Chapter – I

INTRODUCTION
1.1 ENVIRONMENTAL CHALLENGES IN THE 21ST CENTURY

Environment is the natural world within which people, animals and plants live. It includes some most important components:

Complete ecological units that function as natural systems without massive human intervention, including all vegetation, animals, microorganisms, rocks, atmosphere and natural phenomena that occur within their boundaries.

Universal natural resources and physical phenomena that lack clear-cut boundaries, such as air, water and climate, as well as energy, radiation, electric charge and magnetism, not originating from human activity.

Over the past two-to-three hundred years, humanity’s ecological footprint has ballooned to such an extent that we are now fundamentally altering the planet. We have transformed the Earth’s land surface and altered the function of its ecosystems, and we are triggering the rapid loss of both terrestrial and marine life. We are also profoundly changing our planet’s climate. It is increasingly apparent that the breadth and depth of the changes we are wreaking are imperilling not only many other species, but the health and wellbeing of our own species as well.

The environmental conditions have changed dramatically by the beginning of 21st century. The overall state of the global environment continues to worsen and has emerged as one of the major challenges for states in the current era. It will not be wrong to call the 21st century an “environmental distress syndrome” century. The problems of the environment the world is facing are vast and diverse, comprising climate change, stratospheric ozone depletion, loss of biodiversity, changes in hydrological systems and the supplies of fresh water, land degradation and stresses on food-producing systems. They are posing serious threats to human health, physical security, material needs and social cohesion.
All these environmental challenges should be addressed instantly, but the loss of biodiversity, Ozone depletion, and climate change are the most critical of environmental issues of the current century, prompting the international community to confront them without further ado in a skilful and insightful way.

1.1.1 Loss of Biodiversity

Biodiversity is defined as the “variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part. It includes diversity within species (genetic diversity), between species (species diversity), and between ecosystems (ecosystem diversity).” Biodiversity is not equally distributed over the earth’s surface. There are probably five to 30 million species of animals and plants across the globe, each genetically unique. Most remain unidentified. Some 1.4 million animal species alive today have been named and described. Named plant species are far fewer, numbering around 400,000. The tropics cover 42 per cent of all land but contain two-thirds of all animal species. Rain-forests cover six per cent of all land but contain two-fifths of all plant and animal species.

Biodiversity is of great value to humankind. It provides goods (like timber and medicinal products) and essential services (like carbon cycling and storage, clean water, climate and natural hazards mitigation). A total of about 3,000 plant species, 200 of which have been domesticated, are used worldwide as a food source. However, just 20 of these plants provide more than 80 per cent of our food. In order to maintain the high level of production such consumption demands, plant breeders frequently turn to the wild relatives of domestic crops in search of desirable genetic traits such as resistance to disease or drought: wild plants are a valuable reservoir of genetic diversity.

A smaller number of animal species provide human food, but the scale is often enormous. In addition to food, many of our drugs and raw materials for manufacturing also originate from either plants or animals. Globally, 3.5 billion people rely on plant-based medicine for primary health care. Many industrial materials, such as fibres, resins, dyes, waxes, pesticides, lubricants and perfumes derive from plant or animal sources. Trees provide more than 3.8 million cubic meters of wood annually for use as fuel, timber or pulp. More to the point, biodiversity also has its contribution in providing free environmental services like nutrient
cycling, soil formation, watershed protection, waste disposal, pollination, oxygen production, carbon sequestration and climate regulation.

Nonetheless, we the human beings in our desire to make our lifestyle better have caused serious threats to the survival of much of biodiversity. Increase in global human population (the Population Division of the United Nations predicts that the world’s population will increase from 6.23 billion people in 2000 to 9.3 billion people in 2050) and its consumption of already half of the entire food, crops, medicines, and other useful items produced by earth’s organisms, has endangered biodiversity. Unequal distribution, overexploitation and consumption of natural resources and other forms of wealth on the planet is another factor that is greatly putting biodiversity at risk.

The impact of this significant loss in biodiversity through human activity and meddling has in consequence led to the loss and fragmentation of natural habitats, which includes clearing forests for timber or plantations, overgrazing, draining wetlands and the flattening of grasslands and coral reefs. Additionally, excessive exploitation has pushed some species to the verge of extinction, including tiger, giant panda, black rhinoceros, cod and several whale species. Also, biodiversity loss is bringing about negative and adverse effects as far as human well-being (involving food security, vulnerability to natural disasters, energy security, access to clean water and raw materials, and health) itself is concerned. Depleted fish stocks, declining soil fertility, the collapse of pollinator species, the damage done by invasive species and the loss of potentially valuable genetic resources, all are in one way or another affecting the economic well-being of people worldwide.

