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## SUSTAINABLE DEVELOPMENT THROUGH GREEN INITIATIVES

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### Abstract

*There is a direct relation among economic growth, social development and environment. The present must not develop at the cost of future. The pollution, the change in climate and the global warming is telling upon the quality of life. The United Nations Human Development (U.N.H.D) report in 2014 showed the disastrous results of unbridled use of the natural resources in the present development. There are threats to sustainable development. Shocked at the hidden dangers the different countries made plans to find out the solutions. In Green initiatives it is aimed to keep balance between the objectives of development and the environmental changes. Green initiatives are the only alternatives to fall back upon and to make the development sustainable. The aim of the study was to analyze the issues related to the sustainable development and the green initiatives taken so far. Secondary data has been used for conducting the present study.*

*The study shows that the situation is really alarming and demands considerable attention. Development of the contemporary time is treading on the path of future destruction. The ill effects of development can be checked through the initiatives of maintaining sustainable development. The policy makers must pursue inclusive green growth with green initiatives in every field to bring the sustainable growth as a guarantee for the future generations.*

*Key Words: - Sustainable Development, Green Initiatives, Global Warming, Inclusive Growth, Consumerism, Eco- Friendly, Pollution, Human Development Index.*

### A. INTRODUCTION:

Among various definitions of Sustainable development the most common is, "The development that meets the needs of the present without compromising the ability of future generations to meet their own needs" - WCED Brundtland 1987.

With the long leaps of science and the fast pace of progress in the materialistic world unluckily the development looks to be retrogressive and negative - of course not due to the fault of Science but that of the selfish ego- mania of 'man' who handles it. Since the Industrial Revolution the amount of Carbon Dioxide has increased up to 40 per cent. The Global Warming has encircled the earth very fast- During the last 11 years the graph has risen dangerously due to the excessive consumption of petrol, diesel and coal. About five billion tons of fossil fuels are being burnt annually. Consequently, the most prevalent greenhouse gases are Carbon - dioxide, Methane and Nitrous oxide. Even the burning of wood and wood products also add to it. In the blanket like covering of the earth by the green house gases the radiated heat of the earth cannot escape. The heat waves come down back to earth, sea and air.



**B. AIM OF THE STUDY:**

1. To know the disasters associated with the human progress.
2. To study the threats to sustainable development.
3. To find out the present position of the effects of the changing climate.
4. To review the efforts made to check the global warming.
5. To discuss the green initiatives taken for sustainable development.

**C. RESEARCH METHODOLOGY:**

For the purpose of conducting the study secondary data was used. A comparative study, based on the secondary data was also done to facilitate comparison and to understand the current scenario and future implications.

**D. PRESENT POSITION:**

**1. *Green - house gases:-***

The position is all the more when we see that not only the developing but even the developed countries are ahead in emitting the green-house gases. A U.S citizen emits about 20 tons of Carbon Dioxide. It is 25 times more than that of an Indian who emits only 0.8 tons annually.

**2. *Dying Flora and fauna:-***

Sustenance of the Flora and Fauna is completely endangered. It poses a further peril to human existence. Many of the rare species are disappearing. About 20% to 30% of these are at the point of extinction if the global warming exceeds 2.5° C. Large scale forests degradation and loss of bio diversity is an economic and social cost to the country. It also endangers the livelihood of the forest dependent communities.

**3. *Rising sea level:-***

This man- made calamity – the pollution has affected the circles of the seasons. The seasons are changing. The glaciers are melting and the sea-level is increasing. The coastal area cities like Tokyo, New York, London, Mumbai, Kolkata and many island countries are at the brink of sinking in the deep.



