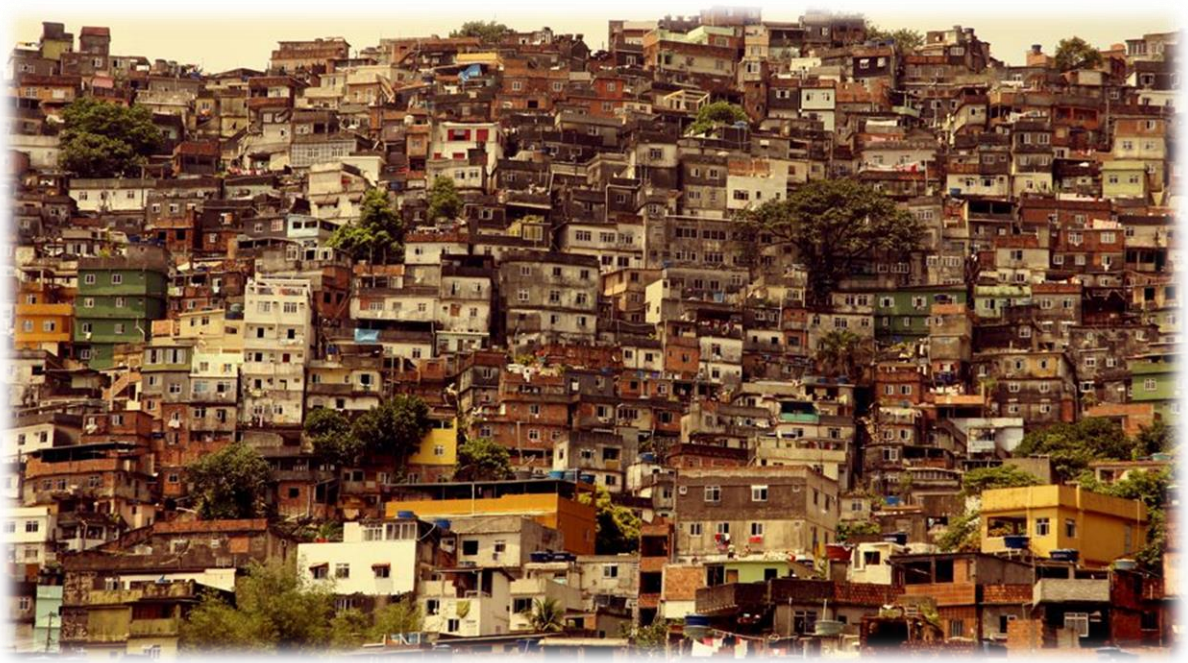
SOCIAL ISSUES AND ENVIRONMENT

- **FROM UNSUSTAINABLE TO**

  SUSTAINABLE DEVLOPMENT

- **CONSUMERISM AND WASTE PRODUTS**



Priyadarshini Institute Of Engineering And Technology

Certificate

Name of department Computer Science Engineering . This is to certify that this project report contains the bonafide project work of Mr. Parth Narnaware of 2nd Year 3rd Semester bearing Roll No. 54 has successfully completed the project work in the subject Environmental Engineering during the academic session 2019-2020.

Signature of Teacher

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ACKNOWLEDGEMET

It gives us great pleasure and confidence to submit the project entitled

- FROM UNSUSTAINABLE TO SUSTAINABLE DEVLOPMENT
- CONSUMERISM AND WASTE PRODUTS

Completion of my project is a task which would not have been accomplished without co-operation and help of our guide Prof. Sudha Ramnath for her guidance , patience and constant encouragement.

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Introduction of Unsustainable Development :

Unsustainable development compromises the ability of future generations to meet their needs. Phenomena including global warming, destruction of the ozone shield, acidification of land and water, desertification and soil loss, deforestation and forest decline, diminishing productivity of land and waters, and extinction of species and populations, demonstrate that human demand is exceeding environmental support capacities. Population growth increases poverty and deprived people are forced to undermine the productivity of the land on which they live. It is extremely difficult for people, or other species, to adjust to change at this rate.

Unsustainable development occurs when present progress is at the expense of future generations. For example, irresponsible planning and environmental degradation through exploitation of resources generates waste and pollution that damages ecosystems. Such practices are not sustainable in the long term.

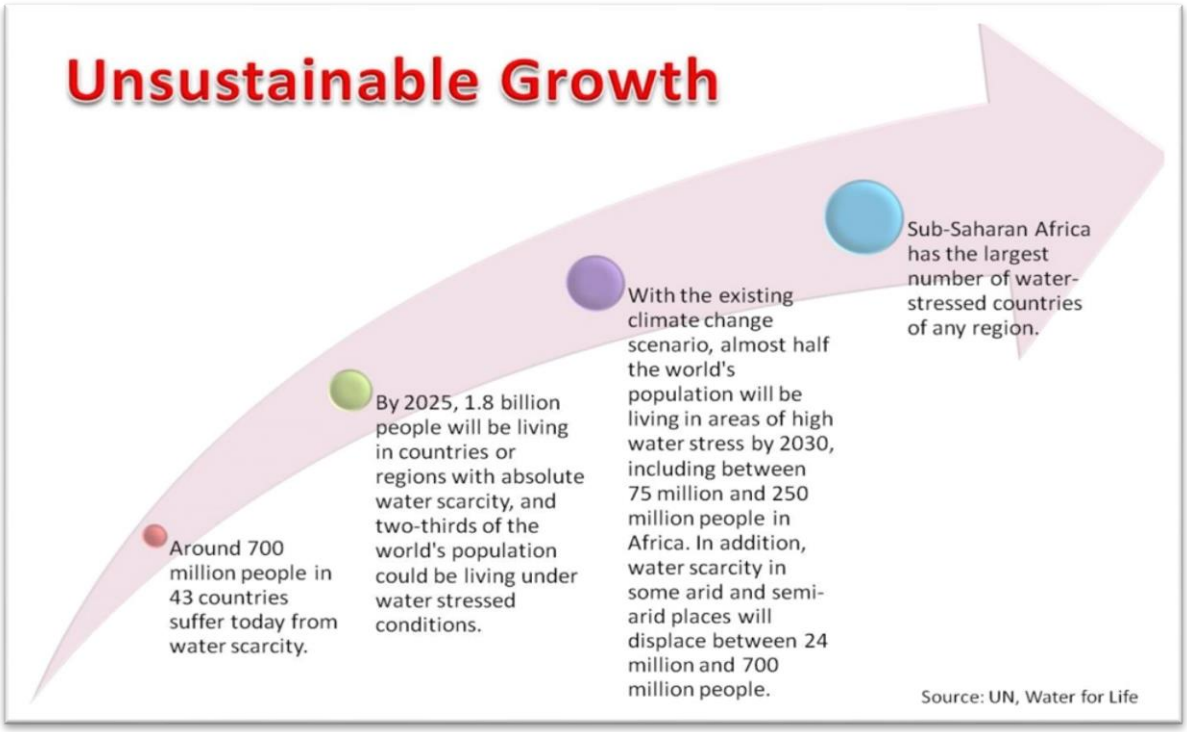
Many cities and commuter towns around the world face pressures such as waste management, transportation, urban sprawl, fresh air supply, clean

