Impact of Climate Change in the Artic

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Introduction:

The last decade has witnessed a substantial drop in the average temperatures in the Arctic region. A sudden change like that has disrupted the natural process of glacier formations there. The annual chain of events that facilitates the life cycle has been affected due to this undesired development. It has been exhibited that seasonal variations no more bear constant effects on nature in the Arctic. For example, despite an end to summer, the weather in the Arctic fits to remain warm and hence indicates minimal signs of ice formation, which symbolizes a red flag towards the commencement of a healthy environmental process. The interference furthermore advances when it not only holds the much-needed growth of glacier structuring but also breaks down the already existing icebergs, causing an irregularity in water levels around the world. Some observers in the Arctic say that the view has become more 'active' as there is more melting of glaciers due to the rapid worldwide warming. They also suggest that the ice line has drawn back nearly a kilometer in less than a decade (Clarke, 2016). Usually, until earlier in this century, the phenomenon used to be quite steady about the business of ice breaking down in summers and freezing for around a meter thick layer in winters. But, for the past few years, the Arctic has not had ice frozen even for once.

In association with this transition of abrupt glacier melting, it becomes crucial to note the consequence of the incident. Ice in the Arctic is responsible for reflecting the sun's energy out of the earth's atmosphere but, as there is a decline in the number of icebergs, it has made the Artic Sea warmer. Therefore, resulting in the rise of water levels. If the phenomenon continues, it will follow up to creating an imbalance in global temperature. Apart from that, the wildlife present in

the Arctic would barely survive if the ice disappeared, meaning extinction of those exclusive species.

Why does climate change in the Arctic demand urgent attention?

The principal element in the Arctic is ice and glaciers. Ice provides a means of transportation and allows the movement of both humans and commodities (Watt-Cloutier, 2019). While ice doesn't form at the same pace as it used to, the turnabout issue of accelerated glacier melting has tuned by advancing the pushing back of shorelines and depleting permafrost. All of these events have led to bringing about infrastructural problems. Therefore, many were forced to relocate away from their homes built near the coastal areas as a consequence. In extension, there has been an influx of several distinct species of birds and animals in the Arctic. Trees are now growing bigger and stronger in specific spots of the region. Thanks to the eroding permafrost which, is letting them lay more widespread roots deep down the soil. These new extensions may seem like a good thing on the cover but actually is a result of gross warming and rising sea levels.

In addition, the formation of glaciers is a characteristic feature that regulates the change and duration of seasons across the globe. The reflection of the sun's energy from the surface of the ice and then back into the space, following the earth's revolution, defines the dynamic course of shifting weather patterns in all the regions. As carbon emissions keep rising and are executing the air quality to degrade, it has substantially led to significant changes in the annual climatic setting. For example, the variations diversify from one place to another. A recent case of extreme temperature drop is the Texas Winter Storm in 2021, where the American state faced a blow of Arctic temperatures which is severely unusual for that region. The phenomenon is explained as a

cause of an "Arctic outbreak" that originated above the US-Canada border. The US National Weather Service (NWS) further stated that "cold air outbreaks such as these are normally kept in the Arctic by a series of low-pressure systems." (BBC, 2021). Therefore, it is reasonable to assume that the malfunction in the Arctic pressure systems was caused by the inadequate and inappropriate delay in freezing ice.

The most effective explanation about the source of changing environmental dynamics in the Arctic region can be credited to growing carbon emissions. Hurried and spontaneous usage of fossil fuels has produced a lot of raw carbon components to be combined in the fresh air. Discerning that these forms of unfiltered carbon get to stroll around in nature, it can be determined as one of the lead causes in the air quality to go poorer and that it contributed in making the earth warmer.

How is it affecting the wildlife there?

The fascinating factor is that the formation and breakup of the ice is an indicative dependency element for the wildlife in the Arctic region. That being said, it has been proven that glaciers are responsible for regulating the food chain in the area. It is seriously alarming to watch life forms there suffer due to environmental changes. The resolution of banning commercial whale hunting has raised the whale population, but ignorance regarding pollution control has led to these massive creatures starving due to insufficient amounts of food. Also, the species of Arctic birds, such as penguins and albatrosses, have similarly been affected by the impacts of human activities. The consequence has confirmed a downfall in their numbers. It becomes essential to note that ice allows the animals in the Arctic to seek shelter, ambush, and hunt for their survival. Witnessing the fallouts of climate change, there has been a rise in the intensity of

polar bears struggling to hunt for food. The primary prey for the polar bear is the Arctic seals. In adverse, the seals are also in distress as they are unable to seek refuge to save themselves or their young ones from the predators. It is gravely a sad scene to watch. In inclusion to the issue of inadequate food availability, the polar bears also face a challenge to find shelters. The only form of home that these bears acknowledge is ice platforms. Therefore, since declaring the phenomenon of speedy glacier melting, many have lost their lives due to malnutrition or by living stranded on tiny icebergs. Although the broken ice at times lets certain species of mammals shelter away from predators, they also provide access to feeding grounds. The accelerated process of melting ice has caused walruses a problem too. They have lost their natural home and, now due to the tedious upshot of overcrowding on a single land, they strive to survive by killing each other. And as already supposed, the expedited consumption of krill and other marine creatures has led to a gradual shortage of food.

