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RESEARCH ARTICLE

IMPACTS OF CLIMATE CHANGE GLOBALLY AND LOCALLY: THE FEW RELATED ISSUES AND FACTS

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Abstract

Introduction:-

Climate changes do not usually take place immediately after the occurrence of the contributing causes. This is because the earth's climate system is very large, and it moves slowly and has time-lags in its reaction to the contributing causes. For example, a year of dry conditions may do no more than Shrink Rivers and lakes slightly or cause plains to dry marginally. However, in the next year, there may be less rainfall, possibly leading to a drier following year. Only after a certain period where a critical point is reached, will the entire climate system be altered substantially. At such a point, no rain may fall in the area at all. And unfortunately, by this time, the change in the area's climate may have become irreversible, and may in turn contribute adversely to the climate in the larger region. This the conditional situation that occurring in the Jharua districts of Madhya Pradesh India where the rainfall in summer 2016 is very less people has to suffer for the drinking ultimately this year crop failure is degrading the environment but this as a whole would not affect the climate if the rainfall occurs next coming season. Climate change is define as variations and shifts in weather condition over space and time of different scales and magnitude resulting in change of climate type. Infect climate change refers to drastic or secular change in weather phenomenon.

Causes:

What causes climate change? In present era of post modernism, this is the question that every individual, group, nation must have the query about both nationally and internationally to mitigate the drastic problem faced by climate change. There are two main causes responsible for climate changes. One is a result of natural occurrences, and the other is man-created (Anthropogenic). The main contributors of climate changes are elaborated in greater details below. The climate is not the effect of changing condition of environmental phenomenon for short period of duration but the duration of many years.

Natural Events:

If we see the common natural causes of climate change including both major and minor type. Major types are continental drifts and continent plate tectonics, volcanic eruptions, oceans, atmosphere and ocean currents etc. Some of the minor types are wild and manmade forest fire, erosion, glacier movement, mass wasting etc. Continental drifts and continent plate tectonics are one factor for what causes climate change. With such huge landmass or water-mass movements, it is not surprising that the physical attributes of the land and water bodies in the region may be affected. There may also be significant changes in ocean currents and winds. All these factors contribute to climate changes in the area. Even today, some continents continue to drift. One such continent on the move is the

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Himalayan range which is rising with every passing year so, the Indian landmass is drifting towards the Asian landmass. This is an extremely slow process, but continues to happen this very minute.

Volcanic Eruptions:

Volcanic eruptions are another factor for what causes climate change. Erupting volcanoes release huge amount of sulphur dioxide, dust, water vapor, and ash and greenhouses gases into the earth's atmosphere. This thick coat in turn obstructs solar radiation from the sun from entering the earth's surface which results in creating a cooling affect on the earth, at least temporarily. In the stratosphere, the sulphur dioxide released also combines with water to form sulphuric acid. This sulphuric acid also blocks sunlight, changes wind directions, as well as lead to other forms of pollution (eg. water and land). Carbon dioxide may also be released into the atmosphere. Being greenhouse gases, they may trap the sun's heat instead, leading to green house effect. The most prominent examples are

Table1:- Volcanic Eruption.

Volcano	Country	Year	Effect
Krakatoa	Java & Sumatra	1883	Dust and ashes 20 cubic kms.↑ 23 km in the sky , global decrease of solar radiation
Mt. Taal	Phillipine	1965	Change the radiation balance
soufriere	Carebbian	1997	Demage eco- system (town),flora & fauna
Mount Ontake	Japan	2014	200,000 tones of ash in total
Cabuco	Chile	2015	Silicon dioxide

Nevertheless, according to the US Geological Survey, human activities are estimated to generate more than 130 times the amount of carbon dioxide emitted by volcanoes.