1.1.2 Ozone Depletion

Ozone is a special molecular form of oxygen. In the stratosphere (19 to 48 km above earth’s surface), it is formed by the action of sunlight on oxygen. The thickness of the ozone layer varies seasonally and geographically. Scientists believe that over the history of earth, the ozone concentration in the stratosphere, although small, has been relatively stable due to naturally occurring nitrogen compounds in the atmosphere. Ozone in the stratosphere is important to life processes on earth. Absorbing some of the ultraviolet radiation (UV-B) light reaching the earth from the sun, it acts as a regulator of the amount of UV-B light reaching
the earth's surface. The stratosphere ozone layer is like a protective shield, a natural sunscreen for the planet.

Scientific evidence has confirmed that ozone depletion speaks of the damage done to the ozone layer through human-made chemicals comprising chlorofluorocarbons (CFCs), hydro chlorofluorocarbons (HCFCs), carbon tetrachloride, methyl chloroform, and methyl bromide. These chemicals are used in refrigeration, air conditioning equipment, aerosol sprays, fire extinguishers, foamed plastics, industrial processes and pesticides. Chemical reactions involving the bromine and chlorine molecules in these substances destroy ozone. A single molecule of chlorine and bromine has the ability to destroy thousands of ozone molecules.

According to scientists, ozone depletion (UV-B radiation) has the ability to smash up our environment and human health as well. UV-B causes sunburn, skin cancer and cataracts; the greater a person's exposure to UV-B, the greater the effect. As far as environmental dent is concerned, UV-B affects terrestrial, aquatic plant photosynthesis and disease resistance as well. In addition, some of ozone depleting substances entitled CFCs and Halons are powerful greenhouse gases that have influence over earth’s climate (circulation, temperature, and composition). Intergovernmental Panel on Climate Change (IPCC) and (TEAP) in its report on “Safeguarding the ozone layer and the global climate system: 2005,” predicted ozone depletion from 1980 to 2040 in the following chart:

Ozone depletion from the anthropogenically-produced nitrogen oxides is likely to be more important in the future as concentrations of atmospheric chlorine decline. Larger amounts of chlorofluorocarbons (CFCs) than previously estimated are restricted in existing products, and a large proportion of these CFCs may eventually be released in atmosphere, where they will continue to destroy ozone.

1.1.3 Climate Change

Climate change is defined as any substantial change in measures of climate (temperature, precipitation, wind, or other variables) lasting for an extended period (a decade or longer), whether due to natural factors or processes, or as a result of human activity. In some instances, the term “climate change” is used to refer specifically to change in climate caused by human activity.
The term “global warming” is used to describe the average increase in global temperature of the atmosphere near the earth’s surface, which can occur from natural and human-induced causes. Therefore, global warming is specific to an increase in temperature, while climate change is more encompassing and indicates that additional changes are occurring other than increase in temperature.

Although different, the two terms are often used interchangeably because they are interlinked. Global warming is the driving force behind climate change. However, climate change is an issue because of global warming. The scientific consensus is that both lead to the same dire consequences.

The climate change issue has emerged as one of the most serious environmental issues of the 21st century. It is the defining human development issue of our generation. Many climate scientists believe that human activity is responsible for climate change. They attribute the main cause of climate change to the burning of fossil fuels which increases the concentration of carbon dioxide (CO$_2$) gas in the atmosphere. Carbon dioxide warms the atmosphere through a process known as the atmospheric greenhouse effect. The atmospheric greenhouse effect is caused by certain gases in our atmosphere, called greenhouse gases, selectively absorbing and emitting infrared radiation, or heat energy.

Although water vapour is considered the most important greenhouse gas in regulating of the greenhouse effect, its atmospheric concentration is not changing directly as a result of human activity. For this reason, water vapour does not occupy the same high-profile role that other greenhouse gases do in the climate debate. The focus has been principally on such greenhouse gases as carbon-dioxide (CO$_2$), methane (CH$_4$), ozone (O$_3$), nitrous oxide (N$_2$O) and Chlorofluorocarbon (CFCs), whose concentrations has been increasing as a result of human activities and providing the impetus for an enhanced greenhouse effect.

Carbon dioxide is released into the atmosphere by the burning of solid waste, wood and fossil fuels (oil, natural gas, and coal).
Methane is emitted when organic waste decomposes, whether in landfills or in connection with livestock farming. Methane emissions also occur during the production and transport of fossil fuels.

Nitrous oxide emissions occur during various agricultural and industrial processes, and when solid waste or fossil fuels are burned.