What should be done to save the Arctic?

First of all, it is essential to understand that the damage caused in the Arctic due to climate change will take a lot of time to reverse, presumably double the length it took to show negative shifts. It needs thorough determination and a firm action plan to strategize the preservation of the Arctic region. However, the chief detail to consider is that it will demand solid dedication from the remaining parts of the world on a significant footing. In fact, the terms for necessitating participation from distant geographical areas are subject to the evidence that activities in those places have caused the Arctic to suffer.

A way in which climate change in the Arctic can be constrained is a three-step process. It is all about spreading awareness, resolving the crisis, and ensuring sustainability in the future, specifically in that particular order.

Spreading Awareness: It may seem like a very minute thing but, it is crucial to be conscious of the consequences of climate change, especially when it has come to haunt the lifeforms, the environment, along with a threat to sustainability in the future. Even a small practice in our daily routines can have devastating outcomes on nature. Therefore, considering that if the population worldwide reflects on their habits and pledges to make efforts on an individual level, it will allow curbing the intensity of climate change. This strategy positions for activating collective conscience which, will play in favor of restricting the influences of global warming. To act towards a resolution, individuals need to learn about the problem first, understand the causes and then proceed accordingly to make shifts in their behavior to contribute to a variation. Also, as one learns facts from a credible source regarding climate change, they should keep the information passed on and make it reach far out to bring a colossal impact.

Resolving the Crisis: Zaelke infers, "Fast mitigation at scale can still slow future Arctic warming, starting with immediate cuts to the short-lived climate pollutants—black carbon, methane, tropospheric ozone, and hydrofluorocarbons. Cutting emissions of these short-lived pollutants immediately can reduce the rate of Arctic warming by up to two-thirds. Fast cuts to carbon dioxide also are important, but over the next two decades, they will actually add warming" (Zaelke, 2019). Thus, establishing that extensive usage of fossil fuels has led to creating a climate crisis. Here it becomes imperative to plan out a scheme in which carbon

emissions are reduced, mainly by cutting down on fossil fuel usage. It will be best if alternative energy options are introduced, and the population adapts to new means of facilities. Apart from that, plastic creation and distribution need to be regulated as well. Furthermore, there should be a check on the rising population. The pace at which resources are being utilized to cater to the modern large population will leave almost nothing for the generation to come.

Ensuring Sustainability in the Future: With the unexpected transformation of a healthy living environment slowly degenerating to deliver drastic modifications, it is challenging to anticipate a sustainable future. For preserving the earth's surface concerning the viable and healthful atmospheric setting, there lacks a practice that enforces people to obligate according to nature's calls. The current lifestyle has proven to be beneficial for humans but is generally affecting the environment and other nature-dependent lifeforms. However, now the situation has transcended to harming humans as well. Therefore, it becomes utterly necessary to make a swift transition in the day-to-day traditions with reverence to honoring the protection of nature. There has been enough harm done to the environment already and, such influences are by now evident in the Arctic. By blending lifestyle approaches committed to reversing and sustaining the future of nature, it will not only pave the way for a stable human living but also provoke a process of blessing future generations of all lifeforms with a clean environment.

Conclusion:

Climate change is such an active process that it has succeeded in touching the edge of the earth's surface that is the Arctic. The influences made in that region due to the environmental adversaries have raised concern within the world. Although even if it seems that the melting of

ice there is not a big deal, the principal foundation of the argument rests in the fact that the glaciers control the warmth of the earth's surface. The other water bodies formed by the melting of ice, such as the oceans and seas, are in charge of regulating temperatures and seasons. Such a disbalance has caused nature to lose its initial course of action and bring about calamities like cyclones, unexpected temperature changes, unequal rainfalls, a decline in the numbers of several aquatic and inland wildlife, etc. Thus, making us realize how serious the situation is and why it needs urgent attention.

It is surprising yet comprehensive to learn that how a tiny contribution to an individual degree can serve the purpose of saving the environment. When combined measures are brought into play, and there remains a requirement of mass participation, the results will likely be in favor of the notion. Hence, it is comfortable to deduce that if properly devised, the negative impact of climate change can be mitigated and brought in control. Finally, with a plausible solution in hand, it is obvious to be assured of a sustainable community for the succeeding lives on earth.

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