Ocean Currents:

Ocean-atmospheric currents, Ocean currents are also significant contributors, when it comes to what causes climate changes. Oceans occupy close to three fourth of the earth's surface and receive twice the amount of earth's radiation when compared to the Earth's surface. The surrounding landmasses get some of the sun's heat which is in turn transported away through the water in the ocean. The exchange of heat between the huge water and land masses has an important part to play in determining the wind and water currents, as well as the climate over these regions. Strong winds blowing across the surface of the ocean's surface affect the ocean currents and most coastal areas are in turn affected by these ocean currents. These factors are in turn that causes climate change in some of the coastal regions, as well as in other parts of the world. A well-known ocean-atmosphere phenomenon experienced in the Pacific Ocean is the El Nino, which affects climate all over the world. Because El Niño's warm pool feeds thunderstorms, it increases rainfall across the east-central and eastern Pacific Ocean. El Nino is associated with warm and very wet summers in South America, and warmer winters in North America. The warm ocean currents blowing across the Norwegian coast have melted ice in the Norwegian Sea even during winter. When it occurs, El Nino led to drier conditions for some parts of Southeast Asia and Northern Australia, increasing bush fires and worsening haze and the greenhouse effect substantially. This year El Nino gradually changing its effect over South-East Asia so the Northeast (summer) monsoon started fifteen day advance hence, the summer monsoon rethread before ten to fifteen days. This significantly hampers the paddy cultivation in Assam and Northeast states of India.

Erosion:

Erosion is a cause that leads to climate change though the process is slow and long term. As we study the river morphology, erosion is one of the important features that carry away wide range of homeland of land organism and plants. In Majuli Island (Assam) about 23.33% of land has been eroded by the Brahmaputra (reported: 2016), detracting cropland, plants etc. results deforestation. Similarly, the Poba Rainforest Reserve physiographic location, Northeast India (bank of river Brahmaputra Assam) between 27° 30´ to 27°84´ N latitude and 95° 03´ to 95°30´E Longitude, covering 10,221 hectare of land has been under erosion detracted about 20.90% of forest land.

Forest Fire:

Both natural as well as human induce forest fire has been shown to produce significant effects on climate change, primarily through the production and release of gas such as carbon dioxide. This also destroys the forest eco-system leads deforestation later stage, it also reduces the rate of carbon dioxide is being removed from the earth's atmosphere. Example

Table 2:- Forest Fire.

Location	Year	Effects
Black dragon fire(China –Russia)	1982	72,884 sq.km forestland & Amur river
California(wildfire)	2015	893,362 acres (3,615 km^2).
Uttrakhand (India)	2016	Produce clouds of smokes
Canyon(Santa Barbara)	2016 Sept 17-24	12,518 acres

There are multiple impacts of forest fire can be seen such as on vegetation, greenhouse gases Co_2, deforestation, animals, microorganism, deforestation, aside from deforestation and the increase release of carbon dioxide to atmosphere, draught.

Anthropogenic causes:

Anthropogenic are those causes which human intervention has contributed large effects that cause climate change. Climate change in the most rapid and major way today is probably man himself (and that includes you and I).And the global climate change that we are most concerned today is the increase in the Earth's average temperature – i.e. Global Warming.

Global Warming:

A main factor contributing to global warming is the greenhouse effect, which arises mainly from the accumulation of greenhouse gases in the earth's atmosphere. Greenhouse gases (e.g. carbon dioxide, nitrous oxide, water vapor and methane) are gases that absorb and emit radiation within the infrared range. They trap the sun's heat and prevent the heat from escaping, and inevitably lead to the warming of the earth's atmosphere. Many of man's activities are contributing to the greenhouse effect and global warming at alarming rates. Some of the major contributors of greenhouse gases in our industrialized world today include power plants (to generate electricity to operate our numerous electrical and electronic gadgets), industries, trade and commence (to produce enough goods and services to satisfy our culture of consumerism), and our modes of transportation (e.g. cars, planes, trains). All these activities use up valuable fossil fuels and in turn release large amounts of greenhouse gases and other pollutants into the atmosphere, in other words, leave very deep carbon footprints on this earth.