**4. Contaminated water:-**

The World Water Development Report- 'Water for people, Water for Life' on March 5, 2003 brought forth the fact that 50 per cent people of the developing countries were consuming polluted water. It said that the Asian rivers were filled with maximum bacteria multiplying from human waste. These rivers contain 20 times more lead than those of the developed countries. More than two million tones of waste is dumped everyday in these rivers. The first United Nations Global Water Evaluating Survey (UNGWES) ranked India at the lower ladders in terms of quality of water for citizens. Bureau of Indian Standards (B.I.S) found the river Yamuna with maximum water pollution in it. This water is used for drinking purpose. In 1996 the Indo-Dutch study of the Yamuna water found the presence of DDT, BHC, aldrin and dieldrin heptachlor in it. The Indian Toxicological Research Institute Lucknow warned that the highest level of DDT is being consumed by the residents of Delhi. In Kerala the studies related the cancer of reproductive organs directly to the presence of pesticides which are indirectly consumed. National healthcare survey 2013 (NHS - 13) brought forth the fact that less than one third of the households in India drink purified water and 39% of them get piped water. People are prone to water borne infections. In the survey mentioned above about 12000 households were analysed across twelve states for the study.

**5. Health hazards:-**

Present Pollution of the globe is pointing to the alarming danger to health. Human Beings are undergoing a serious effect of the unnatural and ultraviolet rays of the sun. The climate change affects the quality of life through human health. Transmitted diseases like dengue and malaria are spreading their wings. The skin diseases are increasing. The fatal diseases are mitigating the humanity. It is a direct threat to the developing countries of which most are Asian. The physical condition of the Universe is changing. The rising temperature has disturbed the order of the rainfalls. The dust storms show an alarming intensity and frequency. The soil erosion and deserts are unbalancing and reducing the quality of agricultural land. It was surprising that in India during December 2015 to January 2016 there were no cold waves, no snow falls and no rains. It remained warm. But with the mid of January 2016, the fog started in its extreme form and that also at unexpected places. There was sunny in Srinagar while snow fell on the lower plains and hills. The winter came late by one month.

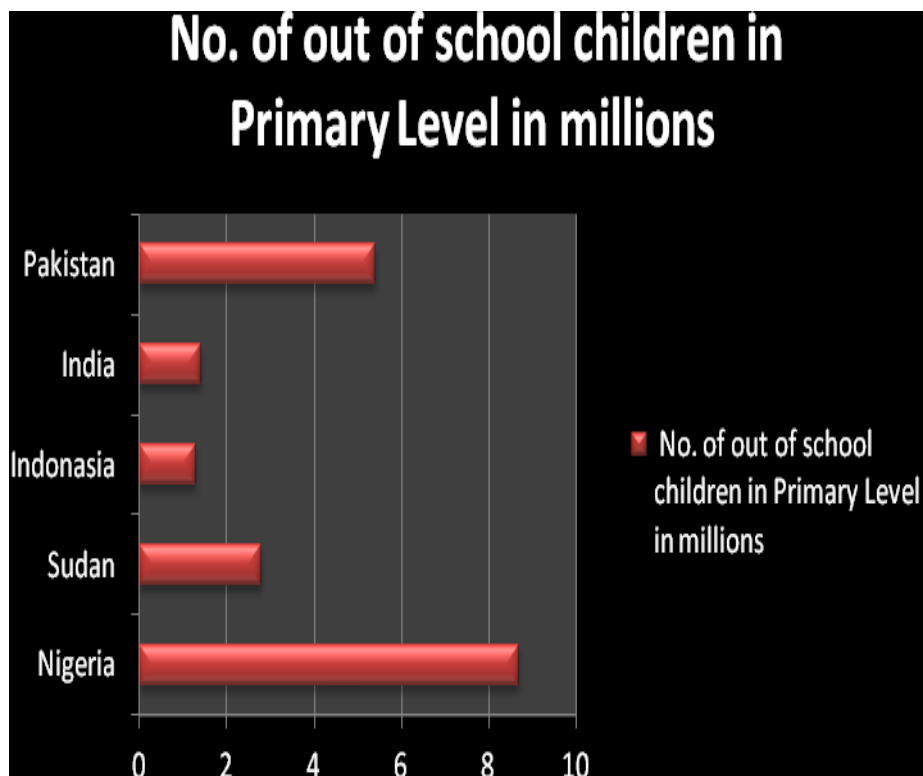
**E. U.N HUMAN DEVELOPMENT REPORT:**

U.N Human Development Report on July 24, 2014 showed very low progress in human development measures. Human Development Index (H.D.I) a measure derived for different fields showed the meager growth from 0.700 in 2010 to 0.702 in 2013 in life- expectancy, education levels and income. It is all due to the global economic crisis.