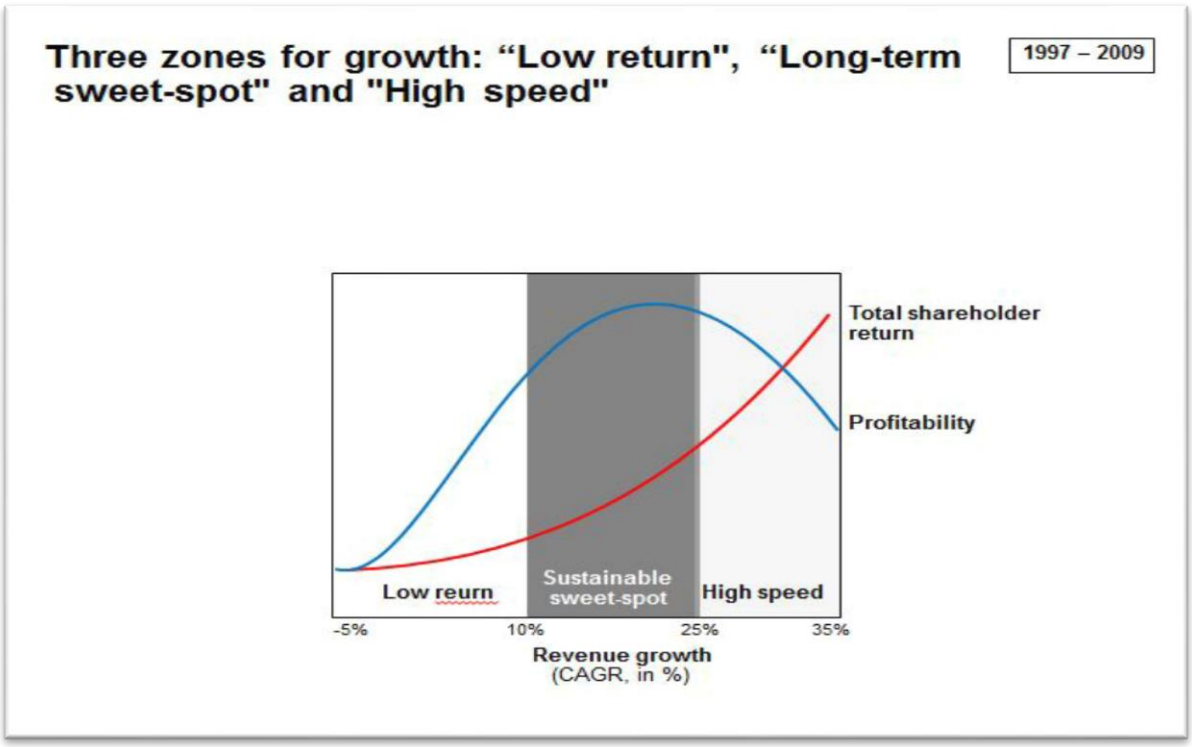
water supply and access to green areas. This may mean that the long term sustainability of the town or city is at risk. Commuting is an example. While Dublin is a small city, it still faces some of the symptoms of an unsustainable city. Since the economy began to grow in the 1990s, much of the infrastructure around Dublin came under pressure. This created an unsustainable level of commuting from satellite towns in Louth, Meath, Kildare, Wicklow and even further afield. Long distance commuting by car is regarded as unsustainable because of energy consumption, traffic congestion and deterioration in the quality of life for those concerned.

Ireland has one of the highest levels of greenhouse gas emissions per capita in the EU, which is partly a result of the high level of commuting to Dublin and other major cities and towns around the country. Urban sprawl is very evident in Dublin. The city boundary is extending on all sides, with parts of Co. Meath and Co. Kildare now considered part of the Greater Dublin Area.

This type of unsustainable development puts increasing pressure on the natural environment as building materials and energy resources are extracted

from ecosystems. The challenge is to change this unsustainable pattern and create a more evenly balanced relationship with our natural environment.





Indicators of Unsustainable Development :

DEGRADATION OF ENVIRONMENT: The level of environmental degradation could be traced to the bottom line of population explosion, urbanization, industrialization, transportation and other anthropogenic activities. However, there are natural events or occurrence that could lead to environmental degradation (non anthropogenic).

Our environment is being continually exploited by man in order to achieve maximum output leading not only to its degradation, but has also destabilized the physical environment. The quest of any Government is to maintain law and order, provision of basic infrastructural requirement and ensuring accelerated socio-economic development among other human needs. Each of these requires enabling social, political and physical environments. Going by scientific predictions on climate change, it has the potential to alter irreversibly the functioning of the earth's climate and to produce a series of devastating effects on environmental sustainability which will be felt worldwide.

Environmental degradation has resulted to so many global problems including Climate change which is one of the greatest challenges facing our society today both at the international and local level like Nigeria. The debate or the causes of climate change is over as we now know that the planet is warmed largely due to human activities. Inspite of the concerted actions to stem the tide, global warming shall continued to be with us for decades to come even with concerted international action now, we are committed to continue global warming for decades to come. For the world to avoid disaster, the international community must work concertedly to reduce green house gas emissions which are the major known causes of global temperature rise and other environmental disasters such as extreme events including heat waves, storms, and floods and more gradual changes in the pattern of the season.

The earth's climate is changing; global temperatures are predicted to continue rising, bringing changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather events. If the temperature increases by more than 2°C, millions of more people are expected to be at risk of coastal

flooding; and 20% of species are estimated to be at increased risk of extinction for a warming of 1.5 – 2.5°C. If temperatures rise above 4°C there are expected significant numbers of extinctions around the globe.