Table 3:- Carbon-dioxide Emission**.**

Carbon dioxide emission from fossil fuel (2011-12)			
Country	2011	2012	Population 2012
CHINA	2651920	2732682	1355386.98
USA	1446012	1395093	314799.01
INDIA	503617	550451	1263589.64

Source: The world data atlas.

According to the data analysis from the source the world data atlas, China is the biggest emitter of carbon at the rate of increases 2.95%, while the second emitter US controlled and decreased by 3.69%. India the third emitter of CO_2 is increased by 8.50 % of its total in the year 2011-12.

Journal Earth System Science Data:

The study report that the Global Carbon emission from burning fossil fuels are projected to rise only slightly in 2016 three years of slowdown. This third year of almost no growth in emissions is unprecedented at a time of strong economic growth. This a great help for tackling climate change but it is decrease rapidly which is not enough. Global emission now needs to decrease rapidly, not just stop growing (Cornie Le Quere Prof. at University of East Aanglia, UAE in Britain). China the biggest emitter of carbor dioxide (CO_2) at 29 % saw emission decreased by only 0.7 % in 2015, compare to growth of more than five per cent per year the previous decade and projected further reduction of 0.5% for 2016.

USA the second biggest emitter of CO_2 at 15 % , also reduce its coal use while increasing its oil and gas consumption and saw emission decrease 2.6 % last year. The US emissions are projected to decrease by 1.7 % in 2016.

India contributed 6.3 % of all global CO_2 emissions in 2015, the study said (Researchers). The global carbon emissions did not grow last year and the projected raise of only 0.2 % for 2016 marks a clear break from the rapid emission growth of 2.3 % per year in the decade to 2013, with just 0.7 % growth seen in 2014. Although the report shows the break in emissions rise ties in pledges by countries to decrease emission until 2030, it falls short of the reductions needed to limit climate change well below two degree Celsius.

The analysis by the researchers (University of East Anglia) and Global Carbon Project, groups of scientist who measure how much carbon dioxide humans emit every year and how much is subsequently absorbed by plants, land surfaces and oceans, showed emissions growth remained below one per cent despite GDP growth exceeding three per cent. The Global Carbon Budget analysis showed that, in spite of a lack of growth in emissions, the growth in atmospheric.

Large amounts of methane (a greenhouse gas) are emitted from waste in landfills. This process is speed up today, with the increased amount of waste generated as a result of our buy-and-throw-away culture best examples that we can find in India are festivals, ceremony (like marriage party, picnic, cultural party etc.).

Table 4:- Methane release CO_2.

Carbon dioxide emission from methane (%kg) year 2010-11		
Country	2010	2011
China	3.34	3.36
USA	2.44	2.42
India	2.82	2.90

Agricultural sector:
In attempts to enrich the soil and produce larger agricultural yields, the large scale use of chemical nitrogen-based fertilizers, have also led to the release of nitrous oxide (another greenhouse gas) in the earth's atmosphere. The Shifting cultivation degrades forest as well as widely encourages soil erosion widely in highly areas removed from the earth's atmosphere.

Shifting cultivation:
We can see the Jhum cultivation (Northeast India) encourage deforestation results releases greenhouse gas carbon dioxide to atmosphere and reduces rainfall as the green canopy of the forest always attracts precipitation. This method also helps soil erosion, landslide adding large amount siltation slurry to rivers causing flood in lower courses (related photograph attached below).

Photograph 2:- (17.10.2016) location Banderdewa, Papum Pare district of Arunachal Pradesh transitional border area with Assam. The river Dikrong is just 500 meter away from this sight.

Civilization:
In turn, large scale deforestation, to make way for infrastructure (e.g. roads, homes, cities) as well as for resources such as wood and paper, adds on to the greenhouse effect horrors. Not only does deforestation cause pollution (through soil erosion, forest burning etc), it also reduces the rate carbon dioxide is being.

