' affected by climate change and its impact on agriculture?

- A. Climate change challenges the viability of circular economy principles.
- B. Climate change enhances the efficiency of the circular economy.
- C. Climate change has no effect on the circular economy.
- D. Climate change promotes the rapid adoption of circular economy practices.

Correct Answer: D. Climate change promotes the rapid adoption of circular economy practices.

Week 4

What is a major challenge in managing water resources due to climate change and environmental degradation?

- A. Overproduction of potable water
- B. Regional and seasonal changes in water availability and quality
- C. Decreased economic demand for water resources
- D. Oversaturation of water in urban areas

Correct Answer: B. Regional and seasonal changes in water availability and quality

What does the term 'underground water storage' refer to in the context of water resource management?

- A. Storing excess water in natural underground aquifers
- B. The process of artificially heating water underground
- C. Using underground facilities to store desalinated water
- D. A method of waste water treatment

Correct Answer: A. Storing excess water in natural underground aquifers

According to Singapore's approach, what is essential as water demand increases with population and economic growth?

- A. Reduction in water supply to manage scarcity
- B. Planning and implementing water infrastructure well ahead of demand
- C. Privatization of water resources
- D. Immediate reduction of population growth

Correct Answer: B. Planning and implementing water infrastructure well ahead of demand

What is the significance of the 'four National Taps' in Singapore's water resource management strategy?

- A. They represent the four stages of water purification
- B. They are the four major water supply companies in Singapore
- C. They symbolize the four primary sources of water for the population
- D. They are legislative measures to control water usage

Correct Answer: C. They symbolize the four primary sources of water for the population

In the context of sustainable agricultural practices, what is the importance of underground water storage?

- A. It reduces reliance on unpredictable rainfall.
- B. It contributes to soil erosion.
- C. It is only used for non-agricultural purposes.
- D. It increases water loss through evaporation.

Correct Answer: A. It reduces reliance on unpredictable rainfall.

How does climate change, which affects regional and seasonal water availability and quality, impact the circular economy?

- A. By disrupting water recycling processes
- B. By promoting water conservation and reuse
- C. By increasing water pollution
- D. By having no significant impact

Correct Answer: B. By promoting water conservation and reuse

Singapore's water management story serves as an example of which aspect in the circular economy?

- A. The need for privatization of water resources
- B. The success of a closed-loop water management system
- C. The challenges of water distribution in rural areas
- D. The impact of water scarcity on energy production

Correct Answer: B. The success of a closed-loop water management system

Week 5

What is the primary goal of emissions mitigation and adaptation in the context of climate change?

- A. To increase the global use of coal power plants
- B. To decarbonize the economy through advanced technologies and behavior change
- C. To expand the use of fossil fuels
- D. To increase the focus on clean energy

Correct Answer: B. To decarbonize the economy through advanced technologies and behavior change

Which of the following is a direct benefit of energy-efficient technologies?

- A. Higher greenhouse gas emissions
- B. An increase in energy imports
- C. Savings of a significant amount of energy in heating, cooling, and ventilation of buildings
- D. Increase in household and economy-wide costs

Correct Answer: C. Savings of a significant amount of energy in heating, cooling, and ventilation of buildings

What does the term 'energy-efficiency improvement' imply when considering weather-normalized figures?

- A. The performance of technologies worsens in different weather conditions
- B. There is a consistent decrease in energy efficiency over time
- C. Energy efficiency is measured by the increased output per unit of energy input under various weather conditions
- D. Weather conditions have no impact on energy efficiency

Correct Answer: C. Energy efficiency is measured by the increased output per unit of energy input under various weather conditions

In the action plan for emissions mitigation, what is the role of carbon capture and sequestration?

- A. To release captured carbon into the atmosphere gradually
- B. To enhance the efficiency of coal power plants
- C. To reduce emissions by capturing carbon from the atmosphere and storing it
- D. To promote the use of supercritical and blue hydrogen technologies

Correct Answer: C. To reduce emissions by capturing carbon from the atmosphere and storing it

How does the strategy of emissions mitigation and adaptation contribute to tackling climate change?

