

Deforestation: Facts, Cause, Effects, And Control Strategies

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Abstract-- Deforestation and downgrade of forests create massive problems in ecological cycle of the world. In today's world deforestation is occurring rapidly, especially in tropical regions where forests are cut down and acres of area are clear cut every year. Deforestation can also effect on climate change, soil erosion, water cycle, loss of species and have an effect on biodiversity. Recently the huge threat to the forest and wildlife are because of Deforestation and degradation to forests worldwide as over half of the tropical forests worldwide have been destroyed since 1960s and every second more than a hectare of forests is destroyed or drastically degraded. The forests is still there but with less number of trees, species, plants and animals. Degradation can cause the forests less valuable and may lead to deforestation. Deforestation is the clearing Earth's forests on a large scale and damaged the quality of land. Forests still cover about 30% of the world's land area but the sizes of panama are lost in each and every year.

Key words - Downgrade of forests, climate change, deforestation, species

I. INTRODUCTION

Deforestation is defined as the cutting down of the trees in a forests area as forests are the precious resource for the biodiversity and for environmental stability. But deforestation is causing a danger to the environment, economy of the country and the quality of life. But merely the rate of deforestation is high as compared to the rate of reforestation. Deforestation is a major problem of ecological cycle which affects almost all regions of world which have been covered with forests. It lead to the degradation of ecosystem which mainly cause landslides, soil erosion, climate change, decreased quality of air (as trees produce oxygen, absorb pollutants), extinction of species and destruction of habitats, carbon emission, water cycle and the ecosystem. Today most deforestation is happening in the tropic region and the areas that were unable to access in the past are now can reach with new roads are constructed as urban development. As in recent years the most important global attention which is related to environmental issues is given to the 'tropical deforestation'. Trees are the most important need for all the living organisms for basic survival as forests covered the earth surface for

millions of years, providing habitat and food for millions of species and also for human being. Forests have maintained the ecosystem and natural cycle that keeps plants, animals, all living organism in the earth stable and check.

II. AIMS & OBJECTIVES

Forests are the necessary oxygen produce body for the environment. They pump huge amount of oxygen in the atmosphere which is the necessary need for almost all the living organisms on the earth. These forests are disappeared day by day with an increasing alarming rate. Deforestation takes place by all the human activities for the economic development.

- The main objective is to create awareness to public for illegal deforestation as it becomes a huge problem in now days.
- To must follow the principle that 'reforestation should be more then the deforestation'
- To periodically examine the causes for deforestation and to take action by the forest authority for illegal deforestation.

III. METHODOLOGY

A new and unified global methodology for the protection of the natural green forests and identifying land which are responsible asset production. The methodology sets out to save the tropical forests and our environment from pollution is to reduce the carbon emission due to forest degradation and avoiding the drainage of planned wetlands, and it merely falls under the combined 'AFOLU' direct category of Reducing Emissions from Deforestation and Degradation (REDD) and of Conservation of Undrained or Partially Drained Peatland (CUPP) i.e. REDD+CUPP. Only one for other then the methodology exists for REDD+CUPP projects. More especially, this method of deforestation provide more flexibility as in estimating the deforestation rates, which merely includes a procedure to apply forest transition to model the conversion process, uses merely the georistical methods to intercalate peat bottom between sampling points, and allows for some small rate of deforestation and forests which are present in the project area. The objectives are 1) Detect the deforestation area, 2) Detect the activities which are caused deforestation, 3) Identify the present important nature changes occurring in the soil which

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affects the concept i.e post deforestation management, 4) measuring the soil properties that how much the degree of deforestation affects the soil.

DEFORESTATION AND CLIMATE CHANGE

Deforestation has influenced the climate also. Due to the deforestation it has resulted in the decrease of rainfall as it decreased the atmosphere humidity over the forests. It is estimated that the total amount of biomass burned by the human activities make up a whopping 90% of the total number, where only 10% of the natural fires. According to NASA, 'since fires produce carbon dioxide, a large scale greenhouse gas, and the biomass burning emissions significantly influence the atmosphere of the earth and climate change. Burning of the biomass cause both the long term and short term impacts on the environment condition'. Burning organic materials on a big scale like what all is done with slash and burn agriculture cause green house gases which contribute to global climate change. It is also estimated that 25% of the green house gas production from all over the world comes from the deforestation alone. Forests can store more than double the amount of carbon dioxide than is found in the atmosphere around the world. This means that when forests are cutting down as deforested, the amount of carbon dioxide stored in those trees is released in the atmosphere.

