Sustainable Development

2021-2022

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ACKNOWLEDGEMENT

In the Accomplishment of this project successfully, I thank all the people who have been concerned with this project. I would thank my Teacher for guiding me to complete this project with success. Suggestions and my teacher's instructions have served as the major contributor towards the completion of this project.

- Thank you.
- Manobya.

CERTIFICATE

Silver oaks International school, Bachupally, Hyderabad, Department of social science.

This is to certify that Gambiraopet Manolya, a student of Grade X has successfully completed the project Sustainable development, under the guidance of Mrs. Vidhya during the year 2021-2022

Name of the Teacher :- Mrs. Vidhya Prabhu

Total Marks Awarded :-

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Introduction

Sustainable development needs human ingenuity. People are the most important resource for it. Sustainable development encourages us to conserve and enhance our resource base, by gradually changing the ways in which we develop and use technologies. countries must be allowed to meet their basic needs of employment, food, energy, water and sanitation. The aim of sustainable development is to balance our economic, environmental and social needs, allowing prosperity for now and future generations. Let us see more in the further booklet.

FEATURES OF SUSTAINABLE DEVELOPMENT

Sustainable development is a pattern of resources use that aims to meet human needs while preserving the environment so that these needs can be met not only in the present but also for the generation to come.

CHARACTERISTICS / FEATURES OF SUSTAINABLE DEVELOPMENT.....

1. It attempts to minimize greenhouse gases, reduce global warming and preserve environmental resources.
2. It emphasises on green agriculture and architecture and eco-friendly building practises.
3. Use of natural, biodegradable building material.
4. Use of renewable resources of water.
5. Emphasis on renewable energy sources such as solar and wind.
6. Protection of natural habitat
7. Planned replacement of any resources used
8. Non polluting construction practices and industries.

SUSTAINABLE DEVELOPMENT GOALS (SDG's)

1. NO POVERTY — End poverty in all its forms everywhere.
2. ZERO HUNGER - End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. GOOD HEALTH - Ensure healthy lives and promote well-being
4. QUALITY EDUCATION - Ensure inclusive and equitable quality education and promote life long learning opportunities to all
5. GENDER EQUALITY - Achieve gender Equality and empower women and girls.
6. CLEAN WATER AND SANTATION - Ensure availability and sustainable management of water and sanitation for all.
7. AFFORDABLE AND CLEAN ENERGY - Affordable reliable and modern energy for all.
8. DECENT WORK AND ECONOMIC GROWTH.
9. INDUSTRY, INNOVATION AND INFRASTRUCTURE — Build resilient infrastructure and sustainable industrialization.
10. REDUCED INEQUALITIES - Reduce inequality within and among countries.
11. SUSTAINABLE CITIES AND COMMUNITIES — Make cities and human settlements inclusive, safe, resilient and sustainable
12. RESPONSIBLE CONSUMPTION AND PRODUCTION - Ensure sustainable consumption and production patterns.
13. CLIMATE ACTIONS - Take urgent action to combat climate change and its impacts.
14. LIFE BELOW WATER - Respect marine resources.
15. LIFE ON LAND - Protect and restore ecosystems
16. PEACE, JUSTICE AND STRONG INSTITUTIONS
17. Partnership for the Goals.

WHAT IS SUSTAINABLE DEVELOPMENT?

In the economic study of the public sector, economic and social development is the process by which the economic well-being and quality of life of a nation, region, local community or an individual are improving according to targeted goals and objectives. "Modernization", "westernization" and especially "industrialization" are other terms often used while discussing economic development. Historically, economic development policies focused on industrialization and infrastructure, but since the 1960's, it has increasingly focused on poverty reduction.

Sustainable development is that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development can be defined as an approach to the economic development of a country without compromising with the quality of the environment for future generations. In the name of economic development, the price of environmental damage is paid in the form of land degradation, soil erosion, air and water pollution, deforestation etc. This damage may surpass the advantages of having more quality output of goods and services. Sustainable development aims to promote the kind of development that minimises the environmental problems.

