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ALARMING SITUATIONS IN THE HIMALAYAN REGIONS DUE TO GLOBAL WARMING: A REVIEW

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ABSTRACT

Climate change is a major concern of the world; it is bringing the human civilization towards the end. There is no country which is untouched by this global challenge. Its hazardous results have begun to appear around the people. A strict action plan should be launched for the reversal of Global warming so that we can prevents the whole world especially India which is facing the biggest challenges from the last 10 yrs. It will prove more fatal than the other factors of the death. Its results will cause death of people in the mass. A well planned strategy is needed to develop for the coming future so that people of Himalayan regions like Uttarakhand, Himachal Pradesh & Jammu and Kashmir can be saved. This global warming is the outcome of activities of human against the environment. The region covered by the Plants has been reduced by manifolds that's why many natural disaster stated appearing in the Himalayan regions especially Uttarakhand.

Keywords: Global Warming, Climate change, Himalaya region.

I. INTRODUCTION

Global Warming is the increase in the temperature of the earth due to various activities caused by humans for their own benefits. Mountains provides us with the essential ecosystem-based service to global communities as well as inspiration and tourism to millions .Mountains covers 24% of the world's total land surface. Himalayas undoubtedly a, adventurous and peaceful place but only for external world as it is the most challenged region, positive impact of development of Himalayas are not observed. Climate change in Himalaya focus on glacier melting Phenomenon.[1] Glaciers in the region are melting at a rate faster than ever recorded resulting in long-term loss of natural fresh water. Moreover moraine are formed which accumulates the enormous amount of water causing breaching of unstable dams leading to discharge of water and debris. [2] Evidence depicting that anthropogenic activities are leading to climate change is that the historical weather records are bounded to their length even in the higher altitude where the sensitivity to climate change is relatively high. Climate records have been showing that global mean temperature has increased by 0.6 ± 0.2 °Cover the last century, anomalous warming of 20th century could only be explained by anthropogenic factors. Climate during (LIA) little ice age was highly unstable is shown by drought , floods in China. Climate is influenced by monsoon circulation and increase in temperature was observed over the Tibetan plateau which may cause the faster melting of Himalayan glaciers. [3] Winter and autumn experiences greater increase in temperature than the summer and these increases are larger at higher altitudes. Himalayas are warming several times more than global average rate. [4] Human Population has been increased in western Himalaya and so the agriculture is expanded to meet the needs of population. Developmental activities, cattle grazing leads to large scale deforestation leading to increase in Barren land this causes increased surface runoff , highly variable climate could also affect human health increased risk of diseases, poor are at vulnerable stage, Anopheles mosquito failed to breed above 1500 m altitude but situation could change with warming. Agriculture has also affected Western rangers, in Kullu Apple production has declined as change in snowfall pattern affects it's time for bud breaking process. Climate change in Himalaya also affects the adjacent highly populated plains. High time to collect data on ecological and socio- economic aspects not only of Himalayan region but of connected river basins too. [5]

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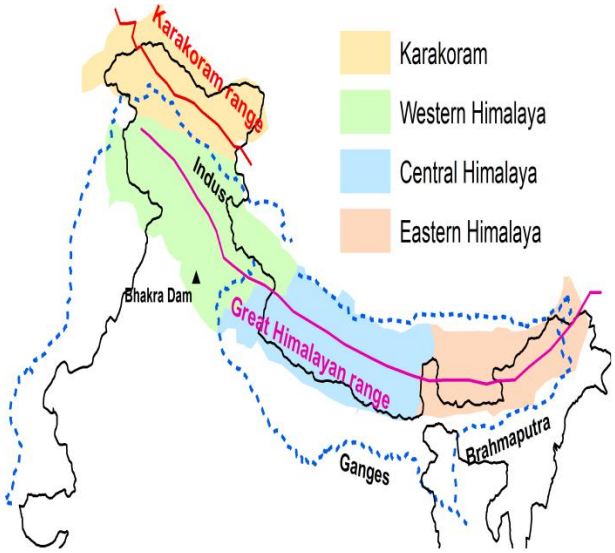