MINING

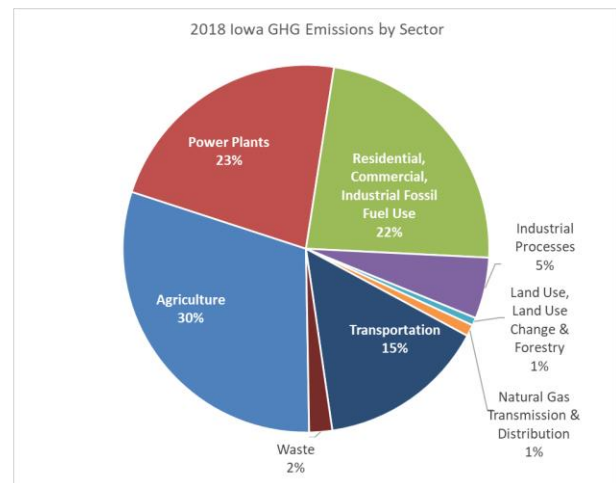
Mining is the extraction of minerals from the earth which are deposited on the earth. Mining is the most important reason and cause of the deforestation as many acres of forest land are destroyed by doing mining in that area. Mining adversely affects the environment by inducing loss of biodiversity, degradation of land, groundwater, soil erosion and contamination of surface water. There are 300 plus districts in India where the role of mining as it contributing to the deforestation, by making use of a data set, calculating the period from 2001-2014 the effect of mining related deforestation is shell out from those driven by way of various demographic, socio-economic and various climate factors. Some mining methods may cause serious environmental and public health that mining companies in some urban countries are required to follow strict environmental codes to ensure that mined area returns to its original state. Oil, coal, gas and other minerals which are been extracted from earth surface by using mining activity reduce the forests and also lead to the long term impacts such as pollution, infrastructure development and increased human activity.

DEFORESTATION CAUSE GLOBAL WARMING

Deforestation cause the global warming which affects the environment most as it is true that cutting and burning of trees adds more global warming pollution to the atmosphere than all the vehicles. According to the best current estimate deforestation and degradation of forests is responsible for about 10% of global warming emissions in the atmosphere. Burning of the forests as to clear the land for agriculture releases large amount of green house gases, as forests plays a

vital important role in maintaining the ecosystem stable and a source of food to animals and also to human being.

In the below pie chart which shows the shares of total amount of global greenhouse gas emissions in each sector



According to the United Nations estimates contained in the Stern Report, shows that deforestation accounts for up to 25% of the global emissions of heat trapping gases, while from the account of transport and industry it is up to 14% and from the account of aviation makes up only 3% of the total greenhouse gas emission. Tropical forests are the most important factor for the climate change but most of the people think of forests only in terms of CO₂ they absorb. The rain forests of the Amazon, the Congo basin and Indonesia are considered as the lungs of the planet. But the degradation of these forests pumps more CO₂ in the atmosphere than every flight in the history to at least 2025. From all over the world Indonesia becomes the third largest emitter of greenhouse gases.

THE EFFECTS OF DEFORESTATION

EXTINCTION OF SPECIES AND LOSS OF BIODIVERSITY

Due to decrease in forests cover, many forests dwelling species of animals, birds, insects etc, and also many species of plants have also been lost. As more than 80% of the world's species remain in the rainforest. And it is estimated that 50 to 100 species of the animals are being lost each day and it cause destruction of their habitats. So in the future the only species that survive are likely to be those whose habitats are very much protected. Habitat can be destroyed in many ways as putting the prairie under the plow eliminated much prairie dog habitat, converting large continuous habitat area into isolated, increased sediments inputs to rivers may also destroy habitat. How many species will be lost? As we all know that smaller the land support fewer species than the larger land area support. We can calculate the number of extinction of species if we estimate 1.) the number of species that live in the rain forests (10 million) 2.) the rate of forests loss (1.8% annually) and 3.) the slope of the S-A relationship (0.15-0.35). The prediction: 27,000 species/yr.

