International Journal of Academic Research and Development
ISSN: 2455-4197
Impact Factor: RJIF 5.22
www.academicsjournal.com
Volume 2; Issue 6; November 2017; Page No. 144-147

An article on climate change mitigation

R Dinesh
BBA.BL Hons Student, Saveetha School of Law, Poonamallee, Tamil Nadu, India

Abstract
Weather alternate and catastrophe risk discount are closely related. more severe weather activities in destiny are probable to boom the quantity and scale of disasters, at the same time as at the same time, the present techniques and equipment of catastrophe threat discount offer effective capacities for variation to weather exchange the nature and significance of climate exchange for disaster chance, as well as the principle perspectives and processes of disaster danger reduction and how they can assist version techniques.
"*Directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods*"
For most people, the expression "climate trade" means the alteration of the world's weather that we human beings are inflicting, through fossil fuel burning, clearing forests and other practices that growth the awareness of greenhouse gases (GHG) inside the ecosystem.
"A change in the state of the climate that can be identified ... by changes in the mean and / or the variability of its properties, and that persists for an extended period, typically decades or longer"
The earth's climate has numerous notably in the beyond, as proven by the geological evidence of ice a while and sea degree changes, and by the statistics of human records over many loads of years. The reasons of past adjustments are not constantly clear but are usually regarded to be related to modifications in ocean currents, solar hobby, volcanic eruptions and other herbal elements.

Keywords: climate, mitigation, catastrophe, global, greenhouse

Introduction
For the expression "weather exchange" means the alteration of the sector's weather that we people are inflicting, thru fossil fuel burning, clearing forests and other practices that increase the attention of greenhouse gases (GHG) inside the surroundings climate is the set of meteorological situations – wind, rain, snow, sunshine, temperature, and so on. – At a specific time and region. Through evaluation, the term "weather" describes the overall lengthy-time period traits of the weather experienced at a place. As an instance, Singapore, within the tropics, has a hot moist weather, whilst continental regions continually have cold winters.
The ecosystems, agriculture, livelihoods and settlements of vicinity are very dependent on its weather. The climate therefore can be concept of as a long-time period precis of weather conditions, taking account of the common conditions in addition to the variability of these conditions.
The fluctuations that occur from 12 months to 12 months, and the data of extreme situations inclusive of intense storms or unusually hot seasons, are part of the climatic variability. Some slowly converting climatic phenomena can close for entire seasons or maybe years; the excellent known of these is the El Niño phenomenon. Since the atmosphere connects all weather systems and all climates, it is on occasion beneficial to explain the environment, oceans and earth floor because the "international weather device".

Change in climates
The earth's weather has various appreciably inside the beyond, as shown with the aid of the geological proof of ice a long time and sea stage modifications, and via the records of human records over many hundreds of years. The reasons of beyond changes are not continually clear but are typically acknowledged to be related to modifications in ocean currents, solar pastime, volcanic eruptions and different natural elements.
The distinction now could be that worldwide temperatures have risen surprisingly rapidly over the previous few a long time. There is robust evidence of will increase in common global air and ocean temperatures, large melting of snow and ice, and growing common international sea degrees. The IPCC fourth assessment record concludes that the global warming is unequivocal. Surroundings and ocean temperatures are better than they were at any other time at some point of at the least the past five centuries and probably for more than a millennium.
Scientists have long recognized that the ecosystem's greenhouse gases act as a "blanket" which traps incoming sun strength and keeps the earth's surface warmer than it otherwise might be, and that an increase in atmospheric greenhouse gases could lead to additional warming.
The modern attention of greenhouse gases inside the atmosphere is now the highest it has been for the beyond 500,000 years, having grown by 70% between 1970 and 2004 alone, and having reached this degree exceedingly quick. Even as there has been some controversy within the beyond, it's far now broadly accepted that human sports, in particular fossil gas use and changing land-uses, are the dominant thing

in this growth and are chargeable for most of the warming observed over the last 50 years [1]. Because the weather system is in a consistent nation of flux and has continually exhibited natural fluctuations and extreme conditions, it isn't possible to argue that any unmarried severe event is attributable to climate alternate. Simplest after a sufficient length and with masses of severe occasions recorded can scientists determine if a specific event is within ordinary ancient version or is due to some other reason together with climate exchange. The projections of future weather styles are largely primarily based on pc-based totally fashions of the climate system that comprise the essential factors and procedures of the atmosphere and the oceans, which include the anticipated increase in greenhouse gases from socio-monetary scenarios for the coming decades.