Fig 1: Picture showing Himalayan regions

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II. LITERATURE REVIEW

Kulkarni A.V, studied the effects of Global Warming on the Himalayan Cryosphere. In this paper, work was done to study Glaciers and Seasonal Snow cover. [6] Bhutiyani M.R *et al* [2008], worked on the Changing stream flow patterns in the river of Northwestern Himalaya: Implications of Global Warming in the 20th century. Four rivers were taken into consideration namely Sutlej , Ravi, Chenab and Beas to see variation in the discharge in 3 seasons of 82 years. [7] Bhutiyani M.R *et al,* [2009], researched on the effect of Change and the Precipitation Variations in the Northwestern Himalaya: 1888-2006. This paper associated with the study of decreasing precipitation trends in the monsoon season but there is no change found during the winter session. [8] Mourya D.T. *et al* [2002], studied the Effects of Global Warming on Snow ablation patterns in the Himalaya. The studies was done to find the reason of Snow melting in the high altitudes and deeply studied to find a suitable means to stop the river formation in the Himalaya. [9] Sigdel S. *et al* [2018], worked on the Moisture-mediated responsiveness of tree line shifts to Global Warming in the Himalaya. In this paper, Alpine trees were used as a model to study the Global ecology balance and Climate change. [10] Beck A. Richard *et al* [1995] , Organic Carbon Exhumation and Global Warming during the Early Himalayan Collision. It was found that collision between continent plays a major role in the Climate change by the exhumation of organic carbon. [11] Singh S. *et al* [2010], worked on the Rapid warning in the Himalayas: Ecosystem responses and Developmental options. This study was focused on the Alpine ecosystems which will be adversely affected with the Global warming and its effect in downstream & upstream regions. [12] Duan K. and Yao Tandong [2003], studied the Monsoon Variability in the Himalayas under the conditions of Global Warming. In this paper seasonal fluctuations were seen and recorded, they found 0.1^0 C increases in temperature in the Northern Hemisphere. [13] Shrestha Arun. B *et al* [1999], Maximum Temperature Trends in the Himalaya and its Vicinity: An analysis based on temperature Records from Nepal for the Period 1971-1994. This paper focused on the analysis of Maximum temp in the various stations in the Nepal which explains the Global warming trends from 1977 with temp 0.6^0 C in the various Himalayan regions. [14]

III. DISCUSSION

The ice melts due to their bond breakage when the temperature of the Mountains regions increases so rapidly. The increased temp effects have already been seen in the last 2 disaster of the Uttarakhand like Kedarnath 2013 tragedy and Chamoli district disaster in 2021. The deforestation can result into severe destruction of the mountain areas. The cutting of trees should be stopped and Plantation process must be increased so that the climate change and

Global Warming like phenomenon can be stopped. The forest fires also a addition due to high temp in summers where temp comes up, is more than normal in summers. The outbreak use of the cars, bikes etc are needed to be reduced right now to save our earth.

IV. CONCLUSION

As the urbanization is increasing, numbers of plants are keeps on decreasing. This is bringing the Global warming on rapid speed especially in Himalayan regions. The glaciers on these areas like Uttarakhand, Himachal etc are melting so rapidly that are creating a big challenge for human civilization. Plants are responsible for the ecological balance in these areas that is not a hidden point for anyone, it has been proven years ago. Still, no one is paying attention towards these topics. Everyone should contribute from their side to keep this environment Healthy and clean so that we can stop the melting of Ice in the High altitude regions.

V. REFERENCES

[1] P. S. *et al*, Rapid warming in the Himalayas,2010, Climate and Development.
[2] http://himalayanvoices.org/?q=onlinelib/readings/issues..
[3] Bajracharya R.S. *et al*, The impact of global warming on the glaciers of the Himalaya,2006,
[4] Diodato N *et al*., How do Himalayan areas respond to global warming,2011, International Journal of Climatology.
[5] P. S. *et al*, Rapid warming in the Himalayas ,2010, Climate and Development.
[6] Yadav R. R *et al*., Do the western Himalayas defy global warming, 2004.
[7] Kulkarni A.V, The effects of Global Warming on the Himalayan Cryosphere, volume 22, 2007.
[8] Bhutiyani M.R *et al*, JSTOR, Changing stream flow patterns in the river of Northwestern Himalaya: Implications of Global Warming in the 20th century, 2008.
[9] Bhutiyani M.R *et al*, International Journal of Climatology, Climate Change and the Precipitation Variations in the Northwestern Himalaya: 1888-2006, 2009.
[10] Mourya D.T. *et al*, Effects of Global Warming on Snow ablation patterns in the Himalaya, vol-83, 2002.
[11] Sigdel S. *et al*, the Moisture-mediated responsiveness of tree line shifts to Global Warming in the Himalaya**,** vol -24, 2018.
[12] Beck A. Richard *et al*, Organic Carbon Exhumation and Global Warming during the Early Himalayan Collision, 1995.
[13] Singh S. *et al* [2010], the Rapid warning in the Himalayas: Ecosystem responses and Developmental options.
[14] Duan K. and Yao Tnadong, Journal of Meteorological Society of Japan the Monsoon Variability in the Himalayas under the conditions of Global Warming, vol-81, 2003.
[15] Shrestha Arun. B *et al,* American Meteorological Society, Maximum Temperature Trends in the Himalaya and its Vicinity: An analysis based on temperature Records from Nepal for the Period 1971-1994, 1999.