ILLEGAL LOGGING

Many government agencies are fighting against illegal logging to protect the environment. Illegal logging concept means the cutting down of trees, transporting them or using their products like timber for the economic gains against the law. Illegal logging involves the use of corrupt ways to arrive the forests or protected areas, the cutting of trees or harvesting without approval and selling them elsewhere or in any market as timber or other product, all the activities connected their with as defined is all termed as illegal logging. It has a destructive impact on some of the world's most useful remaining forests and on the resources that forests provide, and on the people who live in them. The world bank estimates that governments worldwide loss between US\$ 10 billion and 15 billion each year as a result termed as illegal logging.

IMPACTS OF ILLEGAL LOGGING

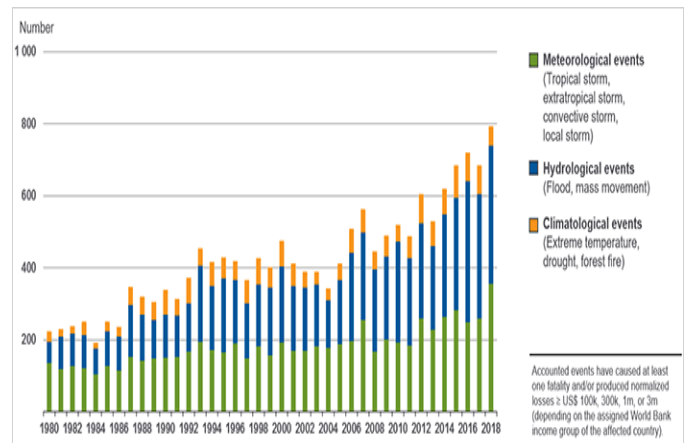
The environmental effects of illegal logging which includes the loss of biodiversity, deforestation, poor living standard for indigenous population, global warming and climate change, economic losses and the emission of greenhouse gases. In recent times, illegal logging has become an important concept which is against the law of harvest, purchase and sale of timber merely all against the law.

CAUSES OF ILLEGAL LOGGING

Illegal logging takes place merely in the forests area as there is always a poor rural community these people are totally depend upon the forests for their survival. These all people have put in the situation which makes them to cut trees for firewood for cooking and that's practice termed as illegal logging. Some of the cause which have been defined as 1) Rural poverty 2) availability of cheaper products in black market. 3) Illegal trade of charcoal, furniture and timber. 4) weakness and laxity in forests governance.

One of the vital functions of forests is to absorb and store great amount of water quickly when there are heavy rains. Deforestation can cause droughts merely because of; 1) trees play an important role for maintaining the water cycle in nature. 2) Trees absorb water from the soil releases it into the atmosphere with the help of the transpiration process. 3) the aggregation of these water vapours in the atmosphere is one of the major reason for causing the rainfall. 4) what is happened that in the absence of this process from the trees which leads to low rainfall and thus mostly causes drought in that particular area.

Deforestation can also cause flooding because of; 1) Trees restrict sediment runoff, merely because trees roots absorb the water from the soil and this makes the soil dry and the dry soil are able to store more amount of rainwater. 2) In the absence of the trees the soil is not capable to up hold the huge amount of water and the water clear out in the rivers. 3) This creates the rivers store more speedily as they are much more prone to floods.

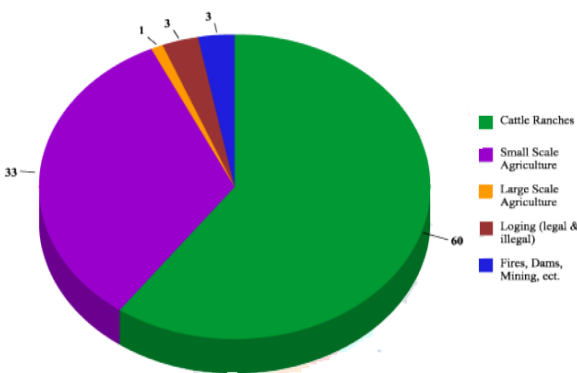


In the above pie chart shows the rate of flooding and droughts as from the year 1980 to 2018