There are so many problems facing the environment which are vast and diverse. Such as global warming, the depletion of the ozone layer in the atmosphere, and destruction of the world's rain forests are just few of such problems that many scientists believe will reach critical proportions in the coming decades. All of these problems will be directly affected by the size of the human population because most of them are caused by human activities. Because of the fact that our environment has to be conserved for sustainable future generations to come we must try to recognize and address these factors that could bring about devastating effect on the environment thereby jeopardizing sustainable development. It is the concern of this paper therefore to capture the causes and impacts of climate change and make appropriate suggestions or recommendations if the future of our environment must be sustained.

CAUSES OF ENVIRONMENTAL DEGRADATION :

Some environmental life species require substantial areas to help provide food, living space, and other different assets. These creatures are called area specific. At the point when the biome is divided, the vast patches of living space don't exist anymore. It gets to be more troublesome for the wildlife to get the assets they need in order to survive. The environment goes on, even though the animals and plant life are not there to help sustain it properly.

Some of the causes of environmental degradation include but not limited to the following.

Land Disturbance: A more basic cause of environmental degradation is land damage. Numerous weedy plant species, for example, garlic mustard, are both foreign and obtrusive. A rupture in the environmental surroundings provides for them a chance to start growing and spreading. These plants can assume control over nature, eliminating the local greenery. The result is territory with a solitary predominant plant which doesn't give satisfactory food assets to all the environmental life. Whole

environments can be destroyed because of these invasive species.

Pollution: Pollution, in whatever form, whether it is air, water, land or noise is harmful to the environment. Air pollution pollutes the air that we breathe which causes health issues. Water pollution degrades the quality of water that we use for drinking purposes. Land pollution results in degradation of earth's surface as a result of human activities. Noise pollution can cause irreparable damage to our ears when exposed to continuous large sounds like honking of vehicles on a busy road or machines producing large noise in a factory or a mill.

Over-population: Rapid population growth puts strain on natural resources which results in degradation of our environment. Mortality rate has gone down due to better medical facilities which have resulted in increased lifespan. More population simple means more demand for food, clothes and shelter. You need more space to grow food and provide homes to millions of people. This results in deforestation which is another factor of environmental degradation.

Landfills: Landfills pollute the environment and destroy the beauty of the city. Landfills come within the city

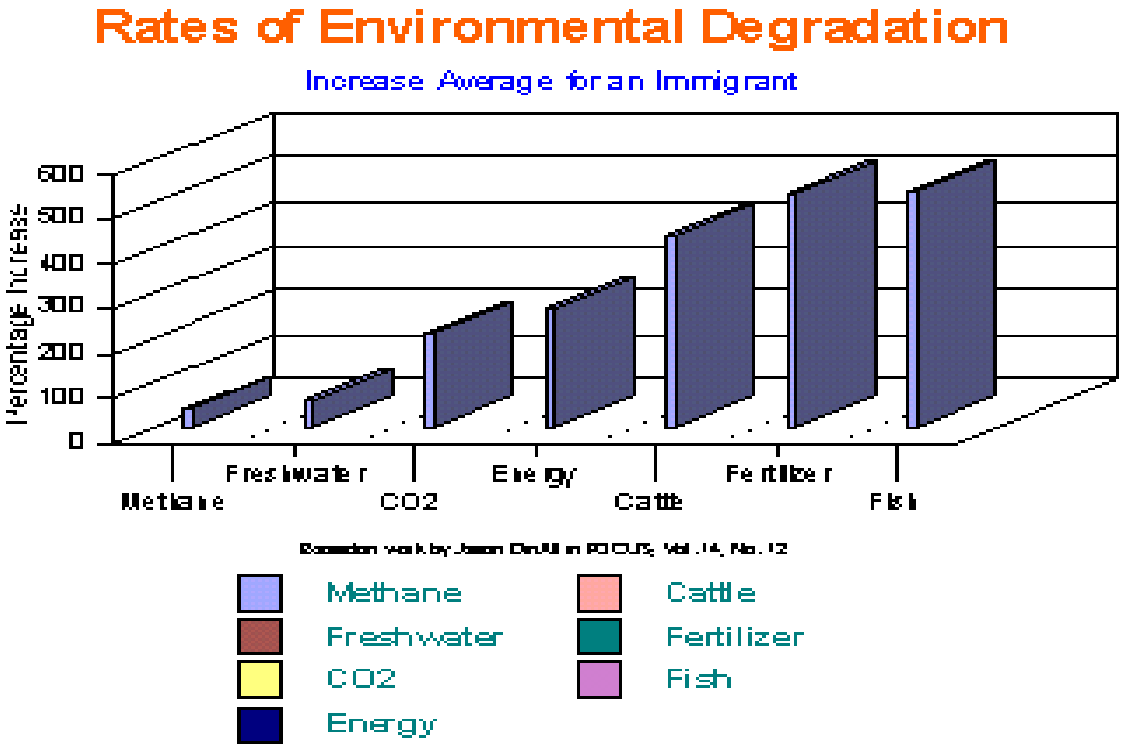
due the large amount of waste that gets generated by households, industries, factories and hospitals. Landfills pose a great risk to the health of the environment and the people who live there. Landfills produce foul smell when burned and cause huge environmental degradation.

Deforestation: Deforestation is the cutting down of trees to make way for more homes and industries. Rapid growth in population and urban sprawl are two of the major causes of deforestation. Apart from that, use of forest land for agriculture, animal grazing, harvest for fuel wood and logging is some of the other causes of deforestation. Deforestation contributes to global warming as decreased forest size puts carbon back into the environment**.**

Natural Causes: Things like avalanches, quakes, tidal waves, storms, and wildfires can totally crush nearby animal and plant species to the point where they can no longer survive in those areas. This can either come to fruition through physical demolition as the result of a specific disaster, or by the long term degradation of assets by the presentation of an obtrusive foreign species to the environment. The latter frequently

happens after tidal waves, when reptiles and bugs are washed ashore.

Of course, humans aren't totally to blame for this whole thing. Earth itself causes ecological issues, as well. While environmental degradation is most normally connected with the things that people do, the truth of the matter is that the environment is always changing. With or without the effect of human exercises, a few biological systems degrade to the point where they can't help the life that is supposed to live there.



EFFECTS OF ENVIRONMENTAL DEGRADATION:

Environmental degradation can have numerous effects on the social, economic and ecological environment. The effects can also be impacted on the human health.

