

UNDERSTANDING THE RELATIONSHIP BETWEEN BIODIVERSITY AND CLIMATE CHANGE AND ITS OVERALL IMPACT ON THE FLORA AND FAUNA LIFE

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ABSTRACT

Excess use of ecosystem and natural resources have contributed to climate change which has not only affected the humans but also animals and plants . Over the years thousand of animals and birds have become extinct because of continue burning of fossil fuel , air pollution and water pollution which have killed many . Deforestation has made millions of animals and plants species homeless along with tribal community . The government have introduced many policies in India and have been part of many of the International convention to preserve wildlife and biodiversity . It is the biodiversity and afforestation which can reduce the impact of climate change in this world ,planting more trees with reduce natural disaster , recharge groundwater and prevent soil erosion which will reduce the problem of water crisis and food security in the world and in particularly India . Climate change has affected marine life with excess industrial waste and plastic waste being thrown into the river and oceans , million of tonnes of waste is thrown into the rivers which is eaten by the marine life leading to death and ultimate in the name of fish we are consuming plastic these days .

Keywords: *Biodiversity , ecosystem, climate change , wildlife , plants , species , extinct , forest , tribal*

INTRODUCTION

The most dominating global issue today is environment degradation and climate change . It just not the concern of developed countries where Industrial development is much high compared to the developing and undeveloped countries . Everyone is working on sustainable development goals and other factors which can help to cut down the impact of climate change . The main focus is the make earth sustainable for the future generation by making the planet save for all . Many countries have forced on the impact of climate change on human , economy , political and social institute , factors like drought , famine , water crisis and food crisis are discussed . Over the years excess emission of greenhouse gases from transport , Industrial and domestic waste have contributed to climate change where solid waste management is a big problem in India . Throwing garbage on the roads adds to pollution in India . Burning of waste on the roads have an impact on everyone . Sustainable development is the key motive today for almost all the countries . However we can experience a rise in demand in the use of plastic and crude oil which contribute to climate change and environment degradation . Construction of dams , building , factories near the rural India has an effect on the biodiversity . Where as everyone speaks about the impact of climate change on Humans, We are less concern about the loss of biodiversity , landscape , wildlife and marine life which are also effect by the rise in climate change .Environment degradation first affects the animals and birds and later on humans same applies when it comes to natural disasters . Huge old trees are cut every year for human needs and development project , loss of forest and cutting down trees not only impact the people living near by ,but the wildlife who have stayed there for years , tribals living in those regions and birds ,In this process over the years animals and plants have become extinct in every part of the world .For Asiatic Tiger which was very common in Asia is hardly found in the continent now apart from the state of Gujarat in India . 1000 years old trees are cut down , in order to compensate the government and the private sector does tress , there is no comparison .A strong trees has much

more benefits for humans and as well as component related to human use then planting 100 new trees where old strong trees have the power to withstand strong calamities ,thunderstorm which over the years had prevented soil erosion and recharged groundwater in a natural .Today the world is facing water crisis , making there is limited amount of groundwater due to cutting of trees the water is unable to get recharged the artificial groundwater recharge system is not sufficient enough to recharge it at a high speed . Biodiversity and wildlife are important pillars to prevent the impact of climate change .

RESEARCH METHODOLOGY

For the purpose of this exploration , I have used a amalgamation of two of the archetypical social sciences research tools application –as they are authentic and brilliant method to assemble statistics from multiple appellants in a methodical and convenient way . Question were asked to the common youth , public policy Analyst , rural people , farmers ,survey , interviews –consisting of several interrogation which were dispersed among representative of each contender group .

