

United Nations Sustainable Development Goals (UN SDGs)
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SDG : 11
Sustainable Cities and Communities Part I

Hello everyone. So, I welcome you to module 19 of the NPTEL course of UN SDGs. In this module, we are covering SDG 11 that is sustainable cities and communities.

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So, in the progression we are seeing, from individualistic based to now, it is coming to the social society based in a community based it is city based. So, we have reached to this milestone that is 11th.

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So, let us see some facts and figures 9 in 10 people living in urban areas worldwide were breathing air that did not meet the World Health Organization's air quality guidelines.

So, World Health Organization's Air Quality Index AQI, and 9 out of 10 people that means 90 percent people living in urban areas. So, worldwide. So, this is a global situation, right now, what we are seeing so, 90 percent of the world's urban population is not breathing the air recommended by the Air Quality Index recommended by WHO, so, that the air what we are breathing is above that minimum standard.

So, it is in either in a yellow zone or maybe in the red zone or maybe, even even I know harsher, scale. So, that is the situation well, so, if you see, the SDG 11 it is, name it talks about sustainable cities and communities. So, cities are by default, now, the entity we are going to discuss, various aspects around, cities and about cities. You see this picture is a nice beautiful picture, we are in high rise building is there and we are seeing these green elements, well it looks very nice appealing green soothing and all that.

But there is not kind of a situation or compulsion, out of which, this is needed to be addressed. So, a city actually constitutes, a number of things, it is a big living organism you can call because it gets birth at one point of time it breeds and it consumes energy and other resources then it creates, excreta also in form of pollution and waste and all of those things.

And yeah, for its sustenance, it requires a lot of things in it dependent on other, things also, rural area, is dependent on water bodies, air and all of that. So, it is kind of living organism in itself, a city, a whole city actually may be, housing few lakhs of people or a few crores of people also, we are aware, there are more more populous cities and their numbers is like, increasing every year, we are seeing new additions of big scale cities and there are several mega policies now, across the world.

So, the trend what is happening over the year from rural, population, more to now it is moving towards urbanized population or settlement and the percentage in rural areas is slowly decreasing. And in the urban areas, it is slowly increasing, or the middle sized towns, they are converting into bigger sized towns and villages are converting into towns.

And smaller cities are converting into bigger cities, bigger cities are converting into mega policy, and so on. So, over all if we see the future indicates that there will be a time when there will be big number of cities, huge size of cities, and they will be consuming, immense amount of resources, energy and other things. And the most important part, majority of humanity is going to live, in these, cities.

So, that is why it becomes relevant and necessary how to manage them, how to manage, these cities and one of the features about this, what is mentioned over here is about, AQI, this is not only one or limited to this, there are many other factors, the picture what you are seeing over here is because to reduce though, ambient, temperature in this vicinity maybe reducing the heat load of these building, the interiors the houses the inside whatever the occupied spaces are.

And maintain a good ambient place nice view and all of those things. And filter out pollutants, reduced noise, there are a lot of benefits. So, one of the issues which has arising in the recent years with respect to cities is UHIE, you may be aware urban heat island effect. So, urban heat island effect, what is this heat island effect, over here which we which needs we will need to be in scene is that whenever there is big number of buildings, so, these are these buildings are actually made up of in concrete, bricks, steel, such structures such materials which actually absorb a lot of heat.

So, there is a lot of heat and they radiate heat also in the night time. So, in the form of infrared, profiling you can see, the heat signature of cities and places compared to the countryside, where there is a huge concentration of greenery and vegetation etcetera. So, compared to this rural place and compared with this urban space if we compare. So, we will see a higher temperature in this place this is because of this material and since there are a big quantity big number of these buildings and such structures, roads, pavements, they are all actually absorbing heat.

So, compared to rural actually area, the presence of greenery and green materials softer earthen materials is lesser. And in turn, it is absorbing a lot of heat, and that is actually creating heat islands. So, if this is the landscape, and if this is the city, so, you see, this city is, temperature is becomes like, it is radiating, huge temperature, a big temperature, and now it itself is kind of containing a huge, huge volume of heat and radiation and everything. And then for human comfort, we need to cool it down again.