The IPCC has examined the published results from many extraordinary models and on the idea of the proof has estimated that by using 2100.

- The global common floor warming (surface air temperature change); will increase by using 1.1 - 6.4°c.
- The ocean stage will upward push between 18 and 59 cm.
- The oceans will become greater acidic.
- It's far very possibly that warm extremes, warmth waves and heavy precipitation activities will preserve to turn out to be more common.
- It is very probable that there could be greater precipitation at higher latitudes and it is in all likelihood that there may be much less precipitation in maximum subtropical land areas.
- It is probably that tropical cyclones (typhoons and hurricanes) turns into more severe, with larger height wind speeds and extra heavy precipitation associated with ongoing increases of tropical sea surface temperatures.

Natural hazards by using themselves do now not purpose failures – it's far the combination of an exposed, susceptible and sick organized populace or community with a risk event that outcomes in a disaster. Climate alternate will consequently affect catastrophe dangers in two methods, firstly through the in all likelihood increase in weather and climate dangers, and secondly thru increases in the vulnerability of communities to natural dangers, mainly via atmosphere degradation, reductions in water and meals availability, and changes to livelihoods.

Climate exchange will upload but some other pressure to those of environmental degradation and rapid unplanned city boom, in addition reducing groups' talents to cope with even the present tiers of weather hazards. Over the period 1991-2005, 3,470 million people have been tormented by screw ups, 960,000 people died, and economic losses were US$ 1,193 billion. Terrible international locations are disproportionately affected, because of intrinsic vulnerabilities to risks and relatively low capacities for risk discount measures.

Small countries are also mainly susceptible - Grenada's losses of 919 us$ million because of hurricane Ivan in 2004 were identical to 2.5 times its GDP. During the last decades (1988-2007), 76% of all disaster events have been hydrological, meteorological or climatologically in nature; those accounted for forty five% of the deaths and 79% of the monetary losses due to natural hazards [2]. The probability of multiplied weather extremes in future therefore gives top notch challenge that the wide variety or scale of weather-associated failures may even boom. There's already proof of will increase in extreme conditions for a few weather factors in a few areas. The IPCC concludes on changes in extreme conditions relevant to catastrophe occurrence.

Extra excessive and longer droughts had been located over wider areas for the reason that Seventies, especially within the tropics and subtropics. Better temperatures and reduced precipitation have increased the prevalence of drier conditions as well as contributing to changes within the distribution of droughts. Adjustments in sea floor temperatures, wind patterns, and reduced snow % and snow cowl also had been related to changing drought prevalence. Huge adjustments in excessive temperatures have been determined in many regions of the arena over the past 50 years; most substantially the better frequency of excessive temperature days and nights and heat.

Global Warming

During the past century, human activities have released large amounts of carbon dioxide and other greenhouse gases into the atmosphere. Most of the gases come from burning fossil fuels to produce energy. Greenhouse gases are like a blanket around the Earth, trapping energy in the atmosphere and causing it to warm. This is called the greenhouse effect and it is natural and necessary to support life on earth. However, while greenhouse gases buildup, the climate changes and result in dangerous effects to human health and ecosystems. People have adapted to the stable climate we have enjoyed since the last ice age which ended several thousand years ago. A warmer climate can bring changes that can affect our water supplies, agriculture, power and transportation systems, the natural environment, and even our own health and safety. There are some climate changes that are unavoidable and nothing can be done about it. For example, carbon dioxide can stay in the atmosphere for nearly a century, so Earth will continue to warm in the future. Global warming has really taken effect in the world over the last century. It is the unusually rapid increase in the Earth's average surface temperature over the past century primarily due to the greenhouse gases released as people burn fossil fuels. Global warming is due to the enhancing greenhouse gases emission and build-up in the Earth's environment. The gases that have an influence on the atmosphere are water vapor, carbon dioxide, dinitrogen-oxide, and methane. Almost 30 percent of incoming sunlight is reflected back into space by bright surfaces like clouds and ice. In the other 70 percent, most is absorbed by the land and ocean, and the rest is absorbed by the atmosphere. The absorbed solar energy heats our planet. This absorption and radiation of heat by the atmosphere is beneficial for life on Earth. Today, the atmosphere contains more greenhouse gas molecules, so more of the infrared energy emitted by the surface ends up being absorbed by the atmosphere. By increasing the concentration of greenhouse gases, we are making Earth's atmosphere a more efficient greenhouse. Climate has cooled and warmed throughout the Earth history for various reasons. Rapid warming like we see today is unusual in the history of our planet. Some of the factors that have an effect on climate, like volcanic eruptions