Globally there were 99.8 million children who were out of school in 2000 in primary level. 57.8 million Children were out of school at the primary level by 2012 out of which 30.6 million were female students. 63 million young adolescents were not enrolled in schools.



The figure no 1 shows the top five nations with highest number of out of school children at primary level (in millions). In Nigeria, it is the worst condition with 8.7 million out of school children showing it at the bottom in the world. Indonesia comes at the fifth level with 1.3 million out of school children in primary level.



Source: UN and the World Bank

Figure 1

Human Development Report (H.D.R) points out that about 200 million people are affected by natural disasters and 45 million were displaced by conflicts in 2012. The H.D.R (2014) found a widening gender development gap in a study of 148 countries in a Gender Development Index (GDI). A rise in India's life expectancy was seen which grew from 58.5 years in 1990 to 66.4 years in 2013- but it was much lower in comparison to that of the world. Among the developing countries by 2012, India has been at the worst levels on the health front. She has been next to China, Brazil, Srilanka and even Bangladesh in many cases. More astonishing is the amount of GDP spent on public health. (Reference table- 1)



F. PERCENTAGE OF THE GDP SPENT ON PUBLIC HEALTH

Table 1

COUNTRY	% SPENT
INDIA	
11 <sup>th</sup> five year plan	1.00 %
Proposed under 12 <sup>th</sup> five year plan	1.58 %
Suggested by the planning commission	2.50%
UNITED STATES OF AMERICA	20 %

South Africa had much less expectancy i.e. 56.9 years- due to the epidemics like the H.I.V / AIDS/ T.B. and Diabetes etc. China's life expectancy was recorded at 75.3 years- while the average expectancy in the world was 70.8 years- with developed countries having it at 80.2 year.

According to the U.N Report on education indicators, it was seen that India had 11.8 expected years of schooling on the prevailing enrolment pattern. The average of that of the world is 12.2 years, in 2014 while the developed countries possessed 16.3 years.

On the income front also there is a gap in different countries. The annual income was measured in the purchasing power parity terms. For India it is \$5150 slightly more than her neighbors, but lowest among the BRICS countries and less than half the global average of \$ 13723. The developed countries average is way ahead at \$ 40046. (Reference table 2)

Table 2

	Life expectancy at birth years	Expected schooling years	Per capita income 2011 PPP \$
India	66.4	11.8	5150
China	75.3	12.9	11477
Brazil	73.9	15.2	14275
Russia	68	14	22617
South Africa	56.9	13.1	11788
Developed nations	80.2	16.3	40046





World	70.8	12.2	13723
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Source: UN Human Development

Report 2014

Per capita income gap with women is all the more alarming. In India the income of men is about four times higher than that of the women. In Bangladesh this gap is two times while in Nepal it is 80 per cent more with men than with women. Education level of women in India is also lower. The participation of women in politics is much less than that in many of the South Asian countries. As per the U.N 2014 report only 10 percent seats were held by women in the Parliament.

#### G. THREATS TO SUSTAINABLE DEVELOPMENT:

For the future existence of mankind the sustainable development is the need of the hour in the race of materialist development in the developing countries. But the increasing population, galloping economy, deforestation, rural migration to urban areas, changing consumer habits, illiteracy, market pressures and poverty are the checks and obstacles in the sustainable development. In other words these are the main detriments for future security.

##### 1. *Increasing Population:-*

The total number of living humans on earth is now greater than seven billion. Since the 18<sup>th</sup> century, the world population has seen a rapid increase. Between 1900 and 2000 the increase in world population was three times as great as the increase during the entire previous history of human kind. The relative higher rate of growth of the developing countries tends to increase the international poverty rate, which further needs the economic growth for poor countries with all the pressures on sustainable development, because the non renewable sources of energy are exhausting fast leading to a fatal threat to our environments. The following data shows that the population in India is growing faster than that in China. In the year 2015, the population in India was 1314 million and in China it was 1372 million which will rise to 1660 and 1366 respectively by 2050 which is threatening the sustainable development.