- A. By promoting advanced technologies and clean energy to decarbonize the economy
- B. By maintaining the status quo in energy production and consumption
- C. By increasing greenhouse gas emissions through industrial activities
- D. By focusing solely on behavioral change without technological advancement

Correct Answer: A. By promoting advanced technologies and clean energy to decarbonize the economy

The background, technologies, and policy instruments related to 'Energy and Climate Change' primarily aim to address which issue?

- A. The challenges of adapting current energy systems to meet the demands of a growing world population
- B. The implementation of policies that disregard environmental concerns
- C. The reduction of energy efficiency in economic activities
- D. The increase of energy demand without considering sustainability

Correct Answer: A. The challenges of adapting current energy systems to meet the demands of a growing world population

How is the concept of greater output per unit of energy input related to the goal of energy efficiency?

- A. It signifies the increased use of energy to perform tasks
- B. It represents the elimination of energy waste by using less energy for the same task
- C. It is unrelated to energy efficiency and focuses on energy consumption
- D. It promotes the use of traditional energy conversion methods

Correct Answer: B. It represents the elimination of energy waste by using less energy for the same task

Week 6

Which of the following is a market tool for efficient reduction of greenhouse gas (GHG) emissions?

- A. Behaviour change initiatives
- B. Cap and trade systems
- C. Large-scale R&D plans
- D. Direct control over polluters

Correct Answer: B. Cap and trade systems

The provision of financial and technical assistance to low-income countries aims to help them:

- A. Meet their emission reduction goals and participate in sustainable development
- B. Rely more on high-carbon energy sources
- C. Decrease their participation in international climate change agreements
- D. Focus solely on economic growth without environmental considerations

Correct Answer: A. Meet their emission reduction goals and participate in sustainable development

What is the purpose of putting a price on carbon emissions?

- A. To reward polluters for their emissions
- B. To provide financial incentives to reduce emissions and internalize negative impacts
- C. To increase the profitability of high-carbon industries
- D. To discourage investment in clean energy technologies

Correct Answer: B. To provide financial incentives to reduce emissions and internalize negative impacts

Which approach represents the 'polluter pays' principle in environmental policy?

- A. Subsidies for the fossil fuel industry
- B. Financial incentives for emission reduction
- C. Cap and trade programs
- D. Grants for unrestrained pollution

Correct Answer: C. Cap and trade programs

What is the intended outcome of large-scale R&D plans in the context of a low-carbon future?

- A. To maintain the current level of carbon emissions
- B. To tackle the technical challenges and promote decarbonisation of the economy
- C. To reduce the focus on renewable energy sources
- D. To limit the participation of civil society in energy policy discussions

Correct Answer: B. To tackle the technical challenges and promote decarbonisation of the economy

In the context of climate change, why is it important to know 'who should pay for it'?

- A. To ensure that only the government bears the cost of climate action
- B. To assign responsibility and ensure that costs are fairly distributed
- C. To exclude the private sector from contributing to climate finance
- D. To discourage any form of financial support for climate initiatives

Correct Answer: B. To assign responsibility and ensure that costs are fairly distributed

What is the goal of market tools like cap and trade in reducing GHG emissions?

- A. To minimize the efficiency of emission reductions
- B. To create a financial market where emission reductions are traded
- C. To increase the administrative burden on companies
- D. To discourage investment in clean technologies

Correct Answer: B. To create a financial market where emission reductions are traded

How does providing financial and technical assistance to low-income countries help in the context of climate change?

- A. It encourages these countries to increase their carbon footprint
- B. It helps them meet emission reduction goals and supports sustainable development
- C. It reduces their motivation to participate in international climate efforts
- D. It promotes the exclusive use of traditional energy sources

Correct Answer: B. It helps them meet emission reduction goals and supports sustainable development

Week 7

What is the immediate benefit of addressing sources of pollution as discussed in the lecture?