Ministry of Statistics 2015 (India):- The survey conducted had revealed that over 80 per cent of Assam's population is dependent on firewood for cooking and similar household purpose. These people mostly go to nearby reserve forest and sanctuaries and cut down their required firewood and surplus for sale. Though it might seem small, but this has led to a large scale depletion of forest supporting emission of greenhouse gases and decrease prevention since they cut down vary number of trees

Photograph 3:- Banderdewa cutting down of Hill for construction. (A.P).

Miscellaneous:-
We can see miscellaneous carbon release which adversely adequate for global warming such as bike rallies (election procession), demonstration of protest by burning tires, vehicles etc.; war (bombing & firing), switch on at traffic signals or not in use. We human are combat for the superiority of power testing warfare instrument to prove oneself as a powerful nation. If the motives of the people don't change and remain same for next decade competitively destroy (polluting it) the mother earth. A day will come where one has to pay for it. It is already get set by us in the name of modernisms.

Photograph 1: Demonstration of protest in Assam 2019

Impacts of climate change:
Environment changing climatic condition can have the big effect on our life and environment. Intact, it is the greatest environmental threat faced by Planet earth. The change in weather conditions can be best observed through the extreme rise in temperature, melting of glaciers and sudden rise in sea level. The effect of climate change can also been seen on our day to day life such as on agriculture, rainfall, eco-system, coral bleaching, coastal areas. Some of the practically experiencing adverse impacts of climate change are depicted on this part separately. These

changes are causing serious problems to humans and other forms of life. Biologist and Environmentalists are constantly searching for the new solutions to combat these environmental changes.

Global:

Influence of climate change:

Climate change in Arctic region: (University of Sheffield UK Researcher report) climate change in the Arctic appears to have been influencing severe cold winter weather in the UK and US by intensifying the effects of the jet stream's position, which can cause extreme cold weather, such as the weather of 2014-15 which show record snow fall level in New York. One group believe that natural variability in the jet stream's position has cause severe cold winter weather seen in places such as the Eastern united States and the UK. The other camp includes scientists who are finding possible connection between the warming of the Arctic – such as melting sea ice, warming air temperatures and rising Sea surface temperature – and the emerging pattern of severe cold winter weather.

Now, Professor Edward Hanna and Dr. Richard Hall from the University's Department of Geography together with Professor James E Overland from Oceanographic and Atmospheric Administration (NOAA), have brought together a diverse group of researchers from both sides of the debate.

The researcher have found that the recent pattern of cold winters is primarily caused by natural changes to the jet stream's position; however the warming of the Arctic appears to be exerting an influence on cold spells, but the location of these can vary from year to year. Previous studies have shown that when the jet stream is vary there are more episodes of severe cold weather plunging south from the Arctic into the mid latitude, which persist for weeks at a time. But when the jet stream is flowing strongly from west to east and not very wavy, we tend to see more normal winter weather in countries within the mid latitudes

"We've always had years with of wavy and not so wavy jet stream winds, but in the last one to two decades the warming Arctic could well have been amplifying the effects of the wavy pattern", Professor Hanna said.

Agriculture:

Climate change may cause fall in global food yield: Agriculture in entire world and India is mostly dependent on the persisting weather conditions. The alteration in Global warming has dramatically affected agriculture and its productivity. The increase in temperature has significantly led to a change in the agricultural zones and shift in the growing seasons. On the other hand the change in the rainfall pattern is the serious threat to the agriculture, which in turn affects the country's economy and food security. The delayed or inadequate monsoons also cause influence on the sale of the agriculture inputs such as fertilizers, agro-chemicals, tractors etc. Climate change may cause fall in global food yield: A study report prepared by researchers, Birmingham University (London United Kingdom). Climate change and lack of improvement in technology may lead to a fall in global crop yield, forcing production to move to new areas. With worldwide population projected to top nine billion in the in the next 30 years, the amount of food produced globally need to double. The study show that much of the land currently used to grow wheat, maize and rice is vulnerable to climate change. This could lead to a major drop in productivity of these areas by 2050, along with a corresponding increase in potential productivity of many previously – unused areas a major shift in the map of global food production. The result of the study shows that: nearly half of all maize produce in the world (43%), and third of all wheat (33%) and rice (37%) grows in areas vulnerable to climate change. Croplands in tropical areas, including sub-Saharan Africa, South America and the eastern US, are likely to experience the drastic decline in their potential to grow these crops. Cropland in temperate areas, including western and central Russia and central Canada are likely to experience an increase in yielding potential, leading to many new opportunities for agriculture.