Table 3

COUNTRIES	POPULATION 2015 (IN MILLIONS)	POPULATION 2050 (IN MILLIONS)
CHINA	1372	1366



INDIA	1314	1660
US	321	398
INDONESIA	256	366
BRAZIL	205	226
PAKISTAN	199	344
NIGERIA	182	397

WORLDPOPDATA.ORG

**2. Galloping Economy:-**

The G.D.P growth rates are very high. It is all at the cost of the exploitation and extinction of the natural and agriculture sources. Many developing countries do not make an efficient use of energies for eco-friendly production process. Growth is heavily dependent on either a resources boom which is temporary or on exports to a shrinking developed country.

**3. Growth of Developing and the Developed Countries:-**

The sustainability in the development of the developing countries is in peril because the developed countries enforce trade barriers on the former for non-eco-friendly production of goods for which the developing countries are helpless. They have to use the current energy intensive production strategies. Even the traditional economic development will not be possible in future. The fossil fuel is being fully exhausted. This way a new danger of the extinction of fossil fuel energy is being inherited to the future generations making the sustainable development all the more difficult.

**4. Migration to Cities:-**

The developing countries are facing the problem of unemployment. The unemployed youth runs towards the cities to find employment. The village youth is drained in search of new opportunities. The G.D.P growth drivers on the other hand do not create so many jobs. It leads to a jobless growth. Social vitality is reduced. In the urban regions the people adopt energy and resources consuming life style. The fast developing cities while swallowing the green fields destroy the natural environment of the villages.

**5. Consumer Class with Changing Habits:-**

The Mall -culture is invading the life style of the consumers. The western style consumerism is spreading fast the fashion of the so-called 'good life'. The media adds fuel to the fire. Buying of unnecessary things leads to rise in prices and wastage of money. The forcing and



enticing advertisements flood in on mobiles. T.V and radios. All the increase in consumerism puts pressure on the more and more production and thus further unbalances the ecology.

**6. The Changing Market Trends:-**

The increasing market pressure has found its way direct at the doors of the consumers in the guise of sky-shopping. The use of the Credit Card Money is all the more vulnerable to spend more. The 'sale on sales' and the lowering of M.I.E's lure the customers to spend more, waste more and thus indirectly endanger the sustainability.

**7. Below Poverty Line Population:-**

Developing countries are home to the poor where slums, railway tracks and footpaths have become havens for the downtrodden living in unhygienic conditions, putting almost an end to the sustainable livelihoods because of more and more addition to the pollution and consequent diseases. They lack any access to the basic services. Poverty is prevalent and the environmental quality is fast degrading.

**H. EFFORTS MADE:**

Shocked at the coming dangers of the Global Warming the different countries made a plan to fight against it to find a solution. In the United Nations Framework Convention on Climate Change (UNFCCC) at the Earth Summit in Rio de Janeiro in 1992, about 192 countries pledged to stabilize the carbon emissions. No targets were fixed. Again on Dec 11, 1997 about 39 industrialized countries under UNFCCC process in Kyoto (Japan) signed a treaty to reduce the emissions in their countries by 5.2 percent by 2012.

The first global agreement of the 21<sup>st</sup> century to control global warming was made in the "Copenhagen Summit-2009". Global warming was declared the gravest challenge to humanity. A legally binding treaty of the 192(member nations of U.N) countries was sought to set targets for the control of gas emissions. But the developed countries wanted a new treaty with less responsibility.

On December 11, 2010, the leading representatives of 193 countries signed a new global climate regime. It was named "Cancun Agreement". The talks went through heated conversations and trying moments. Everybody was working as a face-saver, so nobody wanted to come forward for sacrifice. The United States showed inability to jump start to deep emission cuts. It wanted to be differentiated from the other developed countries. It promised to take the target for 2020 only, as it was a beginner on the path of a green economy. It expected that the growing countries like China and India must also make big cuts in emissions. The Kyoto Protocol was extended to 2020 as it was to expire in 2012. Thus decision was taken in Doha summit 2012.