OBJECTIVE OF THE RESEARCH PAPER

The main areas of exploration in this paper incorporates

1. Biodiversity and climate change , a study
2. How climate change has affected the biodiversity and wildlife in the world .
3. What is India doing to reduce the conserve wildlife and reduce climate change effect on biodiversity

LITERATURE REVIEW

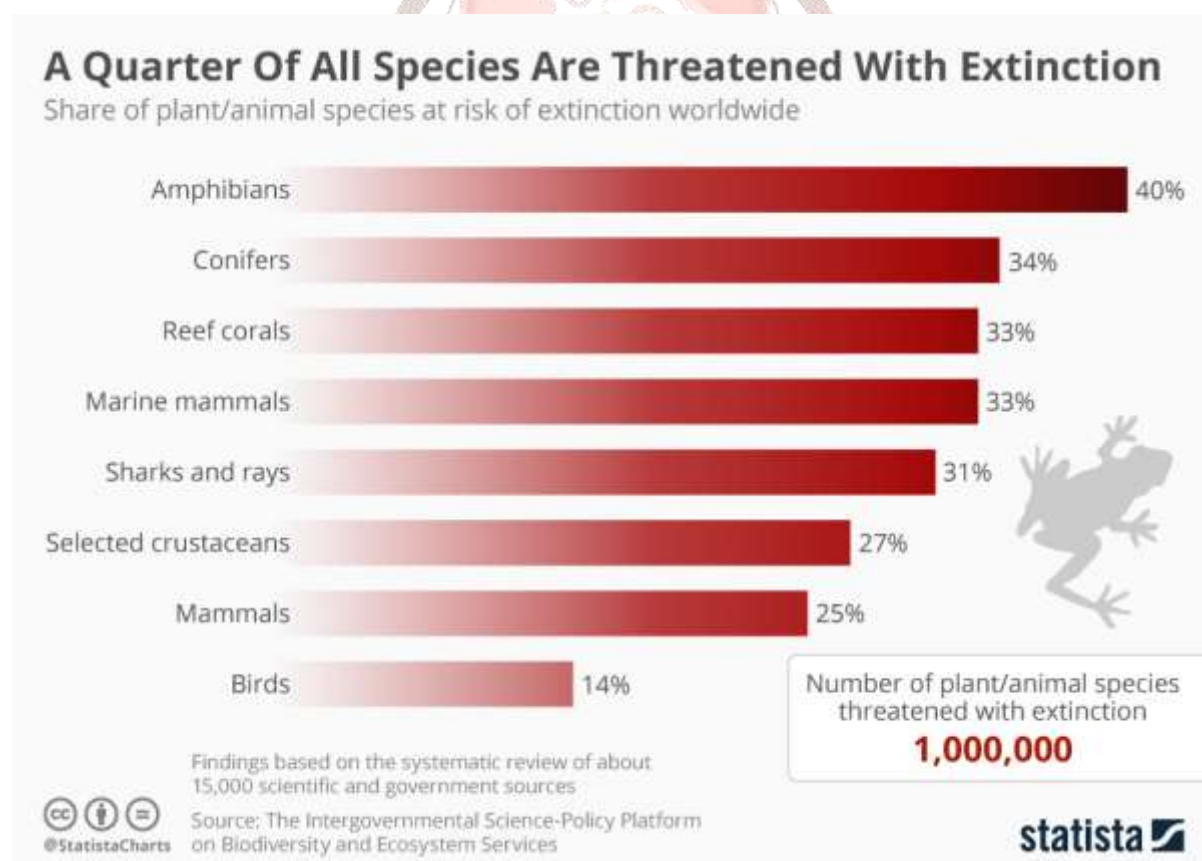
Climate change has affected the biodiversity and wildlife over the years . Indian government has introduced few laws for the protection of biodiversity which are as follows :The Wildlife Protection Act 1972 – Creation of protected areas for the preservation of wildlife and punish people who practice hunting as specified in Schedule I TO IV. Wetland Conservation and Management Rules 2010 , to protect the wetland of the states . The central government has introduced the scheme of National Plan for conservation of Aquatic Eco-system which support the state government in the management of wetlands which also includes Ramsar sites. Wildlife Crime Control Bureau was formed to control the illegal trade related to animals and endangered species . The Wildlife Institute of India , Salim Ali centre for ornithology and Natural History and Bombay Natural History Society are undertaking research on conservation of Wildlife .There has been a complete ban on the use of diclofenac drug that have resulted in the decline of Gyps Vulture in India , conservation programme to conserve these vulture have been initiated in the state of West Bengal, Assam and Haryana by the Bombay Natural History

