Urban Farming To Mitigate Climate Change

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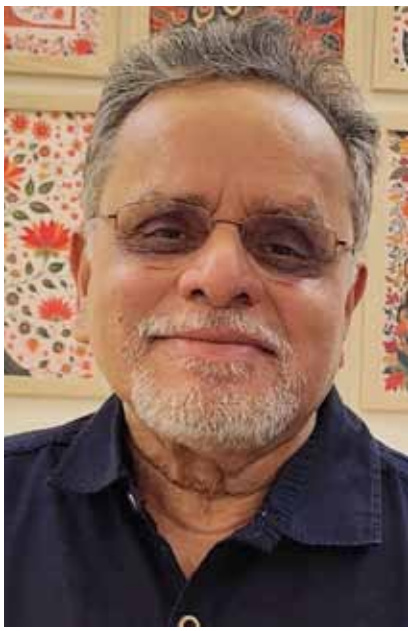
Climate changes and rapid urbanisation are two major Sociological issues engaging attention of present generation all over the world.

Global Climate change, intensified by rapid urbanisation and other social factors have brought about a sharp increase in City temperatures everywhere. The growth in number of cooling devices specially Air Conditioners has had a devastating impact on mean temperatures in cities. It is assessed that in the recent 3-4 decades the average temperatures in cities like New Delhi and Mumbai , Bengaluru have gone up by 4°C. While exploring for the factors responsible it has been found that our cities are contributing to the extent of 70% to total CO_2 emissions.

The huge concrete structures in urban areas absorb tremendous heat during the hot days and act like heating plants when they emit this stored volume of energy in the atmosphere around them. About 5-10% of additional heat around us is deemed to emanate from such sources.

Another major contributory factor is rotting of food items in supply chains which is an unavoidable factor necessitated by virtue of dependence



on long supply chains. In the existing scenario it is a very common occurrence for food items to get destroyed or rot during shipment from one point to another. A conservative estimate would calculate the extent of such loses to 30% of total volume of trade. Impact of this deficiency in supply mechanism is substantially contributing to degradation of climate.

The situation as explained above calls for innovative thinking and a strategic change for mitigating impact of climate change for benefit of urban population.

The strategic solution which is now being visualized is urban farming and **shifting cultivation in the proximity of humans**. To elaborate it may be clarified that the use of rooftops and balconies for plant growth is bound to lead to reduction in temperature of concrete structures by covering up concrete surfaces exposed to heat and would also cover up the issues related to having long food chains which are responsible for part damage which also contributes to degradation of environment.

On the other hand cooling of buildings even by a small percentage would also reduce rate of evaporation from earth and lead to reduction of load on power plants and lesser consumption of coal in big cities as well as reduction in surface temperatures of water bodies This would in long term facilitate a healthier living environment for humans and other species everywhere.

It is for this scenario that the concept of **Urban Farming** comes handy. Cultivation can be made in flowerpots, on empty areas around us including empty spaces in Office Buildings, Metro Stations and Exhibition Grounds and household terraces depending on availability of land for one cropping cycle. Small is beautiful. Contributions from such

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micro projects can add up to cover up the losses arising from deficiencies of systems which have proliferated in the urban areas.

An added bonus which shall accrue on promoting of the locally produced food items from neighbourhood is saving of transport mileages and consequent pollution, refrigeration and fuel cost. There shall be saving on storage expenses too.

Another major benefit of Urban Farming is that it keeps the soil healthy. If the soil around us is healthy it has the potential to trap Carbon Dioxide and save the environment from degradation. Reduction in level of Carbon Dioxide around us will have miraculous benefits for promoting health of small children and senior citizens as well as other healthy individuals.As the roof gardens absorb rain water the risk of flooding in neighbourhood is mitigated.

The Global Water Monitor 2025 reveals rising water risks as climate change intensifies rainfall, droughts, and global hydrological extremes. The report states that 2025 was the third hottest year on record, characterised by significant hydrological extremes. The global water cycle has shown increasing variability, with rapid transitions between very wet and very dry conditions. The regions that previously experienced minimal water risks are now facing heightened exposure to floods, drought and extreme heat.

The next issue that may crop up is as to how to proceed with this concept. Some State Govts are contemplating subsidies too. As a beginner any gardening lover can start with a small collection of pots and grow bags.System can be improved as the

garden expands.Waste plastic bottles may come handy for smaller plants. Further as your cultivation is free from pesticide you are contributing towards a healthy environment. As a common man or ordinary citizens we may have the pleasure of admiring our plants every morning besides tending to plants -an activity which shall have health benefits for all humans.

Terrace or Rooftop farming has ease of management. It is not dependant on animal power or a tractor (not even a bullock Cart). One does not need a security team for maintaining a watch round the clock. It also does not require the duty of running around the markets for procurement of inputs and sale of products.However the impact when calculated in cumulative terms is big.

Today As rapid urbanisation is taking place all around it is essential that Governments and Local Bodies take note of the avenues which are opened by Urban farming and the benefits which are expected to accrue to the urban communities by implementation of concept of urban farming . The benefits of urban farming must be given due importance and properly publicised.

Scientific studies. made in several parts of the world have shown that the combination of extreme temperatures and humidity increases health risks. Our future cities must integrate risk and climate considerations into urban planning to build resilience, safety, and sustainability by promoting and facilitating Terrace farming wherever and to whatever extent feasible. Water Management, definitely, has a very important role in climate mitigation. Improved waste water treatment can help reduce CO_2 emissions and supply renewable energy in the form of biogas.