A greenhouse gas is like a filter; it allows the shorter wavelengths of radiant energy (such as visible light) to pass through, but absorbs some of the longer wavelengths of radiant energy (such as infrared radiation). Visible sunlight readily passes through the greenhouse gases to reach the earth’s surface, where it warms the surface. The earth’s surface, which is much cooler than the sun, emits radiant energy in the form of longer infrared waves. The greenhouse gases absorb some of these infrared waves emitted by the earth’s surface. When greenhouse gases absorb infrared energy, they share this energy with other gases and the atmosphere warms.

The greenhouse gases also emit infrared radiation. Some of the emitted radiation travels back to the earth’s surface, where it warms the earth again. By preventing the rapid escape of infrared energy to space, greenhouse gases act as an insulating layer around the earth, keeping its surface much warmer than it would be if these gases were not present. The atmospheric greenhouse effect is a natural effect that has been occurring for billions of years. Indeed, without it, the earth would be a frozen planet with an average temperature of about -18° C. Due to the greenhouse effect, the earth’s average surface temperature is a comfortable 15° C (about 59° F).

It is not the greenhouse effect that concerns scientists, but the enhancement of the greenhouse effects by human-induced increases (anthropogenic) in the levels of greenhouse gases. Fossil fuel burning such as coal and petroleum has produced about three-quarters of the increase in CO₂ from human activity over the past 20 years. Other contributing factors in climate change process include: aerosols (particular matter in the atmosphere), which exert a cooling effect; cement manufacturing; land-use change, in particular deforestation; and ozone depletion. According to the “IPCC Climate Change Report: 2007,” the levels of carbon dioxide had risen to a record high of 379 ppm and are increasing an average of 1.9 ppm per year. Surprisingly, with just 15 per cent of the world population, rich countries account for 45 per
cent of CO$_2$ emissions, Sub-Saharan Africa accounts for just two per cent, while, low-income countries account for seven per cent.

Nonetheless, if the foretold increase in greenhouse gas concentrations is converted into temperature change, then a global temperature increase of between one and 5.5 degrees centigrade is expected by 2100. The average predicted temperature increase over the next 100 years is around three degrees centigrade. This compares to an increase of about one degree centigrade due to the previous man-made greenhouse gas emissions.

In case the global temperature rises to the extent that is predicted, there will be a sharp rise in sea-level as well as in the intensity of extreme weather. Other effects include changes in agricultural yields, trade routes, glaciers retreat, and species extinction. Sea level rise, through the thermal expansion of water and ice melt around the world, will pose a very serious threat to millions of people. The impact of such sea level rise would likely to be greatest in low lying countries, like Bangladesh, as they are least able to adapt to the sea level rise by building expensive sea defences.

1.1.4 Ecological footprints

The ecological footprint is a way of measuring human pressure on the natural environment. Created by two researchers at the University of British Columbia in Vancouver, the concept was quickly popularized by numerous environmental NGOs, such as the World Wildlife Fund. The ecological footprint of a population is the biologically productive land and water areas required to produce the consumed resources and to assimilate the wastes generated by that population, using prevailing technology. According to the WWF Living Planet Report 2010, humanity’s global ecological footprint has more than doubled over the past 50 years. It is now 50 per cent in excess of the biological capacity of the Earth. In Asia, the ecological footprint even tripled between 1961 and 2007. The Living Planet Report 2002 also noted profound inequalities between income groups: on average, the footprint per person is more than six times greater in high-income countries than in low-income ones.

1.1.5 Carbon Footprint
A carbon footprint is often part of the ecological footprint. A carbon footprint measures environmental impact of our activities, in particular, climate change (Vishvanathan and Mishra, 2009). It refers to amount of green house gases (GHG) produced in our daily lives by burning fossil fuels for electricity, heating, transportation etc. The carbon footprint can be defined as the sum total of all the greenhouse gases individually produced and is measured in tonnes (or kilograms) of carbon dioxide equivalent.

The carbon footprint comprises the sum of two parts – the primary footprint and the secondary footprint.

- The primary footprint is the measure of direct emission of carbon dioxide from the burning of fossil fuels and includes domestic energy consumption and transportation (e.g. plane, car etc.). We have direct control over it.
- The secondary footprint is the measure of indirect carbon dioxide emission from the life cycle of the product manufacture and its eventual breakdown.

The common response on how to limit the impact of global warming on climate change is to reduce the green house gas emissions. This response, is though, is deceptively simple. Unless there are radical changes in our entire energy supply, the demand for the reduction will clash with the very foundation of our consumerist society. Almost everything we eat, purchase and consume requires energy for production, transportation and storage and is responsible for the release of carbon dioxide and other green house gases.

Since stopping of consumption is not a realistic solution, the focus leans towards popularizing products with smaller carbon footprint. This requires a standard auditable and certifiable way of measuring carbon footprint and informing consumer about it.