Society followed this the government have introduced Integrated development of wildlife and recovery of endangered species a totally of 16 which includes Snow Leopard , Bustard , Edible nest swiftlet , Brown-antlered Deer , Vultures , Indian Rhinoceros , Asiatic lion , Malabar Civet , Dolphin, Marine Turtles , Asia Wild Buffalo , Hangul Niligiri Tahr , Dugong and Nicobar Megapode . protected areas like National Parks sanctuaries , community reserves and conservation reserves have been created all over the country . The central Bureau of Investigation have added to the Wildlife conservation Act 1972 the power to prosecute wildlife offenders . Some of the laws for protection wildlife , marine and ecosystem in India are : Fisheries Act 1897 , Indian Forest Act 1927 , Mining and Mineral Development Regulation Act 1957 , Wildlife Protection Act , 1972 , Prevention of cruelty to animals 1960 , Bio diversity Act 2002 , Air prevention and control of pollution act 1981 ,

Environment protection Act 1986 and Scheduled Tribes and other traditional Forest dwellers act of 2006 .India is also a signatory to several major International convention for conservation and management of wildlife . Convention on Biological Diversity , Convention on the conservation of Migratory species of wild animals , Convention on International Trade in Endangered species of wild Faun and Flora . Taking into account the effect of deforestation on wildlife and Industries on water and air pollution which directly affects the wildlife and marine life the government introduced new policies like National Forest Policy , National Conservation strategy and policy statement on environment and development , National Biodiversity Action Plan (2009) , National water policy , National Agricultural policy and the National policy and macro level strategy on Biodiversity . Forest is home to thousand of wildlife and birds and along with tribes , there protection is very important to make environment safe for the future .

FINDINGS

Polar bears can experiencing the effect of climate change their habitats are being affected its melting , the global waning is melting its affects other species of the world .With global waning the vegetarian is also changing , the food on which the animals live is also changing .It is found that 47% of the mammals and 235 of the birds under the International union for conservation of nature have been threatened by the effects of climate change . 2000 species has been affected positively , negatively by the climate change . 873 mammal species out of which 414 have been affected by climate change where elephants have been the most vulnerable 298 bird have been affected especially the ones living at the heights . A total of 712 species have been affected .