Tom Pugh also contributed words, "but it raises an interesting opportunity for some countries in temperate areas where the sustainability of climate to grow these major crops is likely to increase over the same time period "that these changes effecting on our life and our environment. Intact, it is also seen on regional.

Local:

Effects on climate:

Northeast recodes sixteen percent deficit rainfall between 1 June 2016 and 24 August 2016 (a report**)** Indian Meteorological Department (IMD). The country as a whole recorded almost normal monsoon rainfall activities with only two percent deficit from the long term average. While its East and Northeastern region recorded 16 percent

deficit rainfall during the period. During this season the North-west region of the country has recorded five percent excess rainfall, while India has recorded seven percent excess rainfall. The whole report shows that the North-East India recorded sixteen percent deficit rainfall. The reason behind is the early outburst of El-Niño also the human activity destroying large forest due to their economic profit. This compact phenomenon contributes largely for climate change. Ultimately, this affects the agriculture sector of India. We need to do something. Climate change and change in farming method led warm attacks on cropland of Assam this year (2016) India: A report.

The army warm (Spodoptera Mauritia) rice swarming caterpillar descending on cropland in their millions and destroying paddy (Sali) spread over thousands of hectares. The larva produced by the butterfly in the rainy season in the paddy fields are casually consumed by fishes, frogs and other aquatic species in waterlogged conditions. But this year due to early retreat of summer monsoon drought witnessed in the month of August as result, all the paddy field in the flood affected areas become dry (16 % deficit rainfall) and all the natural enemies of the larva died. Also contribution was the favourable temperature above 32°celcius. The temperature rose as follows in the following districts of Assam compare to year 2012.Table showing fluctuation in temperature between 2012 and 2016

Table 5:- Average Temperature rose 2012 & 2016.

Temperature rose in Average (° C) year			
District	2012(° C)	2016(° C)	Average(° C)
Guwahati	23.50	30.70	7.2
Dibrugarh	20.20	27.60	7.4
Tezpur	24.25	30.85	6.6
Silchar	25.01	30.10	5.9
Lakhimpur	20.75	30.45	9.7

All these allowed the larva of the warms to survive and contributed in their abnormal rise in population as caterpillar. Similarly the switch over from traditional plough of the paddy field to tractor driven one increased the chances of the larva to survive as they are least exposed to the sunlight and predatory birds like Egrets. A butterfly can lay about 400 eggs at a time. The table showing ten districts of Assam pest affected cropland (reported: 2/Sept/2016).

Table 6:- District wise Caterpillar Attack on Cropland.

Districts	Area (hectare)
Golaghat	6,671
Dibrugarh	5000
Lakhimpur	3140
Sivasagarh	2800
Jorhat	1200
Barpeta	550
Nalbari	370
Kokrajhar	300
Majuli	200
Dhubri	27
total	20258

Agriculture Scientist and agriculture experts are attributing this phenomenon to climate change experienced by this region (Assam) over the fifty year which occurred in 1963 and the change of the agriculture method from traditional plough to mechanized one. The changing pattern of rainfall and increased in temperature has been encourage this army caterpillars in destruction in crop fields of Assam. This is also a contributing factor for the very in global food yield pattern. The political, social and cultural effects of these major changes to the distribution of global cropland will be profound as currently productive regions become net importers and vice- versa.