The effects of environmental degradation include the following:

Impact on Human Health: Human health might be at the receiving end as a result of the environmental degradation. Areas exposed to toxic air pollutants can cause respiratory problems like pneumonia and asthma. Millions of people are known to have died of due to indirect effects of air pollution.

Loss of Biodiversity: Biodiversity is important for maintaining balance of the ecosystem in the form of combating pollution, restoring nutrients, protecting water sources and stabilizing climate. Deforestation, global warming, over-population and pollution are few of the major causes for loss of biodiversity.

Ozone Layer Depletion: Ozone layer is responsible for protecting earth from harmful ultraviolet rays. The presence of chlorofluorocarbons, hydro chlorofluorocarbons in the atmosphere is causing the

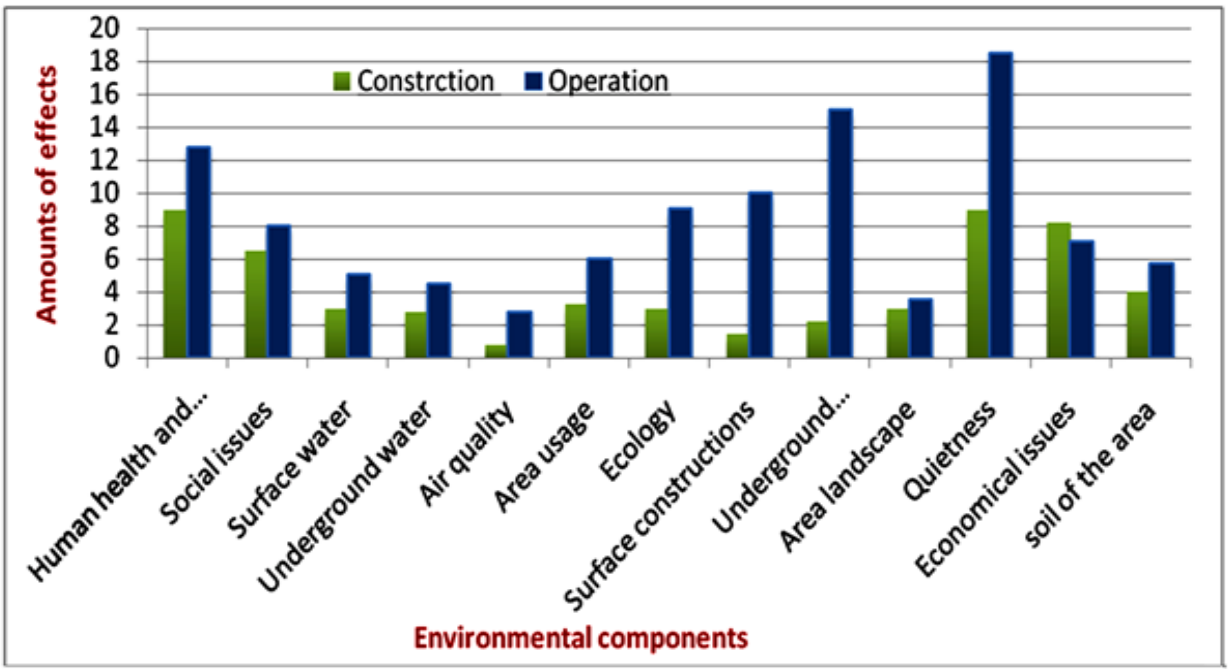
ozone layer to deplete. As it will deplete, it will emit harmful radiations back to the earth.

Loss for Tourism Industry: The deterioration of environment can be a huge setback for tourism industry that relies on tourists for their daily livelihood. Environmental damage in the form of loss of green cover, loss of biodiversity, huge landfills, increased air and water pollution can be a big turn off for most of the tourists.

Economic Impact: The huge cost that a country may have to borne due to environmental degradation can have big economic impact in terms of restoration of green cover, cleaning up of landfills and protection of endangered species. The economic impact can also be in terms of loss of tourism industry.

As you can see, there are a lot of things that can have an effect on the environment. If we are not careful, we can contribute to the environmental degradation that is occurring all around the world. We can, however, take action to stop it and take care of the world that we live in by providing environmental education to the people which will help them pick familiarity with their surroundings that will enable to take care of

environmental concerns thus making it more useful and protected for our children and other future generations.



Introduction of Sustainable Development.

The concept of sustainable development can be interpreted in many different ways, but at its core is an approach to development that looks to balance different, and often competing, needs against an awareness of the environmental, social and economic limitations we face as a society.

All too often, development is driven by one particular need, without fully considering the wider or future impacts. We are already seeing the damage this kind of approach can cause, from large-scale financial crises caused by irresponsible banking, to changes in global climate resulting from our dependence on fossil fuel-based energy sources. The longer we pursue unsustainable development, the more frequent and severe its consequences are likely to become, which is why we need to take action now.

The World Conference on Environment and Development in 1987 published their report entitled “Our Common Future” often known as The Brundtland Report and defined sustainable development as “development that meets the needs of the present,

without compromising the ability of future generations to meet their own needs."

Living within our environmental limits is one of the central principles of sustainable development. One implication of not doing so is climate change. But the focus of sustainable development is far broader than just the environment. It's also about ensuring a strong, healthy and just society. This means meeting the diverse needs of all people in existing and future communities, promoting personal well-being, social cohesion and inclusion, and creating equal opportunity.

However, as sustainable development focuses on the future, that does not mean we lose out now. It is all about finding better ways of doing things, both for the future and the present. We might need to change the way we work and live now, but this doesn't mean our quality of life will be reduced.

THE PILLARS OF SUSTAINABLE DEVELOPMENT:

(THE TRIPLE BOTTOM LINE)

The triple bottom line consists of social equity, economic, and environmental factors. "People, planet and profit" succinctly describes the triple bottom lines and the goal of sustainability. The phrase, "people, planet, profit", was coined by John Elkington in 1994 while at Sustainability, and was later adopted as the title of the Anglo-Dutch oil company Shell's first sustainability report in 1997. As a result, one country in which the 3P concept took deep root was The Netherlands.

"People" pertains to fair and beneficial business practices toward labour and the community and region in which a corporation conducts its business. A TBL company conceives a reciprocal social structure in which the well-being of corporate, labour and other stakeholder interests are interdependent.

