

Feature of Renewable energy

Uses of Renewable energy

✓ SDG→12: Responsible consumption and production:-

Responsible production and consumption means using natural resources - like water, food, and energy carefully without wasting them or harming the environment. Its main aim is to use resources now but also save enough for future generations.

Today the population is growing, industries are expanding and people want more products. But the earth's resources are limited.

If we keep wasting food, using too much plastic or polluting through factories, then problems like climate change, pollution and deforestation will get worse.

→ The goal teach's us →

1 → Using resources wisely: Encourage to use only what we need and avoid unnecessary waste of food, water, electricity etc.

2 → Environment friendly production: Industries should adopt cleaner technologies, reduce pollution and produce goods using less energy.

3. Reduce-Reuse-Recycle: We should minimize consumption, reuse materials where ever possible and recycle waste to lower the pressure on natural resources.

4. Choosing sustainable products: People should use eco-friendly products like cloth bags, reusable water bottles etc.

5. Improved waste management: Proper waste separation collection, recycling and safe disposal are essential to reduce pollution.

→ In Bangladesh's Perspective →

achieving SDG 12 is challenging due to several issues:-

→ high level of plastic pollution.

→ large amount of food waste in markets.

→ Industrial waste from textile sectors.

→ weak and unorganized waste management.

→ low public awareness about recycling.

→ However positive changes are becoming visible →

→ The use of eco friendly products and reusable bags are increasing.

- Some cities are started implanting waste segregation practices.
- Recycling industries are gradually expanding.
- Increasing solar energy uses.

These effort shows that Bangladesh is moving towards more sustainable consumption and production patterns.

Consumatism and Environmental Damage:

Definition: Consumatism means rising use of goods, services, energy, and resources as living standards improve. It improves life, but it also puts huge pressure on the environment.

How It Damages the Environment:-

1. Overuse of Natural Resources: Higher consumption → more extraction of oil, gas, minerals, forests and water. This causes resource depletion, ecosystem destruction and rapid biodiversity loss.
2. More Pollution and waste: More goods produced → more emission, more plastic and more toxic by products. Developing countries suffer most because 20-50% of waste remains uncollected and piles up in streets.
3. Rising Carbon Emissions: More cars, factories and energy use increase CO₂ and methane, speeding up global warming.

Global Consumption Trends:- Consumption exploded during 20th century.

→ 1900: about 1.5 trillion USD

→ 2000: about 24 trillion USD

This is six times more than 1950 and double 1975. Industrialized countries grow at 2.3% per head yearly; East Asia even faster at 6.1%. While Africa now consumes 20% less than 30 years ago.

→ Inequality in Consumption: Rich nations consume far more resources.

Poor nations consume far less but face heavier environmental damage. This creates global imbalance.

→ The "Treadmill of Production": Industrial capitalism forces continuous production and consumption, pushing societies to extract more, pollute more and generate more waste - driving long term environmental destruction.

Lec→06 Notes:-

■ Solid wastes, (Types, Impacts, waste management)

Q17: How do production and consumption affect the environment? Draw a relationship between the pattern of consumption and its impact on the environment from your own understanding?

Production and consumption are intricately linked, and together, they have a profound impact on the environment. The relationship between consumption patterns and environmental impact can be illustrated as follows:

1. Resource Extraction and Depletion:

- **Production:** To meet consumer demand, industries extract raw materials such as minerals, metals, fossil fuels, and timber.
- **Consumption:** Increased consumption leads to greater resource extraction, depleting finite resources and contributing to habitat destruction and environmental degradation.

2. Energy Use and Emissions:

- **Production:** Industries require energy for manufacturing and transportation, often relying on fossil fuels.
- **Consumption:** Greater consumption results in higher energy demand, leading to increased greenhouse gas emissions, air pollution, and climate change.

3. Pollution and Waste:

- **Production:** Manufacturing processes generate pollutants and waste, which can contaminate air, water, and soil.

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- **Consumption:** More consumption results in increased waste, including plastic, electronic, and hazardous waste, straining waste management systems and polluting the environment.

4. Deforestation and Land Use Change:

- **Production:** Agricultural expansion and urbanization require land, leading to deforestation and habitat loss.
- **Consumption:** Consumer demand for agricultural products and urban development drives deforestation, reducing biodiversity and increasing carbon emissions.

5. Overfishing and Marine Ecosystems:

- **Production:** Overfishing and destructive fishing practices harm marine ecosystems.
- **Consumption:** High demand for seafood leads to overfishing, threatening fish stocks and marine biodiversity.

6. Water Stress:

- **Production:** Water-intensive industries can contribute to water scarcity and pollution.
- **Consumption:** Increased consumption places pressure on water resources, impacting ecosystems and water availability for communities.

7. Urbanization and Habitat Loss:

- **Production:** Urban expansion and infrastructure development lead to habitat destruction.
- **Consumption:** The demand for urban amenities drives land

threatening fish stocks and marine biodiversity.