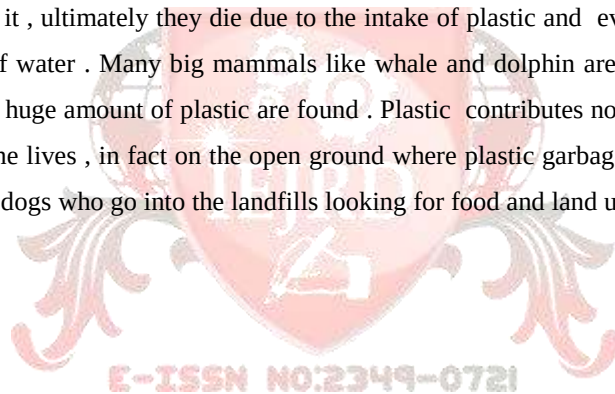


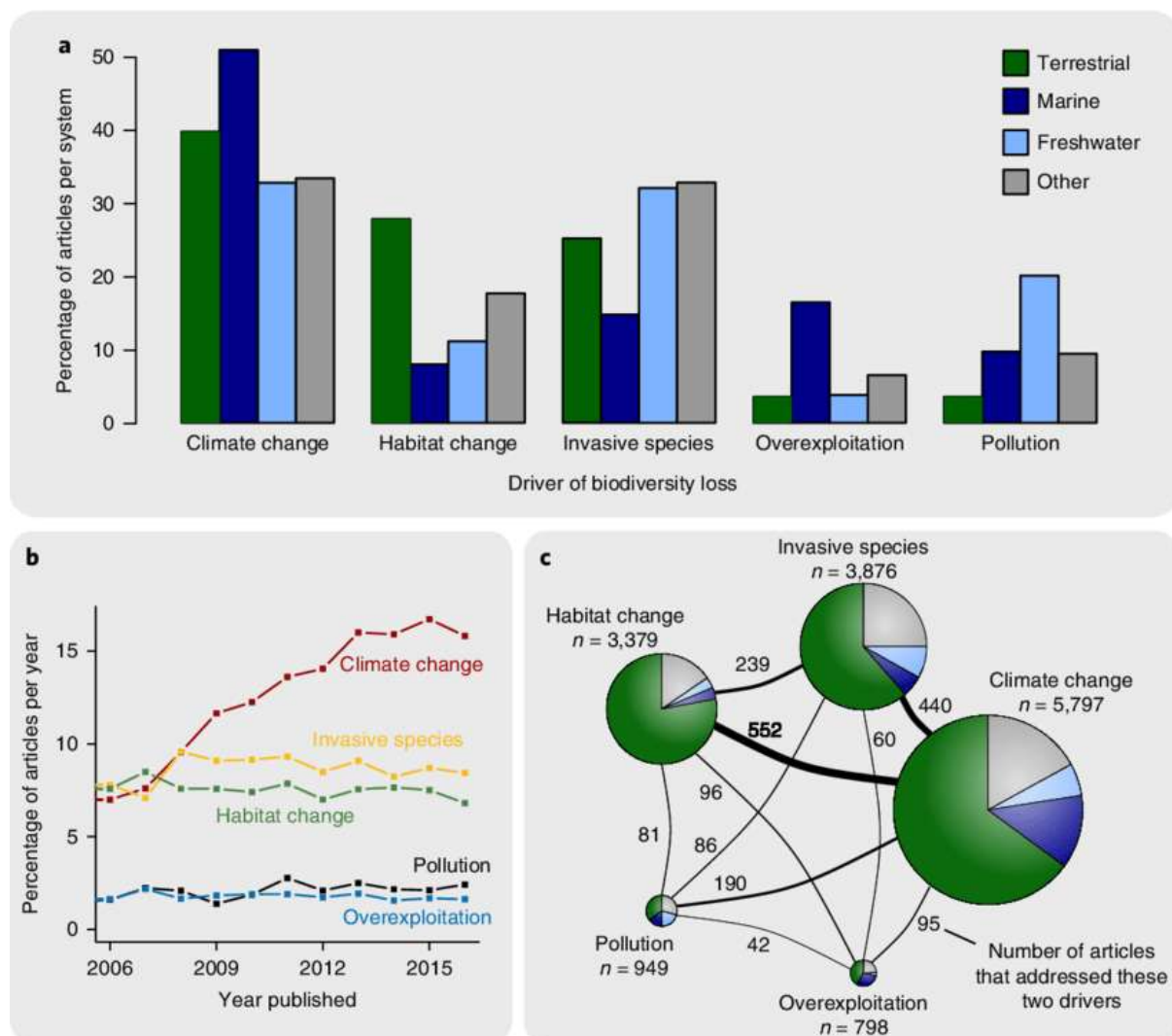
Human development grows at an unsustainable rate ,in recent decades carbon dioxide has amplified the use of natural resources have doubled and so is the environmental pollution result in melting of ice caps , heavy rainfall and flooding .Significant loss of water and biodiversity which has an impact on the flora and fauna resulting in

150 species extinct everyday , many animals are much more sensitive than human to adopt to change in humidity and temperature , more and more species are finding it difficult to adopt to change , many species have to change their eating and migrating patterns. Global ice melting has resulted in birds stopping frequently and taking rest , there are migrating to higher regions. . Bengal Tigers found in Bengal have threatened due to increasing sea level they live in the mangroves and also because of hunting .