HOW TO MAKE DEVELOPMENT SUSTAINABLE?

GREEN POWER

WHAT IS IT?

Green power is a subset of renewable energy resources and technologies that provide the highest environmental benefit. Green power is also defined as Electricity produced from solar, wind, geothermal, biogas, eligible biomass and low-impact small hydro-electric sources. Customers often buy green power for it's zero emissions profile and carbon footprint reduction benefits.

BENEFITS OF IT—

Conventional electricity can be a significant source of air pollution and green house gas emissions. switching to green power can help improve usage of electricity environmentally. It has lot of valuable benefits:-

- Supports renewable energy development
- Reduces the carbon footprint associated with your purchased electricity.
- Hedges against future electricity price increases and volatility too.

HOW SUSTAINABLE IS IT?

Renewable energy sources have a low environmental impact, widely available and are naturally replenished. Renewable energy sources such as wind, hydroelectric power, solar and geothermal energy are forms of sustainable energy. These are far sustainable than fossil fuel sources. As renewable energy forms and sustainable energy forms are the same. By using renewable energy sources we can sustain and conserve the environment. We can use the same resources and preserve the energy resources for our future generations, in this way it's sustainable.

HOW TO MAKE DEVELOPMENT SUSTAINABLE?

RAINWATER HARVESTING

WHAT IS IT?

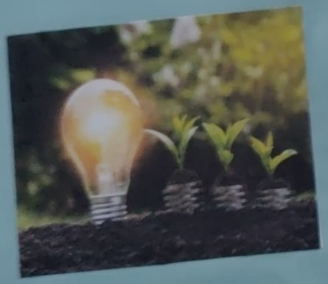
Rainwater harvesting is the simple process or technology used to conserve rainwater by collecting, storing, conveying and purifying of rainwater that runs off from Roof tops, parks, roads, open grounds etc. for later use. The process of rain water harvesting involves the collection and storage of water (rain) with the help of artificially designed systems that run off naturally or man-made catchment areas. This systems components are - catchment, conveyance system, flush, filters, tanks and the recharge structures.

BENEFITS / ADVANTAGES:-

1. It is cost - effective
2. Conserves water
3. A source of water for landscape irrigation.
4. It's a simple method and easy to practice.
5. It reduces soil erosion and pollution of water bodies due to fertilizers and pesticides.

HOW SUSTAINABLE IS IT?

The rainwater harvesting system is one of the best methods practised and followed to support the conservation of water. Today scarcity of good quality water has become a significant cause of concern. However, rainwater, which is pure and good quality, can be used for irrigation, washing, clean, bathing, cooking and also for other livestock requirements. Rainwater harvesting is a sustainable process that helps in preserving water for future needs; Water scarcity is a major concern in todays scenario. The process of rainwater harvesting is a sustainable way to conserve water.



HOW CAN WE MAKE DEVELOPMENT SUSTAINABLE ??

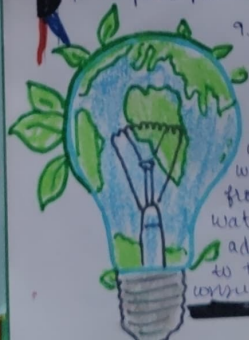
ENERGY CONSERVATION

WHAT IS IT?

Energy conservation is the decision or practice made to reduce the consumption of energy by using less of an energy service. This can be achieved either by using energy more efficiently or by reducing the amount of service used. Example, driving less. Energy conservation is a part of Eco-Sufficiency. Energy conservation measures (ECM's) in buildings reduce the need for energy service and can result in increased environmental quality, national security, personal financial security and higher savings. Energy conservation is at the top of the sustainable energy hierarchy. It also lowers energy cost by preventing future depletion. Energy can be conceived by these 10 ideas - Turn your refrigerator down, use-energy-efficient light bulbs, clean or replace air filters, use smartpower strips, air-dry dishes and clothes, Bake with glass or ceramic pans, cook-using the right-sized burner, cut down on air-leaks at home, keep your house a little hotter in summer and little cooler in winters and switch off the electrical appliances after used.