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8. Eutrophication and Agriculture:

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- **Production:** Intensive agriculture uses fertilizers and chemicals that can cause eutrophication in water bodies.
- **Consumption:** Consumer demand for food products drives agricultural practices that contribute to water pollution and ecosystem damage.

9. Wildlife Trafficking and Poaching:

- **Production:** The illegal trade in wildlife products threatens endangered species.
- **Consumption:** Demand for exotic pets, ivory, and other wildlife products drives poaching and illegal trade.

10. Climate Change: - **Production:** Greenhouse gas emissions from various industries contribute to climate change. -

Consumption: Greater consumption leads to increased production and emissions, exacerbating climate change impacts.

In summary, the pattern of consumption, especially when characterized by overconsumption and resource-intensive lifestyles, has significant consequences for the environment. It drives resource depletion, pollution, habitat destruction, and species loss. Addressing environmental challenges requires considering both production and consumption patterns and transitioning toward more sustainable and responsible practices that reduce environmental impact.

Q18 • How a person can be ethical in terms of consumption – briefly explain using examples?

Being ethical in terms of consumption involves making choices that minimize harm to the environment, society, and future generations. Here are some ways a person can practice ethical consumption, along with examples:

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1. Reduce and Reuse:

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1. Reduce and Reuse:

- **Example:** Opt for reusable shopping bags, water bottles, and containers to reduce single-use plastic waste.

2. Choose Sustainable Products:

- **Example:** Purchase products with eco-friendly certifications (e.g., ENERGY STAR for appliances) or those made from sustainable materials, such as FSC-certified wood.

3. Support Ethical Brands:

- **Example:** Choose products from companies that have strong environmental and social responsibility policies and practices.

4. Buy Local and Seasonal:

- **Example:** Purchase locally grown produce to support local farmers and reduce the carbon footprint associated with long-distance transportation.

5. Conserve Energy:

- **Example:** Use energy-efficient appliances and lighting to reduce electricity consumption and lower greenhouse gas emissions.

6. Reduce Meat Consumption:

- **Example:** Eating plant-based meals or reducing meat intake can help lower the environmental impact associated with meat production.

7. Recycle and Dispose Responsibly:

- **Example:** Sort and recycle materials properly, and dispose of hazardous waste at designated collection sites.

8. Minimize Fast Fashion:

- **Example:** Buy clothing of better quality and durability, reducing the need for frequent replacements and lessening textile waste.

9. Limit Single-Use Plastics:

- **Example:** Avoid disposable cutlery, straws, and containers, and choose alternatives like bamboo utensils and metal straws.

10. Support Fair Trade:

- **Example:** Purchase fair trade products like coffee, tea, and chocolate to ensure that producers receive fair wages and work in safe conditions.

By making conscious and ethical choices in consumption, individuals can contribute to a more sustainable and responsible

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By making conscious and ethical choices in consumption, individuals can contribute to a more sustainable and responsible way of living, reducing their environmental and social footprint.

Q19 • What are the types of solid waste? What is your understanding about E-waste?

Solid waste, often categorized based on its source and composition, includes various types of waste materials. One specific and

Q. Discuss briefly the concept of Sustainable Development? Write down the sustainable development goal.

→ Sustainable development is a way of using resources that meets the needs of the present without compromising the ability of future generations to meet their own needs.

It focuses on three main pillars:

* Economic Sustainability: improving living standards and economic growth.

* Social Sustainability: Ensuring equality, justice and human well-being.

* Environmental Sustainability: Protecting natural resources and ecosystems.

In simple word: grow and develop without harming the planet or the future.

- Sustainable development goals:
 - 1. No poverty
 - 2. Zero hunger
 - 3. Good health and well-being
 - 4. Quality education
 - 5. Gender equality
 - 6. Clean water and sanitation
 - 7. Affordable and clean energy
 - 8. Decent work and economic growth
 - 9. Industry, innovation and infrastructure
 - 10. Reduced inequalities
 - 11. Sustainable cities and communities.
 - 12. Responsible consumption and production
 - 13. Climate action
 - 14. Life below water
 - 15. Life on land
 - 16. Peace, justice and Strong institutions.
 - 17. Partnerships for the goal.

□ Responsible consumption and production □

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Today the population is growing, industries are expanding and people want more products. But the earth's resources are limited. If we keep wasting food, using too much plastic OR polluting through factories, then problems like climate change, pollution and deforestation will get worse.

This goal teaches us :-

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In Bangladesh's perspective:

Achieving SDG - 12 is challenging due to several issues:

- high level of plastic pollution.
- large amount of food waste in markets.
- Industrial waste from textile sectors.
- Weak and unorganized waste management.
- low public awareness about recycling.

However positive changes are becoming visible:

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- Some cities have started implementing waste segregation practices.
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These efforts show that Bangladesh is moving towards more sustainable consumption and production patterns.