Deforestation has a humongous effect on the lives of plants and animals They are more than 1.8 million animal and plant species on this Earth out of which two-third live in the forest in India many of the birds and animals have become extinct due to cutting down of trees for various purpose along with that they have made people and many wildlife homeless. It is resulting in rapid climate change with an increase in the concentration of carbon dioxide into the atmosphere .

The ocean absorbs much of the heat from the greenhouse emission which results in ocean temperature rise which ahs a new impact on marine life and ecosystem . Prolonged drought make the river dry , the fishes try due to lack of water . Excess disposal of garbage and industrial waste also result in the died of marine life including excess disposal of plastic , above 8 million tonnes of plastic waste is thrown into the river , oceans and seas some of the waste gets dissolved while some get small in size , the marine animals consider those to be small eating products and intake it , ultimately they die due to the intake of plastic and even the water they drink and live in has huge amount of water . Many big mammals like whale and dolphin are found death at the sea side when their bodies are cut , huge amount of plastic are found . Plastic contributes not only to climate change but in the death of many marine lives , in fact on the open ground where plastic garbage is thrown is dangerous for the wild animals, the stray dogs who go into the landfills looking for food and land up consuming plastic .

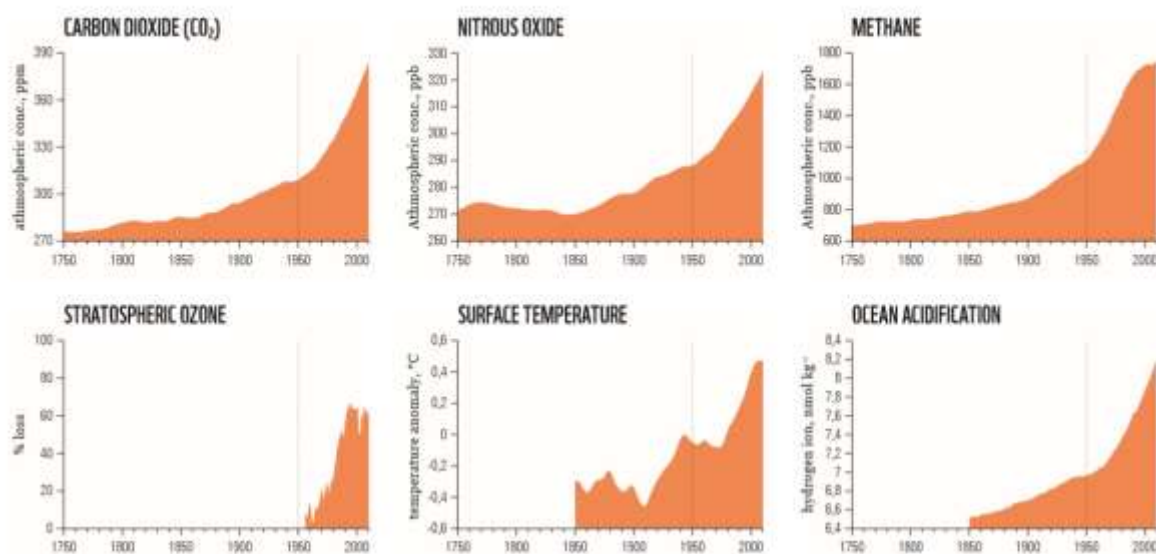




In Madhya Pradesh, the Buxwaha forest is going to become a target, as a diamond mine has been discovered, more than 2 Lakh trees are going to be cut to find whether there is a diamond or it's a scam. Buxwaha is home to many medicinal plants and protected species which will be soon be vanished as we are more concerned about the things below it, studies show that roughly there are 34 million carats of rough diamond there in order to reach there at least 2.15 Lakh trees will have to be sacrificed, and the forest is home to 8000 tribals. Biodiversity leads to a stable community and with this an ecosystem can provide us better free services we require some of the services would include purifying the air and water regulating global climate, taking part in biogeochemical cycles and much more. Ecotourism from biodiversity is a viable income source to countries and provides adventures with pleasures and recreation many use biodiversity as an spiritual religious and ethical symbol, the rate at which climate changing is happening we will lose 1/3 of Earth's biodiversity by 2050. The warming of temperature have proven to take their toll of biodiversity. Climate change has been successful in destroying habitats more and more as the word heats up in the Arctic temperature is rising twice as fast anywhere else on earth, this is melting and decreasing the mass and size of polar ice caps and glaciers. These ice caps are a crucial habitat to many animals such as polar bear, walrus, whale and many more. Losing the glaciers means losing hunting, reproduction and living grounds, it also means also losing their lives. The Arctic isn't the only areas in which animals and plants have adapted to living or thriving in a certain climate range, when habitats are changed so much from climate change this can also lead to forced migration, staying in the original