DEFORESTATION AFFECTS GLOBAL WATER

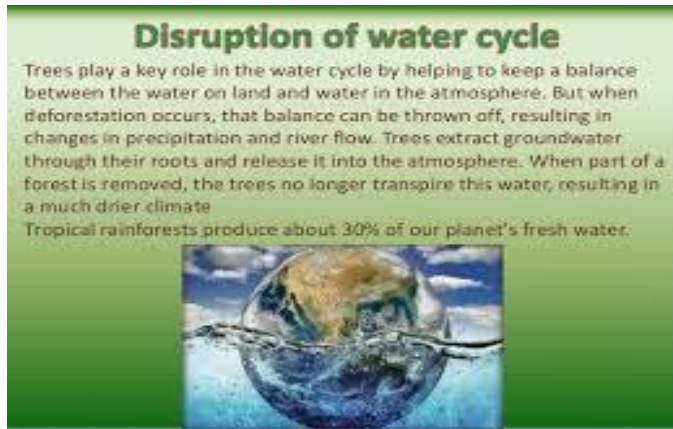
CYCLE

In the forest every tree is a fountain as sucks water from the ground with the help of roots and release the water into the atmosphere through the transpiration process. As plants and trees which are responsible for bring out ground water from the soil and release it in the atmosphere and the deforestation which mainly results in the water not to be able to released the water into the atmosphere, which is mainly responsible for the disruption of the water cycle. The dry climate would results in higher amount of fire on the low land mainly because of the high temperature and less number of rainfall during the dry season. Tropical rainforests have produce about 30% of our planet's fresh water, so it is our duty to save this fresh water for future purpose and as a result when there is no trees, water runs off and have no chance of groundwater to absorb then it ultimately causes disruption of the global water cycle.



In the above pie chart Illegal logging which makes 3% is the reason that why we deforest. And the other 3% which is carried out from deforestation for mining, dams and fires etc.

DROUGHT AND FLOODING



STRATEGIES TO CONTROL AND REDUCE THE DEFORESTATION

Forests are one of the major terrestrial eco-systems on the earth and are of a great importance to life and prosperity of human beings and for all other living organisms. Forests maintain climate, stabilise water and soil resources, and forests also help in safeguarding diversity of wild animals and plants. 80% of the plants, animals, insects and all other species are directly called the forests are the shelter to all. And the term deforestation leads to affects the entire ecosystem as there are many ways to reduce the deforestation and some of the following strategies has been defined as follows:

1. PLANTATION OF TREES

The most important way to reduce the deforestation is to plant a tree. As population of India recently is 133 crore as if every individual plant 1 tree then there will be 133 crore trees present in the earth which is a huge amount to save our earth from pollution and to maintain the ecosystem. Plant a tree is a lifelong investment into the environment.

2. DON'T WASTE PAPER

Thousand of trees are to cut everyday mainly because to meet the paper demand for the people. As globally 40% of all timber are used to make the paper products and the demand is increasing every year this merely means that the paper industry are still consuming and cutting more and more trees for making the paper. So the only way is to reduce your paper use and don't waste paper so that the trees is safe and not cut down.

3. USE A PROCESS OF RECYCLE THE PAPER

This is a best method to save the paper and reduce the deforestation as use the process of recycling the waste paper when it is used and thus to save paper save earth.

4. USE RECYCLED PRODUCTS

The best cheapest method to control the deforestation is to make a habit of using the recycled products. As by using the

recycled products such as furniture products etc. is the best way to not to cut a tree and save the tree for future.

5. PROMOTE SUSTAINABLE MANAGEMENT

Sustainable development is essentially a policy and the strategy for a continued economic and the social development without detriment to the environment and natural resources on the quality of which is a continued activity and further development depend. Achieving the ecological sustainability means that the ecological values of the forests should not be degraded and if there is a possibility it should be improved. And the best way to control the deforestation is to buy products from forest stewardship council (FSC) which is currently the best global standard in the forest management.