1.1.6 Threat to human health

Global climate change in particular threatens human health in numerous and profound ways. Large segments of the population will experience more heat waves, altered exposure to infectious disease, and more frequent natural disasters. Most significantly, climatic disruption threatens the adequacy of the core “building blocks” of health for large populations around the globe: sufficient food and nutrition, safe water for drinking and sanitation, fresh air to
breathe, and secure homes to live in. As climate change dismantles these central elements of healthy societies, people with fewer resources will be forced to migrate in large numbers to lands where they may not be welcome, likely leading to increased civil instability and strife.

There is scientific consensus that the developing foetus, infants and children up to age three years can experience greater exposure than adults to substances in the environment. The degree of risk arising from environmental exposures is often poorly understood. Risks vary across different contaminants, age groups and individual circumstances. Scientific evidence exists of associations between environmental hazards and asthma, cancer, learning, behavioural and developmental effects, low birth weight and birth defects. Emerging evidence exists for additional, equally serious, health effects such as impaired functioning of the immune system and interference with the hormones of the endocrine system.

1.1.7 Environmental Change, Food, and Nutrition

The most important impacts of global change on human health are likely to result from reduced access to food and safe water. Already, an estimated 1.02 billion people worldwide—nearly one-sixth of the global population—are undernourished and malnutrition is responsible for at least a third of the disease burden in poor countries.

As the human population expands and as more people eat meat, world agricultural production will need to roughly double over the next 50 years to keep up with projected demand. But food production is already facing significant ecological constraints—including limits to arable land, water scarcity, soil nutrient depletion, and biological limits to increasing crop yields. Climate change will further challenge food production through myriad mechanisms and is expected to reduce yields significantly in many regions of the world—particularly those where food scarcity is already endemic.
1.2 What is Green Marketing?

Green marketing, also known as environmental marketing and sustainable marketing, refers to a company’s efforts at designing, promoting, pricing and distributing goods and services that will not harm the environment. According to Confederation of Indian Industries (CII) it is the voluntary pursuit of any activity that encompasses concern for energy efficiency, environment, water conservation and the use of recycled products and renewable energy. The United Nations Environment Programme defines it as “a marketing which encompasses all communication operations undertaken to promote a product on the basis of its environmental properties or of its social qualities. It is about selling products on an ethical platform.” Green marketing is a challenge to distinguish a product as being environmental friendly (eco friendly). Green Marketing can be viewed both as a type of marketing and a marketing philosophy. As a type of marketing, it is like goods or service marketing, and is concerned with marketing of a specialized kind of product, i.e. green product (including green goods such as fuel efficient cars or recycled products as well as green ideas such as “save oil” or “conserve natural habitat”). As a philosophy, green marketing concept runs parallel to the societal marketing concept and espouses the view that satisfying customers is not enough and marketers should take into account ecological interests of the society as a whole. It is a part of Corporate Social Responsibility (CSR).

The distinctive features of green marketing are its commercial dimension coupled with the reference to the values of consumers who want to act in an environmentally conscious and socially responsible manner with the purchases they make. Put simply, green marketing comprises all those marketing activities which the firms undertake to create a positive impact or lessen the negative impact of their products on the environment. Terms like Phosphate Free, Reusable, Refillable, Ozone Friendly, and Eco-friendly are some of the other terms consumers most often associate with green marketing. While these terms are green marketing claims, in general, green marketing is a much broader concept, one that can be applied to consumer goods, industrial goods and even services.
While green marketing came into prominence in the late 1980s and early 1990s, it was first discussed much earlier. The American Marketing Association (AMA) held the first workshop on "Ecological Marketing" in 1975. The proceedings of this workshop resulted in one of the first books on green marketing entitled "Ecological Marketing" [Henion and Kinnear 1976a].

At this workshop ecological marketing was defined as:

‘The study of the positive and negative aspects of marketing activities on pollution, energy depletion and non-energy resource depletion.’

This early definition has three key components:

1) It is a subset of the overall marketing activity;
2) It examines both the positive and negative activities; and
3) A narrow range of environmental issues are examined. While this definition is a useful starting point, to be comprehensive green marketing needs to be more broadly defined.

American Marketing Association (AMA), in year 2007 divided the definition of green marketing in three aspects (marketingpower.com): as “the marketing of products that are presumed to be environmentally safe” (retailing definition) as “the development and marketing of products designed to minimize negative effects on the physical environment or to improve its quality” (social marketing definition) and finally as “the efforts by organizations to produce, promote, package, and reclaim products in a manner that is sensitive or responsive to ecological concerns” (environments definition).