environment puts the species at risk of extinction if they can't adapt fast enough along with it, or because they have lost prey species and diversity within the community, if they evacuate however they won't be as adapted to the new environment and face the danger of extinction, even if they are saved for extinction their fitness will be significantly lower, holding them back from reaching their biotic potential. The American Pika is a prime example, in the past 12,000 years, American Pikas have been forced to leave their warming alpine environments and increase their incline in search of more natural home. In Monteverde, Costa Rica, one of the earth's biodiversity hotspots climate change has triggered longer dry periods and a decrease in rainfall, this has caused almost 50% of the areas amphibian species to disappear from the time the forest became a reserve. Everything that we do locally has a global consequences. Greenhouse we produce locally from our car, from industries these local activities can have global effects. Burning of fossil fuel not only release carbon dioxide but also heat energy.

EARTH SYSTEM TRENDS



WAY FORWARD

It is necessary to preserve our ecosystem to tackle climate change, protect our biodiversity, as planting more and more trees can prevent climate change, bring the temperature down, reduce heat waves. We have to eliminate the plastic waste for the rivers and oceans. Cleaning of rivers should be mandatory in every urban and rural area. Use of machine and technologies for easy cleaning of river. We need to install proper water waste treatment plant in all villages and urban areas. Proper disposal of waste using smart waste management system. A complete ban on thrown garbage on the road, we need to recycle waste as much as possible with cutting down our plastic which not only contributes to climate change but also animals land up eating plastic in particular the marine life. A research centre for forest development, Land which have become unfit for cultivation or resulted in land degradation can be used to grow forest and trees, many individual and NGO have promoted this in the rural region, we need to bring back biodiversity and protect the existing wetlands and form some new ones for birds. Conserve water, forest which can prevent wildlife and plants. Most of the forest provide medicinal plants which are gaining importance with preventing tribal from being homeless and no poverty. Tribal knowledge on medicinal plants are much more compared to any other group of people. Forest

are homes to all people on this earth , Forest growth can prevent soil erosion , water crisis and reduce the effect of climate change .

CONCLUSION

Over the years due to excess deforestation and use of natural resources we have come to a phase where maximum animals and birds have become extinct . Many had to migrate and some died due to climate change unable to adapt themselves to the sensitive conditions. It is paramount to environment protection that we need to plant more trees , preserve our ecosystem and wildlife . Even for the installation of wind turbines and solar panels the marine life is hampered and many of the forest areas are used for producing energy . The first measure has to be to prevent the effect of climate on ecosystem and then on humans , as ecosystem and biodiversity can bring in economy and save our planet .

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