An enterprise dedicated to the triple bottom line seeks to provide benefit to many constituencies and not to exploit or endanger any group of them. The "up-streaming" of a portion of profit from the marketing of finished goods back to the original producer of raw

materials, for example, a farmer in fair trade agricultural practice, is a common feature. In concrete terms, a TBL business would not use child labour and monitor all contracted companies for child labour exploitation, would pay fair salaries to its workers, would maintain a safe work environment and tolerable working hours, and would not otherwise exploit a community or its labour force. A TBL business also typically seeks to "give back" by contributing to the strength and growth of its community with such things as health care and education. Quantifying this bottom line is relatively new, problematic and often subjective. The Global Reporting Initiative (GRI) has developed guidelines to enable corporations and NGOs alike to comparably report on the social impact of a business.

"Planet" (natural capital) refers to sustainable environmental practices. A TBL company endeavors to benefit the natural order as much as possible or at the least do no harm and minimize environmental impact. A TBL endeavours to reduce its ecological footprint by, among other things, carefully managing its consumption of energy and non-renewables and reducing manufacturing waste as well as rendering

waste less toxic before disposing of it in a safe and legal manner. "Cradle to grave" is uppermost in the thoughts of TBL manufacturing businesses, which typically conduct a life cycle assessment of products to determine what the true environmental cost is from the growth and harvesting of raw materials to manufacture to distribution to eventual disposal by the end user. A triple bottom line company does not produce harmful or destructive products such as weapons, toxic chemicals or batteries containing dangerous heavy metals, for example. Currently, the cost of disposing of non-degradable or toxic products is borne financially by governments and environmentally by the residents near the disposal site and elsewhere. In TBL thinking, an enterprise which produces and markets a product which will create a waste problem should not be given a free ride by society. It would be more equitable for the business which manufactures and sells a problematic product to bear part of the cost of its ultimate disposal.

Ecologically destructive practices, such as overfishing or other endangering depletions of resources are avoided by TBL companies. Often environmental sustainability is the more profitable course for a

business in the long run. Arguments that it costs more to be environmentally sound are often specious when the course of the business is analyzed over a period of time. Generally, sustainability reporting metrics are better quantified and standardized for environmental issues than for social ones. A number of respected reporting institutes and registries exist including the Global Reporting Initiative, CERES, Institute 4 Sustainability and others.

The eco-bottom line is akin to the concept of Eco-capitalism.

"Profit" is the economic value created by the organization after deducting the cost of all inputs, including the cost of the capital tied up. It therefore differs from traditional accounting definitions of profit. In the original concept, within a sustainability framework, the "profit" aspect needs to be seen as the real economic benefit enjoyed by the host society. It is the real economic impact the organization has on its economic environment. This is often confused to be limited to the internal profit made by a company or organization (which nevertheless remains an essential starting point for the computation). Therefore, an original TBL approach cannot be interpreted as simply

traditional corporate accounting profit plus social and environmental impacts unless the "profits" of other entities are included as a social benefit.

In a more simplified way, the pillars of sustainable development are the economic system which entails poverty reduction, equity enhancement, increasing useful goods and services among others, the social system encompassing cultural diversity, institutional sustainability, social justice and participation and ecological system which advocates genetic diversity, resilience, biological production among others.

Need, Objectives and Importance of Sustainable Development :

The role of the government in maintaining a sustainable development : The whole aspect of sustainable development lies in the hands of the government to provide services such as good education for the people, creating good jobs, create a means of exchange of goods and services within the country, regulate companies in other to see that they have environmental friendly operations, provide adequate infrastructures and portable water.

In must government contracts the term “sustainable development” is mostly used in government documents especially when it concerns funding programs of public services. As a whole we can subdivide sustainable development into sociopolitical sustainability, environmental sustainability, and economic sustainability.

The goals or target of sustainable development:

The goal of sustainable development is to meet up with a community that does not suffer from poverty and have the ability to provide basic needs themselves. Sustainable development also seeks to bring about healthy lives and ensure that at all ages the population well-being is taken care of. Aspects like gender equality, the provision of clean water and sanitation, energy are aspects also considered in sustainable development.

Some of the Important measures for Sustainable Development :

MITIGATING ENVIRONMENTAL DEGRADATION TO ACHIEVE SUSTAINABLE DEVELOPMENT :

Many efforts to mitigate environmental degradation have been recorded at the global level. Developing countries and developed countries have come up with legislations and policies on environmental protection and conservation of natural resources. Some of the global efforts or measures to mitigate environmental degradation include:

Reducing Emissions from Deforestation and Forest Degradation (REDD): This a mechanism that has been under negotiation by the United Nations Framework Convention on Climate Change (UNFCCC) since 2005, with the twin objectives of mitigating climate change through reducing emissions of greenhouse gases and removing greenhouse gases through enhanced forest management in developing countries.

In the last two decades, various studies estimate that land use change, including deforestation and forest degradation, accounts for 17-29% of global greenhouse

gas emissions. For this reason the inclusion of reducing emissions from land use change is considered essential to achieve the objectives of the UNFCCC.

The Montreal Protocol: The Montreal protocol was a major development in the prevention of the seemingly imminent disaster. There is severe amount of research for alternative technology and substitute chemicals. New techniques have been developed to decrease the leakage of these gases. In Japan, success is in the vicinity in finding the alternatives for chlorofluorocarbons. Japanese companies – Mitsubishi Electric and Taiyo Senyo have claimed to have jointly developed an alternative of CFCs.

The Satellite Research Institute of Frankfort, Germany: The research institute of Frankfort, Germany has developed a method to use hydrogen as a propellant in aerosol sprays which is environmental friendly and is a safe alternative to CFCs and butane.