Thus green marketing incorporates a broad range of activities, including

* Product modification,
* Changes to the production process,
* Packaging changes, as well as
* Modifying advertising
Green marketing is the promotion of products with environmental characteristics and defines a broad concept which includes activities like any one or all of the characteristics that include product modification, changes in the production process or in packaging etc. An eco-friendly product is supposed to reduce the impact of its consumption on the environment thanks to the use of making-processes, components and recycling techniques which are less harm for the natural environment than those of conventional products (nationalgeographic.com). Thus green marketing incorporates an extensive range of activities, including product adaptation, changes to the production process, packaging changes, as well as modifying promotional activities. "Green Marketing" refers to holistic marketing concept wherein the production, marketing consumption a disposal of products and services happen in a manner that is less damaging to the environment. Green marketing involves developing and promoting products and services that satisfy customers want and need for Quality products/services, Performance, reasonable Pricing and Convenience without having a detrimental input on the environment. With growing responsiveness about the implications of global warming, non-biodegradable solid waste, harmful impact of pollutants etc., both marketers and customers are becoming increasingly sensitive to the need for switch in to eco-friendly products and services. While the shift to "green" may appear to be expensive in the short term, it will definitely prove to be crucial and profitable, cost-wise too, in the long run.

The most important benefactor of green marketing is the environment, especially the weather change, air, water and soil preservation. Fossil fuel consumption is a major source of greenhouse gases which influence the climate change. Green marketing initiates the development of strategies to reduce the need of these forms on energy. The green strategies should benefit both the environment and the consumer. Consumers benefit from the awareness that they help to lower climate change. These customers prefer efforts to reduce environment pollution before efforts to raise profitability of the companies. They want to be associated with environmentally friendly products and organizations. Organizations identify multiple benefits from green marketing. Organizations that integrate conservation approaches into their strategy improve their image in view of all stake holders including consumers, employees, investors and the green public. Product benefits include production of goods and services that are designed to benefit the consumer. Green products must at least protect if not improve environmental quality and increase customer satisfaction. Green Process refers to tools and knowledge in throughput technology designed to facilitate manufacturing and distribution of eco-friendly products. The efforts to produce the highest quality at the lowest
possible costs are focused. Therefore it ensures that the interests of the organization and all its consumers are protected, as voluntary exchange will not take place unless both the buyer and seller mutually benefit. And all this is done while minimizing, if not totally eliminating, harmful effects of economic activities on the environment.
1.3 Why Green Marketing?

With the human wants escalating heavily, the resources are decreasing. There is heightened awareness globally of the impact of human over consumption activity on the earth’s natural resources, with issues such as global warming, ozone depletion, water and air toxic waste, loss of species and farmland deterioration threatening both the environment and human life. Human consumption behaviour presents an issue for the environment and the society from the perspective that abated consumption, use and disposal of product and services, negatively impact physical environment and the people that inhabit it. Past consumption behaviour has resulted in devastating impact, while predicted future consumption patterns of energy and natural resources show and expected rise in natural resource consumption to 170% of earth’s bio-capacity by year 2040.

Until the 1970s, it was the common belief that nature brings inexhaustible resources, providing mankind with unlimited opportunities for future economic growth. It was during the next decade when academics and politicians joined forces to open the eyes of humanity for the scarcity of this natural resources and the importance of preserving them. Perhaps the most noteworthy turning point was the report of the Brundtland Commission (then known as the World Commission on Environment and Development), published in 1987 under the name “Our Common Future”. Its targets were multilateralism and interdependence of nations in the search for a sustainable development path. The report sought to evoke the spirit of the United Nations Conference on the Human Environment - the Stockholm Conference - which had introduced environmental concerns to the formal political development sphere. Our Common Future placed environmental issues securely on the political agenda; it aimed to discuss the environment and development as one single issue. The Brundtland Commission Report recognised human resource development in the form of poverty diminution, gender equity, and wealth relocation as crucial to formulating strategies for environmental conservation; and it also recognised environmental-limits to economic growth in industrialized and industrializing societies existed. The message of the Brundtland Report was that it is possible to achieve a path of economic development of global economy which meets the needs of the present generation without comprising the chances of future generation to meet their needs. At the risk of oversimplification, the prescription is to leave to
future generation a wealth inheritance – a stock of knowledge and understanding, a stock of technology, a stock of manmade capital and a stock of environmental assets – no less than that inherited by present generation.

Many of the environmental issues we face are due to modern development and pursuit of economic growth. In order to tackle these problems, paradigms shift a sustainable production and consumption will need to take place. However, making these crucial changes occur requires more than individual change; change in societal and economic level will be necessary. Hence, the government will need to commit to developing forward thinking environmental policies. Corporations need to integrate greening into their business strategies and investment in development of it as they would any other aspect of their business. Finally, consumers have to actually purchase environmentally friendly products; they so far, only claim to be interested in. In the end, going green must make business sense for the corporation and not require making compromise on product attributes for the consumer.