So it is a double work first of all, by creating and so many buildings, and we have increased the temperature of the city and now to cool it down, we need more energy. So that is the situation, it is a very paradoxical situation, what is being done in today's time and that is where a need for sustainable cities actually comes into the picture, so, well, there are many other factors.

Let us see, to make cities inclusive, cities also should be inclusive, safe, resilient, and sustainable, so there are 4 important key words, mentioned over here and this goal, inclusive means for everyone, in the previous SDG in the previous in that lecture, and we saw the disparity between, urban rich and urban poor, it is huge and it is widening, every day every year it is widening, that gap is also widening and that is not good sign.

So, cities actually should be inclusive so that, about people from every strata or every level should be able to be a part of that city, and be safe for everyone, the elderly the ladies the kids, resilient, in case something goes wrong, any disasters natural manmade occurs, the city should be able to come back to its feet again, and sustainable of course.

So, sustainable of course, means, those ESC remember those 4 ESC aspects. So should be environment friendly, should be should be in socially, friendly should be economically compliant

and all of those similar things. So, in a way, this actually summarizes the overall intent of SDG 11 Sustainable Cities and Communities, let us see why.

Over 90 percent of COVID 19 cases are occurring in urban areas with 1 with the 1 billion residents of the world's densely populated slums being hit the hardest, well cities since they are very densely packed and a huge population is there with so much of interaction and communication and transportation every hour. So, spread of no any such pandemic or any other communicable disease or situation is not very difficult, it is very easy to understand how fast it will spread in the whole city.

And yeah, in in that cities also it is it has mentioned, slumps because in slums also just recall the picture from previous lecture, slums are actually densely packed, human habitation places. Where a big number of people are actually living together, they are communicating with each other, they are interacting, they are intermingling, they are exchanging they are into business deals, they are into personal family deals, neighborhood deals and all of that. So, there is so much of other things that are happening in between and that actually leads to this pandemic hitting them in hard and very fast. So, that is the first para of why?

Even before the Coronavirus rapid urbanization meant that 4 billion people over half of the global population in the world cities faced worse worsening air pollution, inadequate infrastructure and services and unplanned urban sprawl. So, well pandemic has happened, maybe in several years for the first time on such a scale, but many other issues are also there, which are happening, for a long time, they are plaguing our cities for a long time now.

So, example, the first one comes in air pollution, since cities have higher concentration of industrial units, huge number of vehicles and thermal power plants. And all of those things, if you see, or maybe any other industrial plants, maybe pharmaceutical industry, and all of these are actually making, actually releasing a lot of exhaust in the air in the plane air, and that exhaust is coming and plaguing the city itself.

So, that is what we are discussing, majorly now, nowadays cities are known for their bad quality air, and inadequate infrastructure. Yeah, as the, the cities are growing, the pace at which infrastructure is developing is always falling shorter than at the pace at which population is

increasing. And this is the reason, in always the infrastructure of any city mostly any city or most of the cities, if not any, most of the cities across the world, they are, always behind, in meeting, the infrastructure demands of their residents.

So, this is the situation, if the population is increasing even every day, how fast, like, the infrastructure is going to cope up. So, this is the situation, there is always cities are, like, in developing stage only. And services also like, transportation being cities are since they are growing very big, readily, linearly in whichever way like, they are developing, you need to connect now, all of those new, corners new places, suburban area and all of those places for easier commute, across the whole city.

And that is another very new kind of infrastructural, burden and on the city itself, and cities unable to meet even such services also, food supply, proper water supply, sanitation, all of these are actually really important civil services for any city. And unplanned urban sprawl, it is increasing anything.

Successful examples of containing COVID-19 demonstrate the remarkable resilience and adaptability of urban communities in adjusting to new norms. So, there are several, success stories where, like, a good, measurements were taken, in timely manner by the administration, the containment of COVID 19 was efficiently done. And not very large number of people actually were contaminated or they contracted fill in that virus, they were saved. And in turn, those many lives were also saved.

So that is a very, there is a direct, ratio direct connection, between this to pandemic situation that is why it is an essential. So, now, we saw under this head why, why it is essential to manage and plan, a sustainable and manageable city.