Ecological Effects:

Climate changes not only influence the animal behavior but also slash the genetic diversity of the animals. Extinction of species, the changes in the climatic conditions is already felt by the biodiversity and wildlife habitats across the world. Many plant and animal species are eventually becoming extinct as a result of the climatic changes. Some of the plant and animal species are unable to adapt to the changing climate. While some of the mammals have already reached the suitable places, appropriate for their survival. Green houses gases are the main reason for the climatic change which in turn poses the threat to the vast biodiversity. Furthermore the redistribution of life on the earth's surface is increasing at an alarming fast pace. Locally, we can see that tremendous decrease in breeding of species like rodents, wild rabbits and scavengers like vulture, jackal, fox etc. Also the changing pattern of migratory birds due to destruction of marshy and swampy lands (bill in Assam). Hydrosphere: climate change would have a profound effect on aquatic fauna and flora too. Flora: Due to rise in temperature, the photosynthesis by phytoplankton in the marine ecosystem would be reduced. Many micro-phytoplanktons would die in turn it would adversely affects marine faunal organism. Fauna: many species of fishes would extinct. A report: Climate change may impair survival instincts of fish and can make fish swim towards predators. According to the scientist at University of Exeter (UK), these abnormal behaviors have been linked to the effects of Carbon dioxide (CO_2) on how the brain processes signals from sensory organs. Another study found that due to decrease of aquatic organism verities behavioral change in the Sea birds food habits. Seabird's food polythene: About 29% Sea birds consume polythene due to decrease in aquatic organism. A new research team has published. Over the world out of 10 sea birds 9 are consuming polythene, huge amount of waste polythene silted in the rivers into sea to ocean by human being. It is an endemic significance of danger to alteration of oceanic biosphere. Research, shows that the weight of a seabird consuming polytyhene weight 8% of its body weight (Proceeding of the National Academy of Science). As, a result we find changing food system in human as well as disequilibrium ecosystem. Coral bleaching: This refers to loss of algae from corals resulting into white colour which indicate of death of corals. Global warming caused by ozone depletion and greenhouse gases has been reported as the major factor of coral bleaching. According to SANE and GCRA coral bleaching is due to the global warming rise in 2°c temperature. But according to another group NIO coral bleaching of the kavarati and Kadamat Island in Lakshadweep have suffered due to bacterial diseases and warmer sea temperature. Climate change not only effects hydrosphere and arboreal biome but also the coastal region too.

Coastal Areas:

The changing climatic conditions are also the severe threat to the coastal areas, which has led to the increase in the sea level. This could result in flooding and can cause damage to the coastal infrastructure. This will displace the large section of population and force others to migrate. The worst hit coastal areas in India will be Maharashtra, Goa and Gujrat. As for the purpose of information these coastal regions provide human with wide variety of goods and services including food, recreational opportunities and transportation corridors. As well as support the great wealth of marine life and diverse habitats. So the treat to the coastal areas is the threat to the human population at large.

Effects on human being:

Climate change cause change in migration: 'The Assam Tribune' report October 23, 2016 (Jaideep Saikia). Climate change will boost Bangla influx to Northeast India. BIMSTEC informed that an increase in one degree Celsius in the earth's climatic system – as result of global warming –would submerge a fifth of Bangladesh. The consequence would be the forcing of 30 million people to become climate migrants. Also, recent global assessments have been indicating an increase in the intensity and rate of occurrence of natural disaster in South Asia and adjoining regions: migration due to climate change would be one of the newest manifestations. But the unequivocal and continual rise in temperature is not quite just an act of God. Situated at the base of mighty Ganga- Brahmaputra – Megna river system, the erstwhile East Pakistan is washed by a total of 57 trans–boundary rivers that snake down to it.