Reduce, Re-use and Recycle Approach: The 3R approach advocates minimization of resource use that is capable of degrading the environment, using them again and again instead of passing it on to the waste train and recycling the materials. This has gone a long

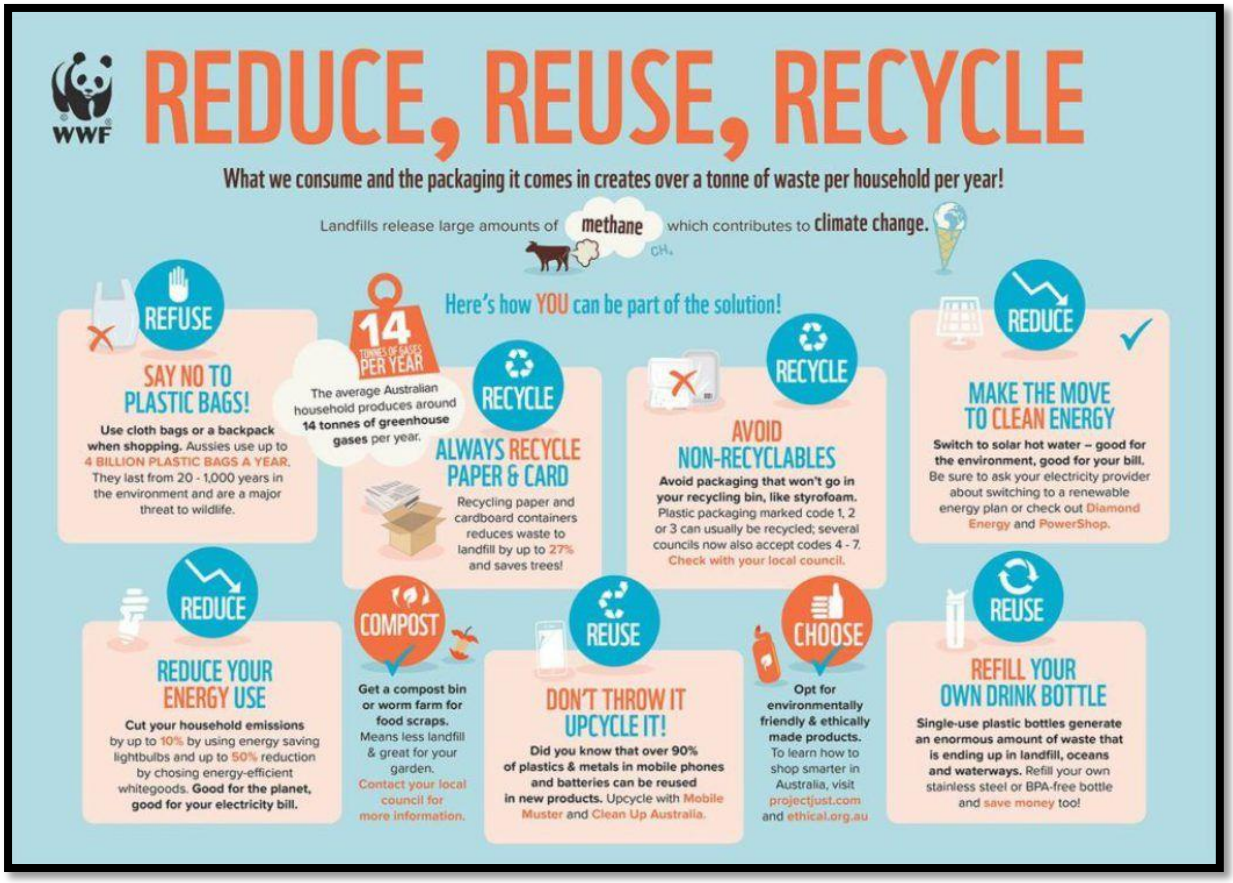
way to achieve the goals of sustainable development and pollution free environment.

Promoting Environmental Education and Awareness: Globally, environmental education and awareness has been on the increase. This is to underscore the dangers associated with environmental pollutions. Making environmental education a centre of all learning process has changed the thinking and attitudes of people towards our environment.

World Environmental Day: World Environment Day (also known as WED) has been started celebrating as an annual event on every 5th of June since 1973 in order to raise the global awareness about the importance of the healthy and green environment in the human lives, to solve the environmental issues by implementing some positive environmental actions as well as to make aware common public worldwide that everyone is responsible for saving his environment and not only somebody, government or organizations working for it.

World environment day was first established to be celebrated every year by running some effective

campaigns by the United Nations General Assembly and United Nations Environment Programme (UNEP) in the conference on Human Environment began from 5th to 16th of June at United Nations in 1972. It was first time celebrated in 1973 with the particular theme “Only one Earth”. Since 1974, the celebration campaign of the world environment day is hosted in different cities of the world.



Consumerism :

Consumerism is a social and economic order that encourages the acquisition of goods and services in ever-increasing amounts. With the industrial revolution, but particularly in the 20th century, mass production led to overproduction—the supply of goods would grow beyond consumer demand, and so manufacturers turned to planned obsolescence and advertising to manipulate consumer spending. In 1899, a book on consumerism published by Thorstein Veblen, called *The Theory of the Leisure Class*, examined the widespread values and economic institutions emerging along with the widespread "leisure time" in the beginning of the 20th century. In it, Veblen "views the activities and spending habits of this leisure class in terms of conspicuous and vicarious consumption and waste. Both are related to the display of status and not to functionality or usefulness.

In economics, consumerism may refer to economic policies which emphasise consumption. In an abstract sense, it is the consideration that the free choice of consumers should strongly orient the choice by manufacturers of what is produced and how, and therefore orient the economic organization of a society

(compare producerism, especially in the British sense of the term).

Consumerism has been widely criticized by both individuals who choose other ways of participating in the economy (i.e. choosing simple living or slow living) but also by experts evaluating the effects of modern capitalism on the world. Experts often highlight the connection of consumerism with issues like the growth imperative and overconsumption which have larger impacts on the environment, including direct effects like overexploitation of natural resources or large amounts of waste from disposable goods, and larger effects like climate change. Similarly some research and criticism focuses on the sociological effects of consumerism, such as reinforcement class barriers and creation of inequalities.

Rights of Buyer and Seller :

Consumer Rights and Responsibilities :

Consumer Rights is an insight into what rights consumer holds when it comes to seller which provide the goods. What if the goods provided to the consumer by the business is not up to the standard? Then in that case – what should a consumer do? To be precise, what rights consumer have is in the court of law to fight against the malpractices of the business firms or seller.

Consumer Rights :

- **Right to Safety***:* This is the first and the most important of the Consumer Rights. They should be protected against the product that hampers their safety. The protection must be against any product which could be hazardous to their health – Mental, Physical or many of the other factors.
- **Right to Information:** They should be informed about the product. The product packaging should list the details which should be informed to the consumer and they should not hide the same or provide false information.

- **Right to Choose:** They should not be forced to select the product. A consumer should be convinced of the product he is about to choose and should make a decision by himself. This also means consumer should have a variety of articles to choose from. Monopolistic practices are not legal.
- **Right to Heard:** If a consumer is dissatisfied with the product purchased then they have all the right to file a complaint against it. And the said complaint cannot go unheard, it must be addressed in an appropriate time frame.
- **Right to Seek Redressal:** In case a product is unable to satisfy the consumer then they have the right to get the product replaced, compensate, return the amount invested in the product. We have a three-tier system of redressal according to the Consumer Protection Act 1986.
- **Right to Consumer Education:** Consumer has the right to know all the information and should be made well aware of the rights and responsibilities of the government. Lack of Consumer awareness is

the most important problem our government must solve.

