



SUSTAINABLE DEVELOPMENT

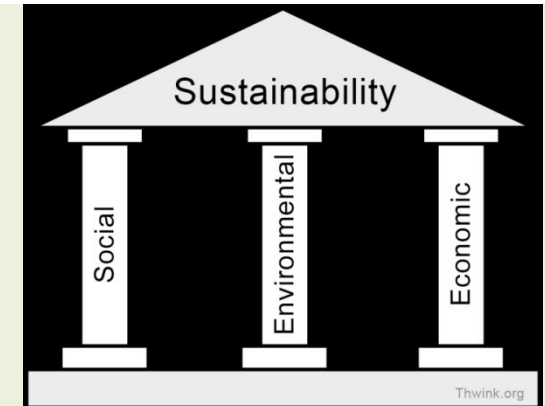
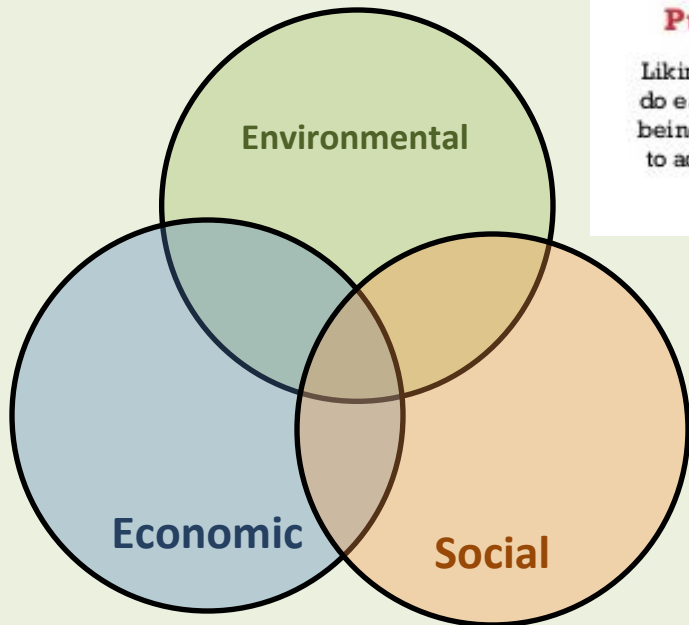
Dr. Prasenjit Adak

What is Sustainability?

- Sustainability focuses on meeting the **needs of the present** without compromising the **ability of future generations to meet their needs.**



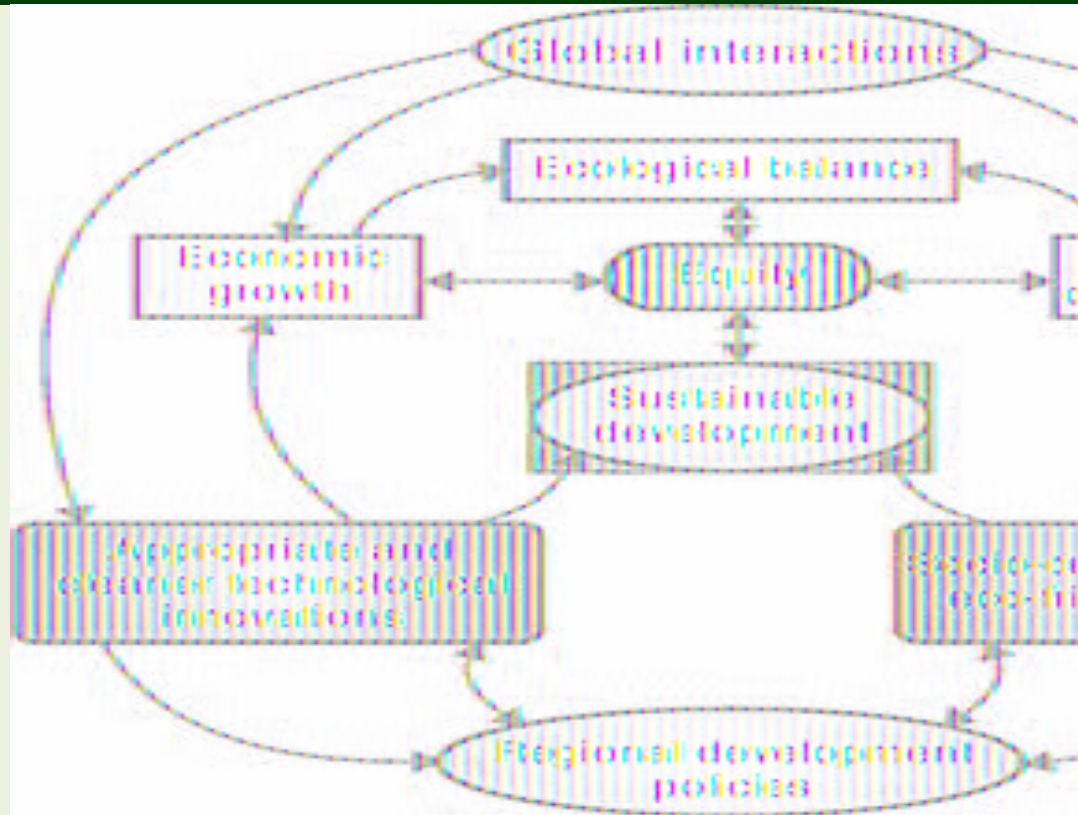
What is Sustainability?