## I. GREEN INITIATIVES:

State and the societies both should aim at the Sustainable Development. They should see that the production, consumption and distribution of wealth are in tune with the Universal eco-system. Green initiatives aim at the win-win strategy between economy and environment. The overall socio-economic and industrial framework should be low carbon and environment friendly. It will sustain the quality of life by using green technology and efficient use of energy. Green initiatives are a collective and contributory process towards sustainable development- it is not a substitute.

The European Union (EU) took the initiatives and made an “Energy and Climate Change package in Jan 2007, and another “Climate Action and Renewable Energy Package (CAREP) 2008, and “Energy Efficiency Plan 2011’ to achieve a goal set by EU commission.

The aim is to create green jobs. The jobs in town Industries must give place to the jobs in green industries. For the further protection and the present survival of mankind ‘Sustainable Development’ is the need of the hour. It involves the sustainable techniques that are run by renewable energies like the sun, wind and the biomass. It is the adoption of the conservation and re-cycling practices on a wider scale.

The overhauling of developing and trade practices which destroy the environment is needed. A fairer distribution of wealth and resources within and between the nations will sustain life. ‘True Cost’ for the products which pollute the environment should be charged. Legal control and incentives should be used to encourage the sustainable initiatives.

The universal primary education and health care should be aimed at. The women should be educated and socially liberated. Forestation, organic farming, biopest control and protection of bio-industry should be encouraged. Human well- being is to be maximized without harming the life support system. The state of our planet is already in a steady decline. Change in climate, increase in population, pollution and depleting natural resources are having a hazardous effect on all the flora and fauna. For green initiatives eco-friendly means will work wonders because the eco-friendly activities only will save our planet.

### *i. Green Initiatives for Checking the Wastage:-*

Lack of efficient storage facilities results in tons of food grains being wasted. Fruits and vegetables worth £ 13,309 crores go waste every year. If we take rice, wheat and cereals with it, the waste will raise up to £ 44,000 crores per year. The Saumitra Chaudhary Committee in 2012 pointed out a requirement of storage facilities for 61.3 million tons but the capacity was only for 25 million tons. The Govt. initiated immediate steps. The F.D.I retail was expected to help the back-end cold storage infrastructure. The 50 percent grant -in -aid as help to the cost of plant, mechanism etc. is provided. Many times it goes upto 75% grant - in -end in some other areas of this scheme.



*ii. Initiative for Re-Usable Bags:-*

The toxic elements of the burning of plastic bags or the decreasing of the land productivity or fertility with their use are very dangerous for environment. The different countries are thinking of it. In India many states like H.P and many regions like Chandigarh have already imposed strict ban on plastic bags. Paper bags are also not the substitute as they may degrade soon but they cost more trees for their manufacturing. More over they need 40% more energy to produce them. They are responsible for 94% of water borne wastes also. They create 80% more waste and emit 70% more pollution.

Going green through re-usable shopping bags is a good initiative. They can be used again and again- many times. In this way they are more viable. Their life is longer than that of the plastic bags. Their protection cost may be the same but they are environment friendly. In UK introduction of Environmental Tax Reform has focused on taxing pollution. Thus it has put emphasis on reusing materials and on improving the resources efficiency and reducing waste.

*iii. Green Initiatives in Fuel Consumption:-*

Innovation in vehicles and cars are the positive steps. Making vehicles having less consumption of petrol, finding less toxic emission solutions, getting pollution free certificate, less usage of diesel vehicles and search for a substitute for gasoline or diesel are the steps towards sustainable developments. Cars should meet Bharat stage V by 2016 and the country should leapfrog to Euro VI standards by 2020-21. Rs 75 crores have been allocated for faster adoption of electrical vehicles.

*iv. Water Harvesting:-*

Going green in water protection takes one back to the old days when water was collected in the tanks in villages. It was rainwater harvesting. It is a vital source of saving water. The saving of rainwater is a positive step to water saving. It is the best initiative of the people which is environment friendly as well.