BENEFITS / ADVANTAGES:-

1. Reduce living expenses
2. Benefits the environment
3. Protects wildlife
4. Less power plants
5. Promotes health
6. Reduce dependance
7. Finite resources
8. Makes a positive impact
9. Cost efficient



HOW SUSTAINABLE IS IT?

As the SDGs reveals that we need to use affordable and clean energy, in energy consumption, if we consumpt efficiently then we could afford it and a clean energy comes from its renew sources like sun, wind and water, instead of using lights in the day time, is adviced to use the sunlight. SDGs also say use to have a responsible consumption, which means consumpt efficiently.

HOW CAN WE MAKE DEVELOPMENT SUSTAINABLE?

RECYCLING.....

WHAT IS IT?

Recycling is the process of converting waste materials into new materials and objects. The recovery of energy from waste materials is often included in this concept. The recyclability of a material depends on its ability to reacquire the properties it had in its original state. It is an ~~often~~ alternative to conventional waste disposal that can save material and help lower green house gas emissions. Recycling can prevent the waste of potentially useful materials and reduce the consumption of fresh raw materials, thereby reducing: energy usage air pollution and water pollution. Recycling is the third component in Reduce, Reuse and Recycle. Recycling can be accomplished by certain type of materials such as tins, paper, glass, card board, metal, textiles and tires.

BENEFITS OR ADVANTAGES:-

1. Environmental conservation and protection
2. Reduce consumption of energy.
3. Reduce air and water pollution
4. Global warming mitigation
5. Limits waste in Landfills
6. Spreads environmental awareness
7. Make and save money.
8. Cost efficient and eco-friendly.

HOW SUSTAINABLE IS IT?

Recycling aims towards environmental sustainability by substituting raw material inputs into and redirecting waste outputs out of the economic system. Reuse, reduce and recycle helps and individuals to think creatively by stop wasting materials and instead recycle it, in this the environments is clean for future.

HOW CAN WE MAKE DEVELOPMENT SUSTAINABLE?

POLLUTION

WHAT IS IT?

Pollution is the introduction of harmful materials and contaminants into the natural environment that causes adverse changes. Pollution can take the form of chemical substances or energy, such as noise, heat or light. The harmful materials or components of pollution are called pollutants. Pollutants can be natural occuring contaminants, such as volcanic ash. They can also be created by human activity, such as trash or run off produced by factories. Pollutants damage the quality of air. Due to these pollutants, there are three major types of pollution are air pollution, water pollution and land pollution. Air pollution is caused due to the chemicals released into the air through harmful gases, burning of fuel, other byproducts of modern human life and the emissions of CFC's. Air pollution can lead us to impede breathing and cause many serious diseases in humans and animals, especially respiratory diseases. Land pollution is caused due to the waste materials produced by humans. Many chemicals such as pesticides and fertilizers are absorbed in the soil to the ingestion of this waste can injure or poison animals. The chemicals in soil can also be absorbed by plants which makes it to eventually die. Water pollution is caused due the toxins from human and industrial wastes are introduced into the water supplies. Water is a medium for many pathogens due to which it can be causing diseases while consumed by plants, humans and animals.

HOW SUSTAINABLE IS IT?