Three pillars of Sustainability

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What is Sustainability?



Multidimensional model for sustainable development

From unsustainable to sustainable development

- Does it protect our biodiversity?
- Does it prevent soil erosion?
- Does it slow down population growth?
- Does it increase forest cover?
- Does it cut off the emissions of CFC, SO_x, NO_x and CO₂ ?
- Does it reduce waste generation and does it bring benefits to all?

Was Thanos Right?



This universe is finite, its resources, finite. If life is left unchecked, life will cease to exist.

the key aspects for sustainable development

- **Inter-generational equity**
 - minimize any adverse impacts on resources and environment
 - stop over-exploitation of resources, reduce waste discharge and emissions and maintain ecological balance
- **Intra-generational equity**
 - minimize the wealth gaps within and between nations
 - The technology should address to the problems of the developing countries
 - producing drought tolerant varieties for uncertain climates
 - vaccines for infectious diseases
 - clean fuels for domestic and industrial use

Measures for Sustainable Development

- Using appropriate technology
- Reduce, Reuse, Recycle approach
- Prompting environmental education and awareness
- Resource utilization as per carrying capacity
- Implementing effective planning for Population Control
- Less dependence on non-renewable natural resources

Carrying capacity

- The carrying capacity of a biological species in an environment is the **maximum population size** of the species that the environment can sustain indefinitely, given the food, habitat, water, and other necessities available in the environment.
- Carrying capacity has two basic components
 - Supporting capacity (the capacity to regenerate)
 - Assimilative capacity (the capacity to tolerate different stresses)

Problems of Sustainable Development

- **Disagreements between stakeholders**
 - Problem between different communities(Development, economic growth)
- **Uncertainty**
 - Global environmental issue
- **Consumption and life style**
 - Comparison between developed and undeveloped countries.
- **Arguments over cause and responsibility**
 - Pollution, Global warming etc.