- A. The effects of pollution tend to decline swiftly once the sources are removed.
- B. Pollution sources are difficult to identify and control.
- C. The impact of pollution is permanent and irreversible.
- D. Pollution control measures have no significant immediate effects.

Correct Answer: A. The effects of pollution tend to decline swiftly once the sources are removed.

What can be done to aid marine animals in coping with noise pollution?

- A. Introduce louder sounds to mask the disruptive noises
- B. Establish quiet areas in the ocean and develop quieter ships and machinery
- C. Increase the volume of underwater machinery
- D. Nothing, as marine animals are not affected by noise pollution

Correct Answer: B. Establish quiet areas in the ocean and develop quieter ships and machinery.

What is a common theme among the pollutions discussed in this lecture, including air, light, noise, and plastic pollution?

- A. They are all forms of pollution that can have swift and reversible impacts once addressed.
- B. All of them are natural occurrences and do not require human intervention.
- C. They are permanent and cannot be mitigated.
- D. The sources of these pollutions are unknown.

Correct Answer: A. They are all forms of pollution that can have swift and reversible impacts once addressed.

Which of the following is the least serious effect of air pollution on children's health?

- A. Asthma attacks
- B. Pneumonia
- C. Chest tightness
- D. Development of chronic respiratory disease

Correct Answer: C. Chest tightness

What percentage of plastics was recycled in Singapore in 2021?

- A. 10%
- B. 4%
- C. 25%
- D. 50%

Correct Answer: B. 4%

What is the maximum permissible noise level for a Singaporean working at home for one hour?

- A. 55 dB
- B. 60 dB
- C. 67 dB
- D. 75 dB

Correct Answer: C. 67 dB

Which of the following marine animals are extra sensitive to noise pollution due to their reliance on sound for communication?

- A. Sharks
- B. Sea turtles
- C. Dolphins and whales
- D. Seals

Correct Answer: C. Dolphins and whales

What is the term for our body's 24-hour biological cycle, which can be disrupted by light pollution?

- A. Circadian rhythm
- B. Diurnal rhythm
- C. Nocturnal pattern
- D. Ultradian rhythm

Correct Answer: B. Diurnal rhythm

Week 8

Which statement reflects the logic of the circular economy?

- A. The circular economy is less compelling than the linear economy
- B. The circular economy aims to continue the traditional take-make-dispose model
- C. The circular economy emphasizes a restorative and regenerative design
- D. The circular economy encourages the one-time use of resources

Correct Answer: C. The circular economy emphasizes a restorative and regenerative design

How does the management of hazardous materials contribute to sustainability?

- A. By ensuring hazardous materials are freely available in the environment
- B. By improving safety and reducing the risk of contamination
- C. By increasing the cost and complexity of waste management
- D. By encouraging the unregulated disposal of toxic substances

Correct Answer: B. By improving safety and reducing the risk of contamination

What is one of the benefits of reducing the unit cost of energy, water, and raw materials?

- A. It promotes inefficiency and waste in production processes
- B. It enhances process efficiency and sustainability
- C. It leads to an increase in the consumption of non-renewable resources
- D. It has no influence on the sustainability of production

Correct Answer: B. It enhances process efficiency and sustainability

What challenge does improving environmental awareness present to the global food system?

- A. It can lead to an overemphasis on industrial agricultural practices
- B. It may result in reduced participation in sustainable food production
- C. It demands more responsible consumption patterns and sustainable practices
- D. It has no significant impact on the way food is produced or consumed

Correct Answer: C. It demands more responsible consumption patterns and sustainable practices

What role does the compelling logic of the circular economy play in sustainability?

- A. It discourages the reuse and recycling of materials
- B. It supports the continuous use of finite resources without consideration for the future
- C. It challenges the traditional take-make-waste model and supports sustainability
- D. It is not significant in the transition to sustainable practices

Correct Answer: C. It challenges the traditional take-make-waste model and supports sustainability

Week 9

Why do cities play a critical role in advancing the sustainability agenda?

- A. They have lower population densities.
- B. They are the primary sources of resource consumption and pollution.
- C. They are home to diverse ecosystems.
- D. They are less affected by global economic trends.