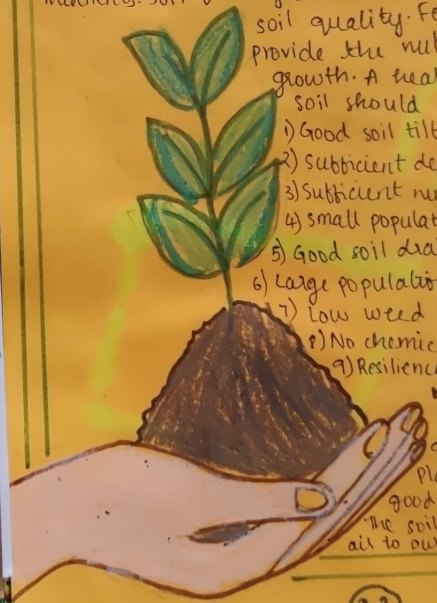
Pollution doesn't lead to sustainable development as it spoils the quality of air, which causes lot of diseases to us and the future generation. Pollution is against the SDG's → Clean water & sanitation, Life below water and life on land. By this, it pollutes all the lives below water and land. So its not sus-

SOIL QUALITY

WHAT IS IT?

Soil health is the foundation of productive farming practices. Fertile soil provides essential nutrients to plants. Important physical characteristics of soil-like structures and aggregation allow water and air to infiltrate, roots to explore and biota to thrive. Diverse and active biological communities help soil resist physical degradation and cycle nutrients at rates to meet plants needs. Soil health and soil quality are terms used interchangeably to describe soils that are not only fertile but also possess adequate physical and biological properties to sustain productivity, maintain environmental quality and promote plant and animal health. Soil quality is how well soil does what we want it do. Soil acts a sponge where it holds water and nutrients. Soil fertility is the most important component of soil quality. Fertile soil are able to provide the nutrients required for plant growth. A healthy and high-quality soil should have:-

1) Good soil tilth
2) Sufficient depth
3) Sufficient nutrient supply
4) Small population of plant pathogens.
5) Good soil drainage
6) Large population of beneficial organisms.
7) Low weed pressure.
8) No chemicals or toxins.
9) Resilience to degradation.



HOW IS IT SUSTAINABLE?

A good and high soil quality leads to a healthy plant. A healthy plant gives us good quality of oxygen and food. The soil quality now, is the food and air to our future generations.

HOW CAN WE MAKE DEVELOPMENT SUSTAINABLE?

GREENHOUSE EFFECT

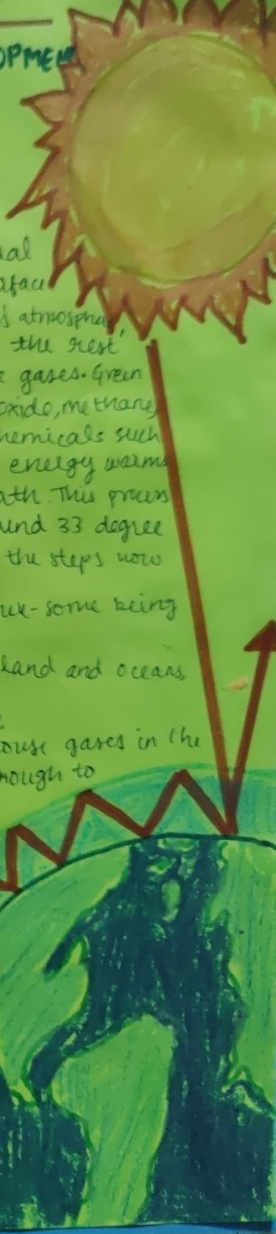
WHAT IS IT?

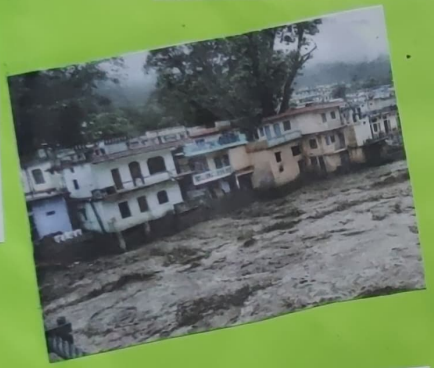
The greenhouse effect is a natural process that warms the Earth's surface. When the sun's energy reaches the Earth's atmosphere, some of it is reflected back to space and the rest is absorbed and re-radiated by greenhouse gases. Greenhouse gases include water vapour, carbon dioxide, methane, nitrous oxide, ozone and some artificial chemicals such as chlorofluorocarbons (CFCs). The absorbed energy warms the atmosphere and the surface of the earth. This process maintains the Earth's temperature at around 33 degree celsius warmer than it would be. Here are the steps how greenhouse effect works—