Responsibilities of a Consumer :

The consumer has a certain responsibility to carry as an aware consumer can bring changes in the society and would help other consumers to fight the unfair practice or be aware of it.

- They should be aware of their rights under the Consumer Protection Act and should practice the same in case of need.
- They should be well aware of the product they are buying. Should act as a cautious consumer while purchasing the product.
- If in case a product is found of anything false or not satisfactory a complaint should be filed.
- The consumer should ask for a Cash Memo while making a purchase.
- A customer should check for the standard marks that have been introduced for the authenticity of the quality of the product like ISI or Hallmark etc.

Objectives of Consumerism :

Consumer Awareness :

Consumer Awareness is the process of making the consumer of goods and services aware of his rights. It involves educating a consumer about safety, information and the redressal options available to him.

As previously discussed consumer awareness is one of the most persistent problems the government faces when it comes to consumer protection. To resolve this problem the government has come up with various methods over the years. In fact, it is the main aim of the Department of Consumer Affairs.

One of the most important and successful Consumer Awareness campaign in recent times has been the “Jago Grahak Jago” campaign. You must have certainly come across it. It is a great example of successful consumer awareness.

Consumer Protection Act :

Consumer Protection Act has been implemented(1986) or we can bring into existence to protect the rights of a consumer. It protects the consumer from exploitation that business practice to make profits which in turn harm the well being of the consumer and society.

This right help to educate the consumer on the right and responsibilities of being a consumer and how to seek help or justice when faced exploitation as a consumer. It teaches the consumer to make right choices and know what is right and what is wrong.

Redressal: Three Tier System Under Consumer Act

- **District Forum:** These fora are set by the district of the state concerned in each district wherein it consists of President and two members of which one should be a woman and is appointed by the State Government. In this, the complaining party should not make a complaint more than 20 Lacs and once the complaint is filed the goods are sent for testing and if they found defective the accused

party should compensate and if the party is dissatisfied can make an appeal
with state commission within 30 days.

- **State Commission***:* This is set up by each state It consists of President and two members. Complains should be at least 20 lacs and exceed not more than 1 crore. The goods are sent for testing and if found defective are asked for replacement or compensation. If not satisfied can make an appeal within 30 days in front of the National Commission.
- **National Commission***:* Consist of President and 4 members. The complaint must exceed an amount of 1 crore. The goods are sent for testing and if found defective are asked for replacement or compensation

Sources Of Waste :

Waste is defined as unwanted and unusable materials and is regarded as a substance which is of no use. Waste that we see in our surroundings is also known as garbage. Garbage is mainly considered as a solid waste that includes wastes from our houses (domestic waste), wastes from schools, offices, etc (municipal wastes) and wastes from industries and factories (industrial wastes).

We've had a problem with wastes ever since the industrial revolution. Technology has given rise to automation and this in turn has led to a profound effect on our environment. From non-biodegradable plastics to ozone destroying CFCs, discover how accumulation of wastes affects the planet.

The different sources of wastes can be identified by recognizing the types of wastes. Let us first define the term waste. Waste is any substance which is discarded after primary use or in other words, there is no further use for the product. We generate a huge amount of wastes in our day to day life. From the groundnut shells that we throw

after eating, to the food wrappers that we discard after consuming its contents are all parts of the activities that contribute to the generation of waste.

Industrial Waste:

These are the wastes created in factories and industries. Most industries dump their wastes in rivers and seas which cause a lot of pollution.

Example: plastic, glass, etc.

Commercial Waste:

Commercial wastes are produced in schools, colleges, shops, and offices.

Example: plastic, paper, etc.

Domestic Waste:

The different household wastes which are collected during household activities like cooking, cleaning, etc. are known as domestic wastes.

Example: leaves, vegetable peels, excreta, etc.

Agricultural Waste:

Various wastes produced in the agricultural field are known as agricultural wastes.

Medical or Clinical sources of wastes :

Wastes produced from health care facilities, such as hospitals, clinics, surgical theaters, veterinary hospitals, and labs are referred to as medical/clinical waste. This includes surgical items, pharmaceuticals, blood, body parts, wound dressing materials, needles and syringes

Agricultural sources of wastes:

Waste generated by agricultural activities, including horticulture, livestock breeding, market gardens and seedling nurseries, are called agricultural wastes. Wastes generated from this source include empty pesticide containers, old silage wrap, out of date medicines and wormers, used tires, surplus milk, cocoa pods and corn husks.

Industrial Sources of Wastes:

These are the wastes released from manufacturing and processing industries like chemical plants, cement factories, power plants, textile industries, food processing industries, petroleum industries. These industries produce different types of waste products.

Wastes from Construction or Demolition:

Concrete debris, wood, huge package boxes and plastics from the building materials comprise construction waste, which is yielded as a result of the construction of roads and building. Demolition of old buildings and structures also generate wastes and these are called demolition waste.

Commercial Sources:

As a result of the advancement of modem cities, industries and automobiles, wastes are generated daily on a large scale from commercial enterprises. These may include food items, disposable medical items, textiles and much more.

Mining Sources:

Mining activities also generate wastes that have the potential to disturb the physical, chemical and biological features of the land and atmosphere. The wastes include the overburden material, mine tailings (the waste left after extracting the ore from the rock), harmful gases released by blasting etc.

Radioactive Sources:

Radioactive sources of wastes include nuclear reactors, mining of radioactive substances and atomic explosions.

Electronic sources of waste:

The DVD and music players, TV, Telephones, computers, vacuum cleaners and all the other electrical stuff at your home, which are of no more use, are electronic wastes. These are also called e-waste, e-scrap, or waste electrical and electronic equipment (WEEE). Some e-waste (like TV) contains lead, mercury and cadmium, which are harmful to humans and the environment.

Types of Waste :

Biodegradable waste:

These are the wastes that come from our kitchen and it includes food remains, garden waste, etc. Biodegradable waste is also known as moist waste. This can be composted to obtain manure. Biodegradable wastes decompose themselves over a period of time depending on the material.