Mitigation:

Start now, before it is too late. Tribune November 5 2016: green bodies hail enforcement of Paris climate deal. According to the PTI report, at least 55 signatory countries to the Convention, accounting minimum of 55 per cent of the total global greenhouse gas emissions, deposited their instrument of ratification. Now that we have a better understanding of what causes climate change; we need to do something about it. It is time that you and I make efforts for a green life, reduce our carbon footprints and fight climate change. We need to start making concentrated efforts at reducing consumption and waste and put recycling into practice. And we can help undo some of the impact of deforestation by contributing to forest conservation and growing efforts. The best example is the forest man of Assam (Jadab Payeng) "Molai" who planted and tended trees over 1360 acres / 550 hectares. He converted

sandbars into forest land on the Brahmaputra at Kokilamukh Chapori, Majuli (India). Therefore, the forest is named after him "Molaia". Payang is a true environmentalist who provided home for many snakes, wild animals such as elephants, fox etc. therefore, he was honoured with Padma Shri award in 2015 (the 4th highest civilian award in India). We need to conserve energy and resources, through using less electricity, as well as investing in energy efficient appliances. We can invest in greener sources of energy, such as solar energy. We can also adopt green driving tips (don't drive if you can) and green living practices. We also need to switch to more organic methods of agriculture and seek more sustainable methods. We can also help reduce pollution by using more eco-friendly products. Carpool or use public transport, to and from office, school, market etc. A forestation absorb greenhouse gases, replacing regular light bulbs with CFL or LED bulbs switching off when electrical appliance when not in use, closing drifting taps, etc. Recycle, Reduce and Reuse.

As normal human beings, we are conditions to want more and to believe that we need more. Countless desires and needs pop up in our minds every day. At an individual level, we have to determine to adopt a simple lifestyle of living in a sustainable home, wherein regular requirement of water, electricity, energy would be minimum. We can all start to be more conscious by producing the garbage adopting zero waste methods, especially regular food waste which has become a serious problem accounting for global hunger issues. We commuting within city limits, we can use cycling to reduce pollution and traffic congestion, while going shopping, we should carry our own shopping bags instead of using polythene carry bags which has become modern carcass of non decompose converting the earth into a dustbin.

Judicial use of resources:

Decrease 'footprint', increase 'footprint 'use resource only when necessary, and only in the essential amount prevent wastage of food, water, cloth, paper and everything else that we use in daily life. Save energy as far as practical, example, cover food while cooking, switch of at traffic signals or not in use, etc. less use of energy means less fuel burning or lesser number of dams mean less dams. Less energy use and less deforestation means less greenhouse gas, meaning less warming and reduced climate impact. Forest can trap carbon. So, plant more trees and also motivate others to plant—that are handprint. (Dr. Simanta Kalita, Programme Co-coordinator, CEE North East).

Sustainability has been a burning issue since the United Nations Conference on Human Environment, held in Stockholm, in 1972. Today CO^2 concentration has already crossed the threshold of 400 ppm, so awareness must be created to check climate change. Some basic changes in our day to day lives can make a lot of difference. First of all we must make judicious use of electricity, ground water and fuel. We must in calculate the habit of switching off lights, fans and ACs in order to prevent waste. Before purchasing a refrigerator or ACs, we must check their energy efficiency and environment- friendly cooling process. These must be thesis in students of schools, colleges and Universities so that they practically use in life, percolate the message, motivating parent co-human.

Depletion of ground water is another major concern. Till date, water pumps are being used at home appliance, irrigation in Assam. Awareness can be created among families and farmers for replacement of water pumps with canalized water from nearby river, lake or pond. This will not only help replenish ground water level, but also save electricity (Dr. Linee Goswami, Tezpur University).

Alternatively, we can help climate by using renewable energy, climate friendly transportation, and cycling, carpooling or public transportation. A planet wide shift towards low meat diet, recycling newspapers, cardboard, glass and metal. Also, additional use of bamboo products or other bio-decomposed home appliance instead of plastic goods. Eco-friendly celebration of festivals like Diwali, prevent crackers and unnecessary decoration system with electrical appliance in poojas etc.