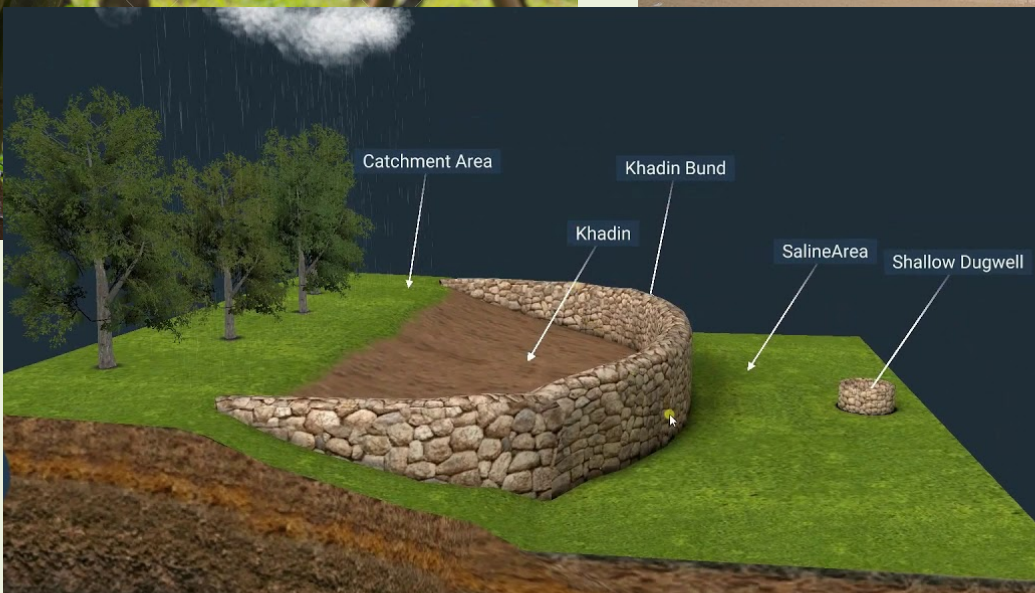
Urban Problems Related To Energy

- Residential and commercial **lighting**
- **Transportation** means including automobiles and public transport for moving from residence to workplace
- Modern **life-style** using a large number of electrical gadgets in everyday life
- **Industrial plants** using a big proportion of energy.
- A large amount of waste generation which has to be **disposed off** properly using energy based techniques
- **Control and prevention of air and water pollution** which need energy dependent technologies

Water Conservation

- Decreasing run-off losses
- Reducing evaporation losses
- Storing water in soil
- Reducing irrigation losses
- Re-use of water
- Preventing wastage of water
- Increasing block pricing

Rainwater Harvesting



Khadin
Johad
Tanka

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Rainwater Harvesting



Modern Rainwater Harvesting



Rainwater Harvesting

■ Objectives of Rain Water Harvesting:

- Rain water harvesting fulfill the demand of water in domestic, industrial, and agricultural sectors.
- It helps to raise the water table by recharging ground water.
- It helps in minimizing ground water pollution.
- The proper harvesting of rain water reduces soil erosion, flooding
 - and run off. It reduces the incidence of floods.

■ Techniques of Rainwater Harvesting

- This can be done by constructing special structures like dug wells,
- percolation pits, lagoons, check dams, tanks, etc.
- **Broadly there are two ways of harvesting rainwater:**
 - **Surface runoff harvesting**
 - **Roof top rainwater harvesting**

Watershed Management



- A watershed is an area of land that drains to a common location. A watershed can vary in size, they can represent the area draining to a small stream to the entire area draining to an ocean

Watershed Management

Benefits of Watershed Management

- Ensure ecological balance
- Stabilize income even under unfavorable weather conditions.
- Minimize the risks of drought, landslides floods, and help to reduce erosion and sediment production.
- Proper utilization of marginal or waste lands through alternate land use systems
- Maximize productivity per unit area, per unit time and per unit of water.
- Scope for beneficial developmental activities like domestic water supply, irrigation, hydropower generation, etc.
- Develop rural areas in the region with clear plans for improving the economy of the region

Sustainable Development Goals (SDGs)

- The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.
- The 17 SDGs are integrated—they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.
- Countries have committed to prioritize progress for those who're furthest behind. The SDGs are designed to end poverty, hunger, AIDS, and discrimination against women and girls.
- The creativity, knowhow, technology and financial resources from all of society is necessary to achieve the SDGs in every context.

Sustainable Development Goals (SDGs)



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Thank You