and changes in the amount of solar energy, are natural. Climate can change if there is a change in the amount of solar energy that gets to the Earth. Volcano eruptions can really affect climate, because when it erupts it spews out more than just lava and ash. Volcanoes release tiny particles made of sulfur dioxide into the atmosphere. These particles get into the stratosphere and reflect solar radiation back out to space. Snow and ice also have a great effect on climate. When snow and ice melts Earth's climate warms, less energy is reflected and this causes even more warming. There are many different ways that plants, animals, and other life on our planet can affect climate. Some can produce greenhouse gases that trap heat and aid global warming through the greenhouse effect. Carbon dioxide is taken out of the atmosphere by plants as they make their food by photosynthesis. During the night, plants release some carbon dioxide back into the atmosphere. Methane is made while farm animals, such as cattle and sheep digest their food. Cars and trucks can affect climate by releasing carbon dioxide when fossil fuels are burned to power them. When wildfires occur, carbon dioxide is released into the atmosphere. However, if a forest of similar size grows again, about the same amount of carbon that was added to the atmosphere during the fire will be removed. Some effects that scientists have predicted in the past would result when global change was occurring: loss of sea ice, accelerated sea level rise, and more intense heat waves. Scientists have confidence that global temperatures will continue to rise for decades to come, largely due to greenhouse gases produced by human activities. The Intergovernmental Panel on Climate Change (IPCC) stated that the extent climate change effects on individual regions will vary over time and with ability of different societal and environmental systems mitigate or adapt to change (The Intergovernmental Panel on Climate Change). This has been the warmest decade since 1880. According to the National Oceanic and Atmospheric Administration, 2010 and 2005 has been the warmest years on record. The earth could warm by an additional 7.2 degrees Fahrenheit during the 21st century if we fail to reduce emissions from burning fossil fuels (The National Oceanic and Atmospheric Administration). The rising of temperature will have great effects on the earth's climate patterns and on all living things. Industrial activities that our modern civilization depends upon have raised atmospheric carbon dioxide from 280 parts per million to 379 parts per million in the last 150 years (The Intergovernmental Panel on Climate Change).

Addressing the problem of climate change

Mitigation and Adaptation

Countries are actively discussing and negotiating methods to cope with the weather trade trouble, in the UNFCCC. The primary project is to address the foundation motive with the aid of lowering greenhouse gasoline emissions from human hobby. the way to attain this are very contentious, as it will require radical adjustments within the manner many societies are prepared, particularly in recognize to fossil fuel use, industry operations, city development and land use.

Inside the weather change arena, the reduction of greenhouse fuel emissions is called "Mitigation" [3]. Mitigation is defined by means of the IPCC as "an anthropogenic intervention to reduce the anthropogenic forcing of the climate machine; it consists of techniques to reduce greenhouse gas assets and emissions and enhancing greenhouse gas sinks".

Examples of mitigation movements include greater efficient furnace structures, developing new low-electricity technology for enterprise and shipping, lowering intake of energy-in depth products, and switching to renewable varieties of power, such as sun and wind strength. Natural carbon sinks, consisting of forests, flowers and soils may be controlled to absorb carbon dioxide, and technologies are being advanced to capture carbon dioxide at commercial sources and to inject it into everlasting storage deep underground.