1) Solar radiation reaches the Earth's atmosphere - some being reflected back into space.
2) The rest of the sun's energy is absorbed by land and oceans, making the Earth heater.
3) Heat radiates from Earth towards space.
4) Some of this heat is trapped by greenhouse gases in the atmosphere, keeping the Earth warm enough to sustain life.
5) Human activities such as burning fossil fuels, agriculture and land clearing are increasing the amount of greenhouse gases released into atmosphere.
6) This is trapping extra heat, and causing the Earth's temperature to rise.

HOW IS IT SUSTAINABLE?

The greenhouse effect is sustainable as it traps heat and warms the earth by neutralizing its temperature. But, humans overtime create pollution and use applications which emmit CFC's which leads to ozone depletion and global warming.





THE CONSEQUENCES OF UNSUSTAINABLE ACTIVITIES ON THE ENVIRONMENT & ECONOMY

UTTARAKHAND FLOODS

WHAT- A flood is also known as the inflow of tide. A flood is an overflow of water that submerges land that is usually dry. Floods as a natural disaster caused by heavy rainfall, rapid snowmelt or a storm surge. The Uttarakhand flood occured in the environs of Nanda Devi national park in the outer Gharwhal Himalayas. It is believed to have been caused by Avalanche, landslide or a glacier lake outburst. It occured in Chamoli district in the headstream of Ganges.

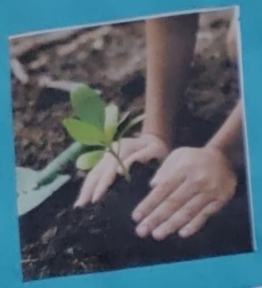
WHEN- The Uttarakhand flood occured on 7 February 2021. In Uttarakhand the average temperature in February is between 7°C and 21°C. We majorly can see white-water rafting of the Rishiganga river. As Februarys in Uttarakhand are cold, according few reports it's believed that Avalanche could have been occured due to snow.

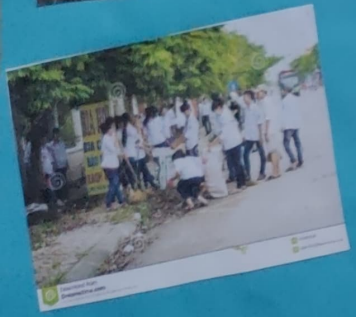
HOW - There were many reports proving in different way that it could be an avalanche, landslide or glacier outburst, but The Times London reported that it could be a combination of three of them. An avalanche, means a rapid flow of snow down a hill or mountain. It could have been occured by the Garwhal himalays. And the Glacier of the Nanda devi lake was torn away or outburst, increasing the water level.

ECONOMY - Studies declared that, due to Global warming, and high emission of CFC's, the temperature changes have occured, by which rockets getting developed inside Nanda Devi glacier causing tragedy. This glacier burst, increased water level in the Nandadevi River causing it to overflow.

HOW IS THIS RELATED TO SUSTAINABLE DEVELOPMENT?

As this flood is caused due to global warming by which glacier burst, the flood destroyed houses and humans. In future, this can cause, a damage to eco-system, and climate.