6. DO NOT BURN FIREWOOD EXCESSIVELY

To stop and to control the deforestation we need to take care about to stop the burning of wood for cooking. This buy is to be taken very seriously as trees are cut down on a regular period of time so don't cut the trees and do not burn firewood excessively.

7. TO RAISE THE AWARENESS

The major problems which are related to environment such as deforestation which is now a days become a serious issue as people are cut down the trees for furniture, paper products and many more. Therefore awareness about the importance of environment should be raised by educating people about the importance of the trees for the future and present. Better awareness and education is also very important in case of the farmers as motivate and give knowledge to local farmers about the optimizing land management which ensure that less forested area need to be cleared for farming.

8. TO SUPPORT ORGANIZATIONS THAT FIGHT DEFORESTATION

There are various organization which are numerous international and locally focused organizations and the main objective of these organizations is to protect the forests from deforestation and to apply the sustainable forestry practices. Some of the organizations are Greenpeace, World Wildlife Fund, Rainforest Alliance, Conservation International, Rainforest Action Network and many more.

9. TO HELP THE RESTORE DEGRADED FORESTS

This is a challenging task for the restoration of the degraded forests that decades and also requires careful planning and monitoring. This is necessary as if we do not want to lose all our forests. Forests restoration is a wonderful concept that the ecosystem's capacity to perfectly recover and give a new chance to start once again.

10. TO FIGHT AGAINST THE GOVERNMENTAL CORRUPTION FOR ENVIRONMENT

In many areas there are various illegal logging companies which perform their illegal activities and the government is payed off, so do not support the corrupt politicians and system.

THE TOTAL AMOUNT OF DEFORESTATION AND TO CONSERVE OUR OWN USE OF NATURAL RESOURCES SUCH AS WOOD, GAS, MINERALS, ELECTRICITY, AND ELEMENTS AND WATER

- Must try to read the newspaper online through the use of internet.
- Do not waste the paper as always use both sides of paper when you are writing, drawing, photocopying etc.
- Recycle paper, plastic products, glass, cans, furniture etc.
- Encourage and aware your parents, family, and friends to buy furniture and the wood which is certified. That means wood was legally cutted.
- Trees are cutted down for grazing the cattle. Instead of eating meat, think of eating the other souces of protein like fish, soy beans, whole wheat and nuts etc.
- Try to buy and eat only organic fruits and vegetables. That means there are not use any poisonous chemicals sprayed on the food. If these chemicals kills the insects and pests that try and eat the fruits and vegetables think about that how harmful they are to the enviornment.
- when you are washing your hands and brushing the teeth, close the taps. You can save the water and can save the enviornment.
- Always turn off the engine of your vehicle when there is red light.
- Save the electricity by turning of lights, television, air conditioner, fans, coller and other electronic products, when you are not using them.
- When wasing the dishes on kitchen close the tap when you are rubbing it.
- Buy recycled products made from recycled paper such as notebook paper, toilet paper, tissue paper, books etc.
- Instead of you buying gold and diamonds jewellery, which are extracted by using mining that cause enviornmental damage, try to use the jewellery which is made from materials that are not mined.
- Whenever there is a possibility try to walk and use other transport vehicle such as bus or train which can help in saving the resources and save the enviornment.
- Save ther water by not taking baths; instead takes quick showers (close the tap while you are using soap)
- Use pencils untill they are stubs as they are made from wood so try to save the wood and save the enviornment.

IV. CONCLUSION

In today's life deforestation has become a huge concern as there has been a inreasing rate of decline of forests. It has a adverse impact on every living organism and especially to the enviornment, so deforestation is an important issue to be discussed. Deforestation has become a great threat to the world as Trees are cutted down for manufacturing the paper products and furniture as well as for livestock farming and so on. We shall reject and try to avoid causing deforestation by recycling paper and furniture and the products that are made up from wood because in future more trees would not have to be cut down. and so if we are keep reusing the recycled products it would be more sustainable to our enviornment. While you are saving the enviornment you are saving lives of various living species and all other living organisms and also save the trees and plants. It is merly concluded that to save our enviornment the rate of afforestation would be more then the rate of deforestation. There are various strategies which have been defined above to control and stop the deforestation . 'Recycle your paper and say no to deforestation'