The second one challenge in responding to weather trade is to manage its influences. future affects on the surroundings and society are actually inevitable, owing to the amount of greenhouse gases already within the atmosphere from past decades of commercial and different human pastime, and to the added amounts from continued emissions over the following couple of many years till such time as mitigation regulations turn out to be powerful. We're therefore committed to changes.

Taking steps to cope with the changed climate conditions is called "adaptation". Adaptation is defined by the IPCC as "the *adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities*". Examples of adaptation include preparing risk assessments, protecting ecosystems, improving agricultural methods, managing water resources, building settlements in safe zones, developing early warning systems, instituting better building designs, improving insurance coverage and developing social safety nets.

Practical examples of adaptation and disaster risk reduction

Agriculture and Food security: Well-known measures include altering crop strains to enhance their drought and pest resistance, changing planting times and cropping patterns, and altering land topography to improve water uptake and reduce wind erosion. Burkina Faso is one country which is researching new drought resistant millet and sorghum for decreased rainfall regimes. Diversification is an option, for example, by combining food crops, livestock and agro-forestry. The introduction of insurance schemes can help people cope with crop losses.

Water Sector: Adaptation measures include actions on both water supply and water risks, such as protecting water supply infrastructure and traditional water supply sources, developing flood ponds, water harvesting, improved irrigation, desalination, non-water-based sanitation and improved watershed and trans-boundary water resource management. Integrated water resource management (IWRM) provides the accepted framework for such actions.

Health Sector: Measures include early warning systems and air-conditioning to address extreme weather events; systematic action on water- and vector-borne diseases to raise public awareness of watershed protection, vector control, and safe water- and food-handling regulations; the enforcement of relevant regulations; and support for education, research and

development on climate-related health risks. As one example, Philadelphia (USA) developed an excessive heat event notification and response programmed to reduce the number of fatalities caused by future heat waves in response to the heat related deaths during the summer of 2003.

Awareness raising and Education: Measures include curriculum development for schools, supply of information to community groups and women's networks, radio and television programmes, public poster campaigns, and leadership by national figures and celebrities. Awareness-raising for strategic intermediaries such as teachers, journalists and politicians and support to technical experts and groups are also important.

Environmental Management: Healthy ecosystems provide significant benefits for resilience, livelihoods, risk reduction and adaptive capacity. Measures include strengthening of environmental management in areas of greatest risk from weather hazards; protecting ecosystems, such as coral reefs or mangrove forest, that shield communities from coastal hazards; supporting transitions of livelihoods away from those that degrade environments and aggravate risk; and enforcing regulations concerning these practices.

Early warning systems: Measures include improving existing systems to cover the changed hazard circumstances, instituting specific means to disseminate warnings to affected people in a timely, useful and understandable way, and providing advice on appropriate actions to take upon receiving warnings. Heat wave early warning systems, for instance, have been developed in France after the heat wave of 2003.

Development planning and Practices: Adaptation and disaster risk reduction measures can be made a formal part of development processes and budgets and programmed into relevant sector projects, for example in the design of settlements, infrastructure, coastal zone development, forest use, etc., in order to achieve sustainable land management, avoid hazardous areas, and build safe schools, hospitals and other public facilities.

Conclusion

At present India is contributing 4% of the total carbon dioxide emissions in the world, though per capita emissions are still very low. It is necessary to examine the impact of CO_2 emission reductions on economic growth and poverty using an economic model and various options. Reducing the levels of different economic activities can reduce the CO_2 emissions. This however, has a direct effect on reducing income, consumption and a loss in the social welfare. The other options are changing the consumption of production in favor of less CO_2-intensive activities. This can be done in various ways, like changing the structure of trade or changing the structure of consumption or by reducing the share of CO_2-intensive goods in the total demand. In addition, technology options are also available for reducing CO_2 intensity, thus reducing CO_2 emissions without any significant loss of output. Large annual reductions in carbon emissions become possible by diverting substantial resources for this purpose and growth is adversely affected. As the world community is moving towards reduction of such emissions on an urgent basis, it also understands the need for the developing countries under the Protocol to not having any binding Greenhouse Gas reduction commitment.

Reference

1. www.newsroom.unfccc.int accessed on 10th September, 2017.
2. www.theguardian.com accessed on 10th September, 2017.
3. www.ecowatch.com accessed on 10th September, 2017