Marketing of eco-friendly goods probably can play some role in at least reducing to some extent the impact of climate change since there are sufficient evidences to support the fact that human activities are the major contributors towards climate change. The green marketing has evolved over a couple of decades. Green marketing is the marketing of products and services in eco-friendly manner. It can be practiced in all the product categories. According to Peattie (2001), the evolution of green marketing has three phases. First phase was termed as "Ecological" green marketing, and during this period all marketing activities were concerned to help environment problems and provide remedies for environmental problems. Second phase was "Environmental" green marketing and the focus shifted on clean technology that involved designing of innovative new products, which take care of contamination and waste issues. Third phase was "Sustainable" green marketing.

‘Sustainable’ means the capacity to continue, to remain viable. ‘Sustainability’ refers to aspects that allow this continuation, including the ability to develop and change. The term “sustainability” has its origins in the field of ecology, designating an ecosystem’s potential to subsist for a longtime with almost no alteration. Businesses play an important role in
fulfilling the needs of people but in order to meet the needs of future generations it is necessary to establish business practices and models that do not deteriorate society or the environment. Sustainable development means a change in consumption patterns towards environmentally more benign products, and change in investment patterns towards augmenting environmental capital. The World Business Council for Sustainable Development “(W.B.C.S.D.) defines this concept as ‘forms of progress that meet the needs of the present without compromising the ability of future generations to meet their needs’. The same organization states that the aim of this orientation is to help companies to prosper and to have long term potential to innovate and grow. For a company, value creation in the present has to be correlated with assuring the possibility to develop its businesses in the future. A definition that has put in value the equity principles belongs to World Commission on Environment and Development (WCED, 1987) “Sustainable development requires meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life”. The most appealed is intergenerational impartiality that states equal rights to the present and future generations, concerning the resource distribution. Intergenerational equity consists of eliminating discrimination and stimulating a more equitable distribution of power among the members of the current generation. Thus, taking into account the limited resources, it has to manage the producing and commercial processes as to harmonize its financial interests with those of consumers and of society.Sustainable development involves devising a social and economic system that ensures that these goals are sustained, i.e. real income rise, that the educational standards increase, that their is overall development of the nation, that the general quality of life advances. Thus, the sustainable development is oriented to an economic and social advancement, without affecting the natural equilibrium.

Sustainable development does not focus solely on environmental issues. The United Nations 2005 World Summit Outcome Document refers to the “three interdependent and mutually reinforcing pillars” of sustainable development as economic development, social development, and environmental protection.

In one of its important study, the Board on Sustainable Development of the U.S. National Academy of Sciences identified three major categories—nature, life support systems, and community—as well as intermediate categories for each, such as Earth, atmosphere, and
cultures under the heading “what is to be sustained,” The board found that most commonly, prominence was placed on life support systems, which defined nature or environment as a source of services for the utilitarian life support of humankind. Similarly, there were three quite distinct ideas about what should be developed: public, economy, and society. Much of the early literature focused on economic expansion, with productive sectors providing employment, desired spending, and wealth. Lately focus has shifted to human development, including a prominence on morals and goals, such as increased life expectancy, education, equity, and opportunity.

![Figure-1: Pillars of sustainable Development](Source- IUCN Report, 2006)

The concept of sustainable economic development as applied to Third World is directly concerned with increasing the material standard of living of the poor at the grassroots level, which can be quantified in terms of increased food, real income, educational services, healthcare, sanitation and water supply, emergency stock of foods and cash. In general terms, the primary objective is reducing the absolute poverty of the world’s poor through providing lasting and secure livelihoods that minimizes resource reduction, ecological degradation, cultural disturbance and social instability.

The means of achieving sustainable development in this broad sense might be summarized as:

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The value of the environment: Sustainable development involves a substantially increased emphasis on the value of natural, built and cultural environments. This ‘higher profile’ arises either because environmental quality is seen as increasingly important factor contributing to the achievement of ‘traditional’ development objectives such as rising real incomes, or simply because environmental quality is part of wider developmental objective of ‘improved quality of life’

Extending time horizon: Sustainable development involves a concern both with the short term – medium term horizons, say 5 to 10 years and with the longer run future to be inherited by or grandchildren, and perhaps beyond.

Equity: Sustainable development places stress on providing for the needs of the least advantaged in society (intragenerational equity) and on a fair treatment of future generation (intergenerational equity)

The underlying logic of this proposition is that if one generation leaves the next generation with less wealth then it has, it has made future worst off. But sustainable development is about making people better off. Hence, we have to adopt the policy which leaves more wealth for future development.

