Climate Change And Its Influence On Your Home City: Bangalore (India)

Climate Change: - Drastic changes in the local or international weather conditions dour to the immense production of atmospheric carbon dioxide from the fossil fuel emission mainly in the last two to three decades of time. It is one of the most dangerous as well as complex issues facing in the world.

How much is the climate changing?? – It depends upon the total emission from the society and how far the local climate is going to handle those emissions. As the world got enough acknowledgement about climate change, still the greenhouse gas emissions into the atmosphere are taking a massive increase day by day. In 2013 the Co2 emission on daily basis has surpassed 400 parts per million hits the all-time high in past five million years.

Iceland has done the funeral of its first loss of the glacier and named it as “415 ppm Co2” noting the level of carbon dioxide that is being measured in their atmosphere in May 2019. https://www.theguardian.com/world/2019/aug/19/iceland-holds-funeral-for-first-glacier-lost-to-climate-change

Home city – Bangalore (India): Bangalore also often referred as Bengaluru, is the capital of the Indian state of Karnataka. It lies in the Southwest part of the country. This city is a megacity, famous for two reasons in India. One, it is called as hub for India’s Information technology sector. Two, for its moderate, pleasant and equable climate. Hence it is called a garden city for its greenery and vegetation though out the city – 68% (1973). City follows tank culture and chains of lakes from its historic times for the human settlements in order to have the provision of water as well as city cooling.

But due to the deforestation, city is getting hot during recent years. The green cover got reduced to a drastic and horrific amount of 6% in 2017. Major cause for the happening is the building industry as the IT sector as well as residential sector is rapidly increasing in the city. As the increase of necessity of buildings in the city, it is assumed there will be a requirement of 70% more buildings by 2030 compared to what we have today. https://researchmatters.in/article/satellite-images-show-green-cover-bangalore-reducing-alarmingly-fast

Temperature, as well as climatic factors inside the city, differs a lot from the surroundings of it. Experiencing varied precipitation and microclimate changes also. Average annual temperature in 1990 is recorded as 24? while it has got increased to 26? in 2014. A change of 2? annually is an immense change in the climate causing unseasonal natural calamities in the form of floods, cyclones etc.

Did Bangalore always had trees? – A big no for this question. Images from the 18th century show a very few trees in the cityscape. As city was heating up during that time a major afforestation revolution caused in the city to keep it cool. It has changed the climate of the city for some decades by manmade changes to the city. Again, in the last some decades the same human interaction into the environment is making climate change which is influencing the several factors of the city and its atmosphere.

As the increase of deforestation and Information technology sector in the city is expected to be vast in upcoming 2 to 3 decades this will be the reason for the change of climate and atmosphere. It is assumed to get a change of 4? in the annual climate of the city by 2050. But if the destruction of the environment happens to the worst scenario of the city using more and more fossil fuels and renewable resources then the prediction may not to be the same as stated. Hence it may take a drastic jump to around 7? annual climatic change by 2050 and unusual weather conditions of the cityscape with frequent occurrence of natural calamities.

Following are the few predicted effects of climate change for 2050: -

- Change of annual temperature of the city to 31?.
- The greenery of the city if not taken proper precaution to conserve and preserve it, will be reaching its worse of almost nothing left.
- Ground water percentage change.
- Pollution of natural resources (Lakes, Ground water, Air etc.,).
- Change in the Humidity and Precipitation.
- Change in the annual rainfall and occurrence of natural hazards.

Vegetation and Water Supply affects from Climate change and Effects:

- Trees and lakes are the two big coolers of the city. But cutting down the trees will slow down the rainwater flow and increases the moisture inside and above the earth surface.
- Water lakes keeps the surface as well as air cool and moist. But by contaminating and reduction in the lake water has made tankers and household filters prominent because of the absence of the quality water supply.
- This has made people attracted towards the chemicalised purification of the water which loses the natural minerals in it, causes some negative effect towards the immune system of the people in the long time of their life.
- A movement started in the city already to stop further destruction of the lakes and last few water bodies. But there is no movement started to reduce the heat generated or the destruction caused to the atmosphere.
- Being the leading finance receipting for the climate change in the world with numerous NGO’s and groups must start putting up events to plant more trees as well as clean up the existing contaminated lakes for immediate effect.
- Recently a step is taken by the State government on the apartment construction. They have banned the construction of apartments in the core city for the upcoming 5 years as they were being constructed without proper basic needs (drinking water, daily use water etc.,) and creating the urban island effect due to the concrete jungle it is creating.
- But can they change the span of ban for some more years till they attain some balance in the climate and atmosphere or will they go under the pressure of the politics? Increasing the ban will provide some more time for the wound to heal.

Annual Rainfall change and its effects:

- A normal monsoon with adequate amount of rainfall is expected, but climate change will bring the extreme chance of flood or drought in the nearby future which will eventually create natural hazard.
- Seasonal monsoon rainfall variation will be gradually increasing year by year as climate change occurs. This will result in the reduction of the agricultural output and affects vast

population as well as economy.
- Gradual decrease of 10% in the precipitation of the city is predicted by 2050. This will cause the lost of moisture in the sir and in the ground.

Socio-Economic Factors:

- Migration of the people from the rural areas around the city started in a very large group since last 2 to 3 decades.
- This increased the risk of calamities like heat stress, urban flooding as well as urban drought. Major infrastructure problems started to follow along with these changes.
- At the same time the migration happens now from the high dense urban areas to the outskirts of the city for the peaceful environment, but that places will be lack of infrastructure and employment in their context.

Steps to be taken for better future of the city:

- Energy efficiency and Demand site management will ensure the reduction of the carbon footprint of the city.
- Many Energy efficiency measures are very cheaper to implement in day life basis and will reduce the energy usage to a greater extent.
- Biomass energy generation is a promising option for the alternative of the fossil fuels for the energy.
- Solar and wind also to be implemented with immediate effect in large scale to make sure the demand is parted to some extent towards these energy productions.
- Increasing the use of the public transportation will ensure the reduction in the use of the petrol, diesel etc.
- Usage of recyclable materials or easily decomposable materials will decrease the pollution of the water lakes in the city.
- Using sustainable construction materials in the industry will make the atmosphere healthy as well as reduce the usage of non-renewable resources inside the built environment.
- Water balancing must be done as the main source of water is the rainfall for this city which will ensure the positive impact on the growth of the vegetation.
- Injection of life to the dried groundwater resources will give the opportunity to some extent to meet the demand of the water scarcity.
- Government must take responsibility to promote renewable energy importance and usage for every household, and proper management of the wastage through recycling and reusing it after proper treatment.

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