International summits and national law:

First Earth Summit:

United Nations Conference on Environment and Development (UNCED) organized from June 3 to14, 1992in Rio De Janeiro known as Earth Summit or Rio Summit for the protection of the earth and its environment, maintenance of ecological balance and to enrich biodiversity.

Montereal protocol:

It is an international treaty organized to protect the Ozone layer from depletion treated by gases, CFCs. Etc. the treaty was signed on 16th September 1987 and entered into forced on 1st January 1989.

Kyto protocol:
The Kyoto protocol is a protocol to the United Nations Framework Conversation on Climate Change (UNFCCC) aimed at fighting global warming. This is an international environmental treaty with the goal of achieving the stabilization of green house gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic treat to climate system. The protocol was initially adopted on 11th December, 1997 in Kyoto, Japan and enforced on 16th February 2005.

Conclusion:-

Wake-up call! (Swadhinta Gogoi, Horizon, 'The Assam Tribune') Nature is a healer and a teacher. She makes us altruistic (one who live for others good). She teaches us to expect nothing in return. Just as it is given in the Bhagavad Gita," work without any expectation of result". She teaches us to trust, to gain, and rise when we fall. The falling autumn leaves twirling to the beats of the wind can arouse feeling hope in a dying man; the hope of rejuvenation. She teaches us that failure and success, happiness and sadness are flip sides of the same coin, henceforth one suspending the other simultaneously.

We just need to open our heart and soul and seek behind the veil. Until and unless we do that we can never know the secrets lying deep within her bosom, yet to be unearthed. We should learn to reciprocate, respect and return.

Veracious is the expression and yet unequivocally dichotomous to us, to human kind belonging to a corporeal world, the one in extremis. A legion drowning in the Ocean of fabricated sophistication and enlightenment. It would be foolish of us to now realize what we have done and what would be the denouement? Slaughtering the mother who gave you shelter and shield; standing boisterous, blowing the trumpet of victory is what we espy today. If this idiosyncratic attitude doesn't change soon enough, it would be too late, leading to our own nemesis, (punishment for evil) thus, affixing ourselves in the docket of annihilation.

Even though we have been discerning and complementing her benediction upon us, we are eventually purloining and devastating her treasure trove and henceforth, leaving an ailing planet for the coming generations. Therefore James Hutton propounded the concept "present is the key to the past and vestige of beginning and no prospect of an end." Henceforth, the present generation asks the question to our fore father and find the resolution serving the nature so that we can leave no ailing earth for future generation. The natural environment due to this human mastery is shirking at a meteoric speed; and the only the reason behind all these exploitations is the development of technology. Of late technological development is no longer impounded to the mere purpose of meeting the basic human need. In the name of civilization, we have crawled an age of decadence where nature is merely seen as a 'resource' a resource that need to be exploit to the fullest, without being concern about the impending catastrophe. Gandhi said "Earth provides enough to satisfy man's need but not every men's Greed."

We need to realize that we are just mere tenants on the earth and we have no right to destroy its properties. Besides, we have been accustomed to a bygone tradition of give and take; where there is no giving in return. We are just taking, despoiling and vandalizing what nature has bestowed upon us. It is like eating up the eating up the eggs and then demanding that the birds are ebbing away. One might easily find the humour here but the fact is we need to awake up from our eternal sleep or it might be too late. It has to be our cardinal duty to give what we have taken from nature and nurture her and maintain the equilibrium. We must take an oath to maintain the human interrelationship with Mother Nature. It is time that we hurl away our blindfolds and enshrines what we already have in store. The necessary of dealing with cooperation, concession and compromise is what we need of the hour is. Love her; heal her because no one wants a dying planet, an ailing one, unless we have somewhere else to go. Realize her before its too late. Or else our doom would be no far.

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