Sustainable development requires distinct measures. Increased output of goods and services can certainly be part of the required outcome, but equally important is the maintenance of the ecological base of the economy—productive soils, natural ecosystems, forests, fisheries, and water systems. On the production side, it is important to distinguish between renewable and non-renewable resources. Every economy must use some non-renewable resources, but sustainable development implies conservation or recycling of these resources and greater reliance on renewable. On the consumption side, an important distinction must be drawn between wants and needs. In contrast to the standard economic theory, in which “monetary votes” command the marketplace and determine which goods are to be produced, sustainable development implies putting a priority on supplying basic needs before luxury goods.
‘Sustainable marketing’ marked the beginning of a new approach that society will deal with the increasing concerns about ecological deterioration - sustainable development. Under the pressure of the emerging different social and legal norms, the business world had to react quickly. The shift in people’s demands towards more Eco-friendly products opened a whole new world of opportunities for businesses. In no time it became clear that being “green” is not only beneficial for the society, but can also bring a lot of profits. As a result, many companies started incorporating sustainability into every level of their organization.

At the first glance, marketing and sustainable development seem to be contradictory terms. Marketing is focused on satisfaction of customers’ needs, being considered by many people a mechanism to stimulate consumption. Sustainable development militates for consumption limitation, as not to compromise the quality of life for future generations. Sustainable marketing is a new vision, oriented on an effective use of resources aimed to offer the best value to customers and to other stakeholders, by taking into consideration society’s and environment’s long term interests.

As resources are limited and human wants are unlimited, it is important for the marketers to utilize the resources efficiently without waste as well as to achieve the organization's objective. So green marketing is inevitable. Companies that develop new and improved products and services with environment inputs in mind give themselves access to new markets, increase their profit sustainability, and enjoy a competitive advantage over the companies which are not concerned for the environment.

Adoption of green marketing: There are numerous reasons for which a marketer should go for the adoption of green marketing. They are -

• Business opportunity: A majority of the population in countries of varying geographical and economic background want to consume in a more sustainable way. Businesses can tap into this huge potential client base by stepping up their environmental performance and by communicating this change to their buyers. Organic food, beverages and supplements, for
example, delivered revenues of US$51 billion in 2008 and are expected to grow by 12.8 per cent annually until 2015, reaching nearly US$105 billion. In Asia, this growth is projected to reach an even higher rate of 20.6 per cent.

- Environmentally conscious businesses: In addition to improved profitability, which is a direct benefit for the companies practising green marketing them, green marketing can also benefit society by facilitating not only the communication about but also the use of green business practices. It can be assumed that companies engaging in environmental marketing activities actually have a high possibility to improve their behaviour, because to declare that their products are eco-friendly, they have to actually assess the product in a way that meets certain requirements to attain certified eco-labels. They do not want to lose the trust of the environmentally conscious consumers they address.

- Environmentally conscious consumers: If conducted correctly and credibly, green marketing can enhance the quantity and quality of environmentally conscious consumerism. By pointing out the adverse effects of conventional business and production practices on the environment and introducing and informing about green alternatives, consumers are enabled to make a conscious choice with their purchases.

- Business practice transparency: Green marketing is a double-edged sword for businesses. On one hand, they can appeal to green consumers, but on the other hand, they have to live up to the green image they try to establish. In this sense, green businesses are held accountable by both the government and society. To be certified by green labels, companies have to disclose information about their management and production practices that would normally not be accessible to the public. Hence, green marketing is a tool that also enhances business transparency.

- Acceptance of environmental price internalization: An inherent part of green marketing is to communicate why green products are priced differently than their conventional counterparts. The premium price is the reflection of the environmental costs that the
resource extraction and processing incur, which is usually not reflected in the market price. This way, green marketing help acclimate consumers to accept paying higher prices for products that actually integrate the environmental impacts they inflict into their prices.

• Supply chain expansion: Green marketing can give consumers an idea of what green products and their benefits are and can encourage them to look for more green purchase alternatives in their proximity. This helps to expand the supply chain of green products by raising the demand for regional supply networks.

• Closing the product life cycle: Green products, advertised via green marketing, do not only encompass new inventions but also recycled, refurbished and remanufactured goods. By communicating their alternatives, which often are cheaper than usual green products and are considered as waste in the conventional supply and consumption patterns, green marketing can contribute to opening consumers’ minds to the options and thereby closing the product life cycle.
1.4 Green Consumer

The past few centuries are witness to the rapid economic growth through increasing consumers’ consumption worldwide. This has in turn caused environmental degradation through over-consumption and over utilization of natural resources. The consequences of environmental degradation are global warming, depletion of stratospheric ozone layer, pollution of sea and rivers, noise and light pollution, acid rain and desertification (Ramlogan, 1997). Grunert (1993) reported that about 40% of environmental degradation has been brought about by the over consumption activities of private households. As the environment continues to worsen, it has become a relentless public concern in both developed as well as developing countries.

