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# CERTIFIED SUSTAINABLE DEVELOPMENT PROFESSIONAL - CSDP OVERVIEW

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MODULE  
**3B**

# What is Sustainable Development?

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# **CERTIFIED SUSTAINABLE DEVELOPMENT PROFESSIONAL CSDP OVERVIEW**

Sustainable development is a holistic approach to meet current needs without compromising future generations' ability to meet their own needs. It involves managing natural resources, social equity, and economic prosperity to ensure long-term environmental, social, and economic sustainability.

# Learning Objectives

- Introduction
- Getting Started with CSDP
- **What is Sustainable Development?**
- Sustainable Development: Definitions & Applications
- Environmental Issues Associated with Sustainable Development
- Alternative Energy & Carbon Reduction
- Certified Sustainable Development Specialist Certification
- Summary and Resources
- CSDP Practice Test V.4.1\_Test Your Knowledge!



## INTRODUCTION

- Sustainable development aims to meet current needs without compromising future generations' ability to meet their own needs.
- It involves managing natural resources, social equity, and economic prosperity for long-term sustainability.
- A three-legged stool represents environmental, social, and economic aspects of sustainability.
- Renewable energy sources like solar or wind power reduce reliance on finite resources, protecting the environment for future generations.
- Sustainable agriculture practices like crop rotation and organic farming maintain soil fertility, reduce harmful pesticides and fertilizers, and protect biodiversity.
- Sustainable development is a holistic approach to meet societal needs while preserving the environment for future generations.

# WHAT ARE SUSTAINABLE DEVELOPMENT AND SUSTAINABILITY?



- Sustainable development and sustainability are theoretical constructs with varying implications.
- Sustainability is a set of policies, programs, and initiatives with unique implications.
- The concept of sustainability is not a universal solution to global problems.
- Factors contributing to sustainability include social issues, economic concerns, resource allocation, environmental damage, population growth, access to potable water, health, and energy usage.

# UNDERSTANDING SUSTAINABLE DEVELOPMENT



- Is sustainable development a policy, collection of policies, or management approach?
- Is it a mental philosophy, agenda, or new set of problems?
- How did the sustainability agenda evolve?
- Can sustainability be defined and quantified?
- What solutions does it offer?
- Is sustainability worth pursuing?

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A hand in a dark suit sleeve holds a glowing yellow lightbulb. The background is a blurred cityscape at night. Overlaid on the scene are several white gears of various sizes and a network diagram of white dots connected by thin lines. The lightbulb is the central focus, emitting a warm glow.

**HOW SUSTAINABILITY EVOLVED**

# EVOLUTION OF SUSTAINABILITY

- Forces responsible for sustainability include social issues, economic concerns, resource allocation, environmental damage, population growth, access to potable water, health, and energy usage.
- Sustainable development is a priority of a new world agenda.
- Examines causes and effects of global problems like urban development, population growth, and energy use.
- Examines the nature and scope of policies supporting sustainable development.





# MAJOR UNDERLYING CAUSE:

- POPULATION GROWTH
- A SECOND MAJOR UNDERLYING CAUSE: URBAN DEVELOPMENT
- A THIRD UNDERLYING CAUSE: INCREASING ENERGY USAGE



ENERGY: SOCIETY'S MOST CRITICAL RESOURCE

# POPULATION GROWTH

- Population growth, with the world's population more than doubled in the past 50 years, has increased consumption of resources, contributing to environmental degradation and climate change.
- Sustainable practices must be integrated to address challenges posed by population growth, including promoting renewable energy, water conservation, biodiversity protection, and waste reduction.
- Education and awareness are essential to foster a culture of sustainability and encourage responsible consumption and production.
- Prioritizing sustainable practices is crucial for a healthy planet for current and future generations.



# URBAN DEVELOPMENT



- Urban development refers to the growth and expansion of cities through the construction of buildings, roads, and infrastructure.
- It is driven by factors such as population growth, economic development, and changes in land use patterns.
- Urban development contributes to environmental degradation through the loss of natural habitats, leading to ecosystem destruction and displacement of wildlife.
- Urban development also leads to increased pollution and waste generation due to the demand for resources like water, energy, and raw materials.
- Urban development can exacerbate climate change by releasing greenhouse gases, contributing to global warming and causing environmental changes.
- Policymakers, planners, and developers should consider the environmental consequences of urban growth and implement sustainable practices to mitigate these impacts.

# INCREASING ENERGY USAGE

- Population growth: Increased population necessitates more energy for powering homes, schools, and businesses.
- Technological advancements: New technologies like electric vehicles and electronic devices require more energy for efficient operation.
- Industrialization: As industries expand and modernize, their energy requirements also increase.
- Lifestyle changes: Increased travel, air conditioning, and electronic devices increase energy consumption and usage.
- Solutions: Countries may need to increase energy production and distribution capabilities, build new power plants, expand renewable energy sources, and improve energy efficiency.
- Balancing benefits with environmental and social impacts is crucial.
- Sustainable ways to meet energy demand while minimizing negative consequences are essential.