*v. Going Green with Electricity:-*

The bulbs are being replaced by LEDs. Using solar energy is better initiative. It is being made popular both in the public and the private sector. It benefits the society as well as the environment and helps in the promotion of the planet where resources may be saved. India has a target of completing the rural electrification of about twenty thousand villages in time for the Amrut Mahotsav in 2022. Of - grid solar power generation is a part of this plan. China is increasingly encouraging growth driven by efficiency gains, technological innovations and renewable energy. She is planning a massive increase in renewable electricity generated from hydro power to wind, bio mass to solar power. China ranks first in the world in installed hydro power electricity, solar power heaters, nuclear power capacity and wind power capacity. It ranks second in installed photovoltaic wind power capacity.



*vi. Going Green By Curbing Carbon Emissions:-*

The research from UK's Committee on Climate Change (2015) hinted at the UK's carbon emission reduction targets over the next 15 years. In 2011-12 their environmental and low carbon goods and services were already generating a trade surplus of a huge value. On June 30, 2015 China in its action plans reaffirmed the terms of climate deal with USA (November 2014) and pledged to peak the total emissions by around the year 2030. In India rural employment guarantee schemes like MGNREGA with a cost of Rs. 34699 crores is to adopt climate resilience infrastructure development against climate changes. Activities like bunding and damming build community resilience to changes from climate and to give livelihood options also.

*vi. Going Green with Smart Cities:-*

The vogue of smart cities is gaining pace in developing countries as well. India plans to develop 100 smart cities as satellite towns of larger cities and by modernizing the existing mid sized cities. The programme was allocated Rs. 7060 crores. In china the idea of sustainable urban development is gaining traction. By 2050 it is projected that 1.1 billion people (68.6% of the population) will live in the urban areas. For this china is building its modern energy, transport and public service infrastructure. The final report from the UK's Natural Capital Committee (NCC) predicted that planting woodlands near towns and cities could generate net social and environmental benefits up to 500 million pounds per year

*vii. Gas from Waste Material:-*

Green initiative towards saving energy sources is gas from trash. Trash creates pollution. There is a problem of disposal of tones of trash. 95 Octane of gasoline can be produced from trash at a cost of just Rs. 81.70 to 82.00 per gallon. This fuel can be transformed to present gasoline engines and vehicles.

*viii. Green Initiatives For Sustaining Agriculture:-*

Initiatives in different states and regions are being taken for short cycle and draught resistant crops. Incentives are being given for Agro foresting. Agro foresting are studying the crops in relation to environments. Subsidies are being given to such initiatives. Training in livestock management checks the adulteration in milk products and enhances their quality. Knowledge in seminars, training camps and through T.V and Radio is being given for manure and compost fertilizers, bio-fertilizers, soil management and water management. It is also being planned to use radio-isotopes- the bye-products of the nuclear fission to control the growth of flies in the crops. It will also be used in the preservation of food items. The improved infrastructure is being supplemented by improved seeds, semi-dwarf and high quality wheat (sona-moti) and rice (1036). Subsidies and the help in providing easy finance through the National Banks for Agriculture and Rural Development (NABARD), all enhance the substance of the farmers through green initiatives.



*ix. Green Initiatives in Education: -*

To improve the students' strength in schools various initiatives are taken in different countries of the world. Introduction of the new curriculum, play-way methods, attention to the disadvantaged, scholarships, raising the school development funds, abolition of school fees, mid - day meals, and teaching of local languages are some of them.

**J. CONCLUSION:**

From the above study and the analysis it appears that the situation is really alarming. Present development is treading on the path of future destruction. Sustenance of the flora and fauna, catching hold of the water going deeper and deeper out of our reach, keeping it safe from the reach of the chemicals, pesticides and poisonous fertilizers, saving the humanity from the incurable diseases, facing the calamity of rains, snow falls, untimely winters and summers, checking the deep sea of its increasing level and saving the drowning islands are the challenges we have to face. Our development is costing us more. It should be sustainable. The green initiatives will do the job. The policy makers must pursue inclusive green growth with green initiatives in every field to bring the sustainable growth as a guarantee for the future generations. There is no other way out because the green initiatives only will ensure the long term development of the countries.

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