Non-biodegradable waste:

These are the wastes which include old newspapers, broken glass pieces, plastics, etc. Non-biodegradable waste is known as dry waste. Dry wastes can be recycled and can be reused. Non-biodegradable wastes do not decompose by themselves and hence are major pollutants.

Effects of Waste :

The effects and impact of waste pollution are waste specific, and also specific to the environment and geographic location where the pollution occurs (for example, toxic industrial sludge dumped in the ocean has a very different impact than plastic debris in the ocean).

Waste pollution can impact all areas of society in different ways – the environment (soil, water, air pollution), humans and human health, wild life and living organisms, economy, and aesthetics.

A few examples:

Plastic :

The impact of plastic pollution on land is not as definitive – particularly when it comes to the long term impact of micro plastics.

In the ocean, plastic can be ingested by many different marine species, as well as cause entanglement (in fishing nets, fishing lines, etc.)

Plastic also costs money to clean up (it's often more expensive to remove 1kg of plastic compared to the re-sale value of that 1kg of

plastic), and can cause losses to the economy and specific industries – such as the tourism and fishing industries.

Waste water :

One impact/effect of waste water pollution is water pollution (when polluted waste water enters a non polluted water source).

Waste water pollutes water when it contains enough contaminants or impurities to negatively impact the ecosystem or wild life and living organisms in an aquatic environment, or, if the water becomes unfit for human exposure or consumption.

It could also refer to the general degradation in quality of that water.

Mine Tailings:

From ICMM.com: 'If not managed properly, tailings can have a damaging impact on the environment and human health and safety, with pollution from effluent and dust emissions being potentially toxic to humans, animals or plants. This harm is multiplied many times over should a

tailings storage facility physically fail. Flooding from tailings materials can greatly damage the surrounding environment and even lead to loss of human life’.

The 7 R's of Sustainability :

Kids often learn about the common R's of Sustainability: ***Reducing****,* ***Reusing****, and* ***Recycling*** *at school. It's a popular topic around Earth Day.*

Today, sustainability defines the models necessary to ensure the survival of the human race and planet Earth. This includes ways to slow or reverse pollution, conserve natural resources and protect our environment.

There are actually 7 R's of Sustainability and I've spent some time thinking of ways to incorporate them into your daily life.

Rethink :

The next time you are standing in the grocery store take a moment. Do you really need to purchase that box of individually wrapped snacks? Could you recreate the same thing at home instead? In our house we try to determine if we really need the item at all. Sometimes, we opt for the convenience. **The point is to stop and think.**

I've been doing a lot of thinking about packaging in general. I love the new concept stores that are

popping up in cities, like Package Free. Consumer choice can help drive product companies to adjust their packaging. Let your favorite suppliers know how you would like to see changes in the way they deliver their products to market.

Refuse:

If you have children, you know all too well they don't have a hard time with this one. I finally gave up on the morning green juice because my daughter will absolutely not drink it. So why not practice what our children already know and **refuse single-use plastics.** To borrow the popular *US War on Drugs* campaign, "Just say no!"

Reduce:

Often we fall into complacency by allowing ourselves to rationalize the situation. **"I'll just recycle this" when in fact, we should opt for reducing our consumption.** When we become conscious of our choices and question whether or not we really need something, we are better able to make informed decisions.

Reuse & Repurpose:

We all have lots of things that we acquire in the course of our daily lives. Whether it's extra glass jars from our food stuff, clothing items that we no longer wear, or household items that we no longer use, these **items can be creatively upcycled**.

Recycle:

There are a few different options for recycling depending on your location:

- The easiest way to get started is to contact your city's public works department to determine if there is an existing curbside program.Curbside recycling programs usually offer pickup once or twice a week. You may need to acquire a designated recycling bin to participate. Ask for a list of items that are accepted in the program and be sure to follow the directions.
- If there is no curbside program in your area, locate a community recycling drop-off center. In some cases, items that are not accepted in your curbside pickup are accepted at a drop-off center.

- Ask at work about recycling and keep a box under your desk to separate out the recyclables.
- Consider putting a small bin in your car to make it easy to collect plastic bottles and other items while on the go.

Rot:

The final of the R's of Sustainability is rot, or rather, allowing your organic waste (food scraps, grass clipping, etc.) to decompose in a process typically referred to as composting. That rotting organic waste can be transformed over time into a nutrient rich soil amendment.

That same waste in a garbage bag sent to the local landfill will increase greenhouse gas in the form of methane. Even if you use a garbage disposal, most of the solid waste is simply filtered out at the water treatment facility and rerouted to the landfill.

01 RETHINK

- Stop and Think: Do we really need that box of individually wrapped snacks?
- Talk to companies that supply our favorite products about rethinking their packaging

02 REFUSE

- Refuse single-use plastics
- Refuse non-recyclable packaging

03 REDUCE

- Reduce consumption
- Become conscious of our choices and question whether or not we really need something

04 REPURPOSE

- Transform stuff we'd normally throw away into something cool and useful
- Repurpose packaging into arts and crafts

05 REUSE

- Be creative
- How can we reuse packaging such as glass, cardboard and some plastics for other uses?

06 RECYCLE

- Use city curbside pickup or find drop-off locations
- Ask about recycling options at work
- Place a recycling container in our car

07 ROT

- Transform organic waste (food scraps + yard clippings) into nutrient rich soil amendment
- Start composting simply + cleanly with the AeromatiCo

AEROMATICO

composting is now clean + simple

www.AeromatiCo.com

Case Study:

- The City of Santa Monica, California in 1994 implemented a progressive new course of action regarding the city's local responsibilities, with environmental concerns becoming a prominent issue in local decision making. Working under the sustainable development framework, the City reworked eleven major citywide policies with regard to both urgent environmental concerns as well as cost effectiveness of each improvement plan. The idea was to create an example for other communities of the feasibility and success of a city structured around long-term environmental sustainability. Santa Monica exhibits just what specific policies are required to achieve sustainability, moving from the ideological level to the implementation stage.
- Himachal Pradesh was the first State in India to regulate the manufacture and use of plastics. The State proposed a ban on all types of polythene packing.

- <u>Plastic to Oil :</u>

  The Indian Oil Corporation Limited and the Department of Science and Technology are expected to establish India's first plant to convert waste plastic into petrol, diesel and LPG.

Bibliography:

- The References I Used To Build This Project Are
- Wikipedia.org
- thegef.org
- brainkart.com
- khudihikranti.wordpress.com , etc.