# ENERGY: SOCIETY'S MOST CRITICAL RESOURCE

- Energy production is centralized, while energy utilization is decentralized.
- External costs include environmental and air pollution, cap-financial accessibility, and social fairness.
- Companies are increasingly absorbing these costs due to circumstances.
- Energy-efficient use can greatly benefit the built environment.
- This includes supporting urban growth while minimizing environmental impact and avoiding the need for new power plants.
- Technologies are available for more efficient energy use.
- The global energy production and transmission efficiency index shows a 70% recovery rate, indicating potential for further energy efficiency advancements.



# ENERGY: SOCIETY'S MOST CRITICAL RESOURCE

## Sources of Energy

- Fossil Fuels: Non-renewable resources from ancient organic matter, primary energy source for many countries.
- Renewable Energy: Natural, replenishable sources like solar, wind, hydroelectric, and geothermal energy.
- Nuclear Energy: Controversial due to safety and waste disposal concerns.

## Energy Consumption

- Rapid increase in energy demand due to societal growth and development.
- Need to reduce energy consumption and transition to cleaner, more sustainable energy sources.

## Conclusion

- Energy is society's most critical resource, enabling comfortable and productive lives.
- Prioritizing energy efficiency, conservation, and renewable energy development is crucial for a sustainable future.



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TECHNICAL SOLUTIONS:  
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# ENVIRONMENTAL DETERIORATION

- Environmental deterioration is the decline in environmental quality due to human activities and natural processes.
- Pollution, including air, water, and soil pollution, harms wildlife and contaminates ecosystems.
- Deforestation leads to habitat loss, soil erosion, and increased greenhouse gas emissions, disrupting ecosystems and potentially causing species extinction.
- Climate change, caused by burning fossil fuels, increases greenhouse gas emissions and global temperatures, causing more frequent and severe weather events.
- Overexploitation of natural resources like fishing, mining, and deforestation leads to rapid resource depletion, causing loss of biodiversity and ecosystem services.
- Sustainable practices, such as using clean technologies, conservation efforts, and transitioning to renewable energy, can combat environmental deterioration.



# ENERGY: SOCIETY'S MOST CRITICAL RESOURCE



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# URBAN DISLOCATION

- Refers to displacement or uprooting of individuals, families, and communities from urban areas.
- Factors include gentrification, urban renewal projects, natural disasters, and economic downturns.
- Gentrification: Wealthier individuals or businesses move into lower-income neighborhoods, increasing property values and rents.
- Urban renewal projects: Demolishing or renovating older buildings or neighborhoods can displace residents and businesses.
- Natural disasters: Force evacuations due to safety concerns or property destruction.
- Economic downturns: Rising job loss and foreclosure rates lead to increased homelessness and instability.



# URBAN INFRASTRUCTURE CHANGES AND RAPID URBANIZATION

- Urban infrastructure refers to the physical systems and structures supporting city functioning, including transportation networks, utilities, communication systems, and public services.
- Rapid urbanization strains existing infrastructure, leading to overcrowded transportation systems, inadequate water and sanitation facilities, and insufficient public services.
- Cities like Mumbai, India, have experienced congestion due to the influx of migrants, and water and sanitation systems struggle to keep up with the growing population.



# URBAN INFRASTRUCTURE CHANGES AND RAPID URBANIZATION +



- To address these challenges, cities must invest in upgrading and expanding their infrastructure, including building new roads, improving water and sanitation facilities, and expanding access to essential services.
- Cities are likened to living organisms, needing efficient transportation networks to connect residents to jobs, schools, and essential services.
- Failure to invest in urban infrastructure can lead to congestion, shortages, and other challenges hindering city development.

# SUSTAINABILITY, ENERGY, AND CITIES: A HOLISTIC APPROACH

- Sustainability involves meeting present needs without compromising future generations' ability to meet their own needs.
- Cities are crucial due to their high concentration of people and resources, leading to significant global energy consumption, greenhouse gas emissions, and waste generation.
- Energy efficiency is key in urban sustainability, reducing carbon footprint and lowering energy costs through retrofitting buildings with energy-efficient systems.
- Renewable energy sources like solar panels, wind turbines, and hydropower plants can generate clean energy without depleting finite resources or contributing to climate change.





# SUSTAINABILITY, ENERGY, AND CITIES: A HOLISTIC APPROACH +

- Sustainable cities prioritize waste management, water conservation, green spaces, and public transportation.
- A holistic approach to sustainability, energy, and cities can enhance resilience, efficiency, and livability, while safeguarding the well-being of current and future generations.





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# THANK YOU