People can feel global warming everyday thus environmental issues and ecology, although very intangible for the mass, have a touch to everyday life. In the early days of the green movement, the focus was on how bad everything was. The message was that various limits to the environment’s capacity to support human and other forms of life were being exceeded, and that if nothing was done, environmental collapse within 100 years would be inevitable. For years, there were warnings about the dangers of climate change, excessive natural resource consumption, and ever-increasing waste generation. If there was a theory of political transformation it was based on the message itself. The idea seemed to be that once people were informed how bad everything was, they would change their life-style and behaviour accordingly.

The increasing awareness of global warming, rise in vector borne diseases, rampant tsunamis and earth quakes have suddenly drawn the attention of masses towards its causes and hence consequences. It has led to creation of a new segment of consumers who have started working on to find out ways and means to at least soften down the ill effects of climate change. We call this segment of customers as the eco-friendly consumers. A green consumer is one who is mindful of environment related issues and obligations, and is supportive of environmental causes to the extent of switching allegiance from one product or supplier to another even if it entails higher cost. A green consumer is someone who is very concerned about the environment and, therefore, only purchases products that are environmentally-friendly or eco-friendly. But green consumers are also concerned about how green the products are that they purchase. Products with little or no packaging, products made from
natural ingredients and products that are made without causing pollution are all examples of eco-friendly products.

The participation of citizens can complement existent legal and economic instruments, which are facing shortage of institutional, managerial and financial capabilities for enforcement of environmental laws. Experience in various countries suggests that ecologically aware and alert consumers can play a catalytic role in alleviating environmental problems. Since consumers themselves are major contributors to environmental degradation and pollution, any environmentally responsible behaviour on their part can go a long way in mitigating the problem of depletion of natural resources and bringing down pollution levels that have reached alarming heights in the country. Their increased concern for the environment and the resultant demand for green products can act as a pressure point on business firms to turn green and start marketing green products.

While it is impossible to survive without consuming, it then logically seems that it would be for our greater good that our consumerism be ‘green’ than otherwise. An online survey conducted of people (most of who fell within 18-25 years age group) showed the following results: 93% of the respondents felt that at a personal level, global warming is affecting them, or could affect them. 84% felt that their purchases affected the environment in a negative way. When asked to mention eco-friendly practices they followed (if any), popular ones included the use of CFL bulbs, public transport, handmade paper, cloth bags and ensuring no unnecessary consumption of electricity and water at home. A few people did state that such practices are more of an eyewash and incapable of causing any real change. Lately, terms such as global warming, recyclable, biodegradable, environmentally friendly, sustainable, compostable, and bio-based have created a buzz even among common men – thanks to the newspapers and electronic media, who constantly talk about this in one way or the other! Consequently, knowingly or unknowingly, people are getting more “Green Conscious” than “Brand Conscious” Many industries have realized that it is not easy to fulfil the appetite of people for shopping with material goods. So in turn, they have also shifted towards green technique.

One green behaviour that consumers encounter on nearly a daily basis is the choice to purchase environmentally-friendly consumable products, such as cleaning products. These environmentally friendly products have a variety of positive environmental benefits over
traditional cleaning products, including reduced toxicity, increased biodegradability, reduced packaging, and an increased ease of recycling after use. The decision to purchase these types of products is a relatively simple behaviour a consumer might adopt. However, it is likely that a majority of consumers, many of whom are generally environmentally-conscious, are not routinely making these purchases as the result of what has been called the “value-action gap.” This “value-action gap” refers to the discrepancy between consumer knowledge about the environment and taking action to adopt behaviours that would lessen one’s individual environmental impact. As long as environmental issues have been in the forefront of people’s minds, the “value-action gap” between consumer knowledge and action has existed.

The increase of participation of citizens in environment protection activities means that legal frameworks would be more respected and economic mechanisms would be more accepted and thus increase their effectiveness. In this context, consumer’s choices reflect not only price and quality preferences but also social and ethical/moral values. Thus, this increased concern and feeling of responsibility for society has led to purchase and use of green/environmental friendly products, e.g., organic and healthy products, environmental friendly packaging, and any fair trade products. At the spirit of this trend is often referred to as ethical consumerism or green consumption (Chan et al., 2008; Bohlen et al., 1993). In general, consumerism means an organized movement of citizens and government agencies to improve the rights and power of buyers in relation to sellers (Kotler and Armstrong, 2008). This is also mentioned as ethical consumption behaviour. In line with this, purchasing, using and disposing green products assert individual’s (consumer) values of social responsibility and ethical consciousness and, therefore, these can be predicted that consumer’s environmental friendly behaviour associate with morally questionable behaviour.