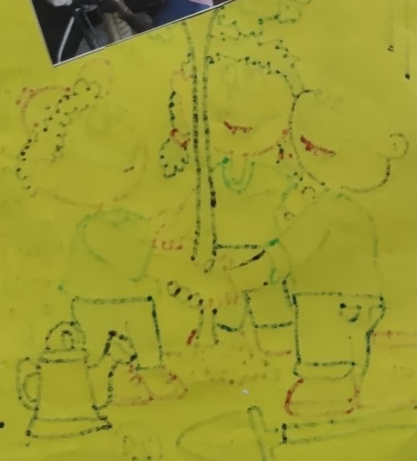


ROLE OF INDIVIDUALS, ORGANIZATIONS AND GOVERNMENT TO MAKE DEVELOPMENT SUSTAINABL

SUSTAINABLE DEVELOPMENT PRACTICES BY STUDENTS

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Here are the list of practices students can perform for sustainable development.

1. Recycle Bin – Students can put up a recycle bin in classroom, and they can start putting all the recycleable items like newspaper etc and give them to recycling. As per SDG-12
2. Save Energy, outdoor classes – Instead of using light and electricity Students can indeed save energy as per SDG 7 and have outdoor classes. The can inhale the clean nature and study in open nature.
3. Plant more trees – Students can plant more trees. They can have a competetion that who will grow their plant healthier within a month, by this competition, planting trees will become a habit.
4. Create filters, Rain water harvesting – Students can create experiments on rainwater harvesting and conserve water as per SDG-12
5. Left over food – Students can provide the left over food to poor and needy.
6. Yoga – students can have yoga as a period and do it, for good health-SDG-3
7. Charts, videos – Students can prepare charts and videos about no pollution from industries and factories and then publicize them by spreading awareness.
8. Students cleaning – Students can start cleaning the surrounding for a day in a week. This activity is an act of SDG 11.
9. Students can visit ponds – Students can visit ponds and feed food to the marine life and aquatic animals below water. This is an act of SDG-14.
10. Farming – Students can visit farms as a field-trip and learn farming for a greener earth. By this, the schools can introduce farming and agriculture as a subject for our better future.



INIATIVES UNDERTAKEN BY GOVERNMENT FOR SUSTAINABILITY.

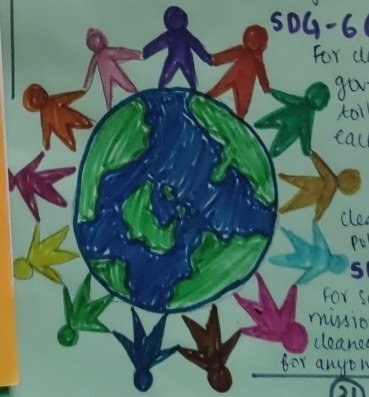
SDG-1 (No Poverty) - For no poverty, Government is giving the poor and needy → ration card, 1 BHK flat, free water and electric supply.

SDG-2 (Zero Hunger) - For Zero hunger, The Telangana government has put up the "Annapurna" scheme, to provide meals at ₹1 for the poor. The AP government has put up ₹5 "Jagananna Gorumudda" scheme, to provide food at ₹5 for poor.

SDG-3 (Good Health) - For Good health, government is providing free check-ups for the poor and needy. And many Bio tech companies are discovering new molecules and components for any diseases in future.

SDG-4 (Quality Education) - For quality education, government is providing free education to the ~~government~~ poor and needy. The "Beti Bachao Beti Padhao" iniative is a programme to educate poor girls instead of labour work. The Pradhan Mantri Jan Dhan Yojana is a mission to give genral employment to unemployed members like Bank jobs and Food Security Jobs.

SDG-5 (Gender Equality) - For Gender Equality, women are given equal positions as men in a job. It's proven that women are elgible for highet educations and earn jobs.



SDG-6 (Clean Water and Sanitation) - For clean water and sanitation, government has put up public toilets for men and women in each and every street for sanitation. For clean water, the "Namami Ganges mission" is going on for cleaning up the sewage and industrial pollution from it.

SDG-11 (Sustainable cities) - For sustainable cities, the Swachh Bharat mission is ongoing, where the city is cleaned and is anti-polluted. There's a fine for anyone throwing trash on streets.

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