Correct Answer: B. They are the primary sources of resource consumption and pollution.

What is expected regarding the number of megacities by 2030?

- A. The number of megacities will decrease significantly.
- B. There will be no change in the number of megacities.
- C. There will be 43 megacities, mostly in developing regions.
- D. The majority of megacities will be in developed countries.

Correct Answer: C. There will be 43 megacities, mostly in developing regions.

What does it take to promote sustainability and resilience in cities?

- A. Time, collaboration, and engagement from all stakeholders.
- B. Focus solely on economic development.
- C. Isolation of cities from rural areas.
- D. Reduction of public participation in urban planning.

Correct Answer: A. Time, collaboration, and engagement from all stakeholders.

What is a defining characteristic of our current era with respect to urbanization?

- A. The planet is predominantly rural.
- B. Urban areas are shrinking in size.
- C. We live on an urban planet with growing city populations.
- D. Urbanization is stagnant.

Correct Answer: C. We live on an urban planet with growing city populations.

What is one of the key requirements for transformation towards urban sustainability?

- A. Rejecting technological advancements in urban management.
- B. Sustainability and resilience need to be incorporated into city planning.
- C. Reducing the involvement of local communities in decision-making.
- D. Ignoring the impacts of climate change on urban areas.

Correct Answer: B. Sustainability and resilience need to be incorporated into city planning.

Week 10

What is a major factor that could either support or hinder our ability to achieve sustainable development?

- A. Population dynamics
- B. Unlimited economic growth
- C. Singular focus on technological innovation
- D. Constant climate conditions

Correct Answer: A. Population dynamics

The case study of Yemen highlights which of the following as a challenge for sustainable development?

- A. High levels of technological advancement
- B. Access to abundant safe drinking water
- C. High infant mortality and low life expectancy
- D. Widespread urbanization

Correct Answer: C. High infant mortality and low life expectancy

What does the 'Limits to Growth' study by The Club of Rome emphasize about sustainable development?

- A. There are no limits to growth due to technological innovation.
- B. Economic and population growth can continue indefinitely without environmental impact.
- C. Sustainable development requires considering environmental limits and resource availability.
- D. Growth limits are only applicable to developed countries.

Correct Answer: C. Sustainable development requires considering environmental limits and resource availability.

In the context of Singapore, what environmental change has been documented?

- A. A significant decrease in temperature
- B. Stable temperature over decades
- C. Increase in temperature
- D. No data available on temperature changes

Correct Answer: C. Increase in temperature

How can a major climate change be characterized?

- A. As always being rapid and immediate
- B. As only occurring after a tipping point
- C. As potentially gradual and not necessarily accelerating drastically after a tipping point
- D. As never having a significant impact

Correct Answer: C. As potentially gradual and not necessarily accelerating drastically after a tipping point

How does the economic status and wellbeing in Yemen reflect on its sustainable development challenges?

- A. It shows a high rank in human development indicators
- B. It indicates extreme poverty and low human development rankings
- C. It is unrelated to sustainability
- D. It highlights Yemen as a leading example of sustainable practices

Correct Answer: B. It indicates extreme poverty and low human development rankings

What does the temperature change in Singapore signify in the context of environmental feedback loops?

- A. It indicates a cooling trend due to successful environmental policies
- B. It has no significance as temperatures have remained stable
- C. It signifies a warming trend, which may be part of broader climatic shifts
- D. It is an isolated event with no connection to global climate patterns

Correct Answer: C. It signifies a warming trend, which may be part of broader climatic shifts

What does the case study of Yemen illustrate about the relationship between civil conflict and sustainable development?

- A. Civil conflict has no impact on sustainability
- B. Civil conflict is beneficial for sustainable development as it reduces population pressure
- C. Civil conflict exacerbates challenges to sustainable development, such as food insecurity and access to water
- D. Civil conflict leads to technological innovation that promotes sustainability

Correct Answer: C. Civil conflict exacerbates challenges to sustainable development, such as food insecurity and access to water