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Effects of Climate Change on Fauna: A Review

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ABSTRACT

Fauna is all of the animal life of any particular region. For decades various green house gases are being released into the earth's atmosphere. This has caused an increment of earth's temperature, leading to global warming and finally into climate change. The climate change has severe repercussion on the fauna all over the world. Many animal species such as Polar bear (*Ursus maritimus*), Snow Leopard (*Panthera uncia*) and Giant Panda (*Ailuropoda melanoleuca*) have become endangered species due to habitat loss because of climate change. Salmon fish, Turtle and Cod fish population is decreasing due to reduction in spawning because of rise in temperature and climate change. The livestock's productivity will also go down considerably in coming years. American Pika's have changed their habitat because of climate change. A global level check on emissions of green house gases must be done. This will reduce the rising temperature. Also a regular survey must be carried out on the level of biodiversity and status of animals in each and every country. Any country in which the faunal species are heavily affected due to climate change then, in - situ and ex - situ conservation strategies must be implemented to prevent their complete extinction.

KEYWORDS: - Fauna, Climate Change, Global Warming, Livestock's.

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INTRODUCTION

Biodiversity is the term given to the variety of life on earth. Fauna is all of the animal life of any particular region. For decades various green house gases are being released into the earth's atmosphere. This has caused an increment of earth's temperature, leading to global warming and finally into climate change. The climate change has severe repercussion on the fauna all over the world. Animals require various basic things for their survival they are: the right temperatures, fresh water, food resources and place to raise their young ones.

The United Nations Intergovernmental Panel on Climate Changes has predicted that in 90 years the average earth temperature will rise from 1.8°C and 4.0°C and sea level will rise between 18 and 59 cm. The hydrological cycle will change and will lead to floods and droughts as they are expected to accompany the global warming trends.¹

The climate change is expected to affect the quality and quantity of livestock feed. The research conducted have shown that increase in temperature, Carbon dioxide levels and Nitrogen deposition will decrease the production of pastures, that makes up the feed of the livestock's. The Climate change will also alter the physiology of livestock thus reducing their production and productivity. Research study has reported that as a consequence of climate change and rise in temperature the milk production in cattle's will go down considerably. Milk production performance of high milk producing Holstein-Friesian cow had declined as environmental temperature was increased.²

Due to climate change the dry seasons will increase and so the availability and quality of the pasture will decrease considerably. The available pasture will not be able to fulfill the energy requirement of the livestock and this will lead to decrease in milk production, body weight and eventually the meat content will also be affected. The high temperatures caused by extreme weather events experienced at this era is affecting the animals by reduced meat production and reduced time for foraging as the animals prefer to remain in the shade.³

According to WWF the population of Polar bear (*Ursus maritimus*), Snow Leopard (*Panthera uncia*) and Giant Panda (*Ailuropoda melanoleuca*) have become endangered species due to decrease in their number drastically as the snow laden areas are becoming less due to climate change and rise in temperature. They are losing their habitat.⁴

The U.S. department of the Interior in 2015 conducted a study on impacts of climate change on animals. The study revealed that American Pikas live at high elevation where cool, moist conditions exist. The population of the American Pika is slowly disappearing as they are migrating to higher elevations likely to avoid reduced snowpack's and warmer summer temperatures. Salmon require cold and fast – flowing streams to spawn. Changing stream flows and warming waters have

reduced the fecundity level of salmon to a considerable level affecting their population. Also higher temperatures have also led a harmful salmon parasite to invade rivers affecting Salmon. Increasing temperature is bringing about a boom in parasite populations known as winter ticks. These ticks in thousands gather on a single moose and feed on its blood that leads to weakening of the animal's immune system and often ending into the death of the moose.⁵

In Turtles the eggs that incubate at cooler temperatures generally lower than 29°C produce male turtles and eggs incubating at warmer temperatures produce females. This has led to concerns that, in the context of climate change, warming water temperatures may lead to female sea turtle populations.⁶

During the course of the last century, populations of Cod Fish *Gadus morhua* have undergone dramatic declines in abundance across their biogeographic range, leading to debate about the relative roles of climatic warming and overfishing in driving these changes.⁷

CONCLUSION

The above research study conducted by the scientist all over the world clearly indicates that the rise in global temperature is bringing about climate change. This climate change is not bearable to many animals. Animals are adapting to the change but those unable to adapt to the climate change are suffering by decline in their population number. A global level check on emissions of green house gases must be done. This will reduce the rising temperature. Also a regular survey must be carried out on the level of biodiversity and status of animals in each and every country. Any country in which the faunal species are heavily affected due to climate change then in - situ and ex - situ conservation strategies must be implemented to prevent their complete extinction. Extinction of one animal species affects the food chain and then the food web to which the animal belongs. The anthropogenic activities are responsible for this heavy faunal species loss at the global level. This will directly or indirectly affect the mankind one day.

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