Human Settlements Planning
Lecture 14

Problems in Urban Rural

Now if you look at the different problems that arise in the urban rural fringe because of urbanization and the emergence of newer forms is; social and demographic changes are leading to a greater demand for housing. People are living longer, choosing to marry later and in recent years, there has been a rise in the number of single parent families. Added to this, Europe is also experiencing immigration from other countries and that is similarly happening in our country as well. Where you have a lot of expats coming in, into our country and that is a result of globalisation induced urbanization. So, because of globalization, urbanization is occurring and as a result of that, we have not only people migrating from other villages but we are also having people migrating to certain cities which are considered the financial cities of the country. It is because of this even larger number of smaller households are requiring accommodation. Building new affordable homes in urban areas is very difficult. Land values are very high and land is in short supply. So, to solve this problem some developers are building on sites that have been built on before. These are called brownfield sites, for example - the inner city. Other developers are building homes on the edge of the city on greenfield sites in the urban rural fringe. Land here is cheaper but greenfield development can cause conflict with the local people and can create environmental problems. The main example of this is, how ECR and parts of Old mahabalipuram road have developed, that is the urban rural fringe but of course, now that is completely urbanized. But when it began, the land was cheaper over there as compared to the inner city area or the heart of the city places like; alwarpet, adyar, gopalapuram and all those areas. To build a new home in any of those areas was unimaginable. So, developers moved to the outskirts of the city like the East Coast road as well as the Old Mahabalipuram Road - OMR, so when both of these developments were happening here, it was because land was cheaper. But as a result of that, the coastline has degraded, environmental problems, there is added traffic issues, the infrastructure necessarily needn't have developed to support this kind of development.

How do we go about to stop rapid urbanization? No single individual can prevent urbanization. Actually, even the government cannot prevent the process of urbanization because man is always going to be on the lookout for a better job, better life for himself and his family. What the government could do and should do is, to make laws and make sure certain activities are done to aid in the process of urbanization before the process occurs or as the process is in a slower stage. Give more employment opportunities to villages. Open some factories or industries in rural areas. So, people find the need to move into a city lesser and lesser. It is only in search of a better life that people move, if they could in their own hometown receive all

benefits of living in an urban area with a good job, good education facilities, good health care facilities, with a better standard of living because of cleaner air, being closer to their own relatives or their family. All of that no one is going to ever move to a congested crowded city. You need to make schools and colleges in rural areas so that rural children don't have to come to the cities for education and its just not schools and colleges of any standard. They have to be of a higher standard, so people will opt to study over there. Everyday usable materials should be sold at cheap rates in rural areas. Daily wages in rural areas should be equal or at least at par with the city. These are the few things that can prevent urbanization or reduce urbanization to a certain extent.

Now, if we go about comparing the two of the most rapidly urbanizing countries in the world; China and India. Both of these countries are urbanizing rapidly but China has embraced and shaped the process while India si still waking up to its urban realities and opportunities. China and India are in the vanguard of a wave of urban expansion that is restoring the global prominence that Asia enjoyed before the European and North American Industrial revolution. In 1950, India 17% and China was 13%. In 2005, India was 29% urbanized vs China was 41%. Never before in history have two of the largest nations urbanized at the same time and at such a pace. If you look at the way urbanization has occurred in the two different countries, you will realize how we are dealing with it and how China is dealing with it. It's not even comparable.

Urbanization is an index of transformation. It is concentration of population. Quantification of urbanization is very difficult. It is a long term process. It is a finite process. Agrarian to industrial society i.e agriculture vs the industries or the service sector. It offers exciting new opportunities for investors. Like we have studied, what are the basic causes of it? It occurs naturally from individual and corporate efforts to reduce time and expense in commuting and transportation while at the same time, improving opportunities for jobs, education, housing and transportation. Living in cities permits individuals and families to take advantage of the opportunities of proximity, diversity and marketplace competition. It is easy to see why someone living on a farm might wish to move and take their chance moving to the city and make enough money to send back home to their struggling family. Better basic services, job opportunity. A greater variety of entertainment and better quality of education.

So, one of the main reasons this is happening is, in the recent times the government has put in all its effort to provide better life in infrastructure for the cities, because of this, what has happened is, the agricultural industry and the related industries to agriculture has been neglected and because of that, the youth in the rural areas are jobless and economically backward, they think that they can make a quick buck in the city by moving and make sure they can send home some money which will go a long way in a rural area, what has earned in a city. So, what needs to be done is, we need to simultaneously develop agriculture because

agriculture is the bone of any economy if you look at it. Yes, we need to have an industry sector and a service sector, that's only because of agriculture that we are able to feed our families. You cannot go manufacture rice, you cannot go manufacture dals and your vegetables, all of that has to be grown in a field but simultaneously certain activities have to be done both by the private as well as the public sector to ensure that we are giving equal opportunities to agrarian development as well as industrial development. If you look at the top Magnet cities in the world; Urban population in the world is 50.5% of the total population. Rate of urbanization is 1.85%, annual rate of change and the Ten largest urban agglomerations; Tokyo, Delhi, San Paulo (Brazil), Mumbai, Mexico City, New York, Shanghai, Kolkata, Dhaka and Karachi. In the ten top most, we have three of the Indian cities but does our infrastructure compare to any of those cities others in the list. It is actually not possible. We are basically struggling to compete with these cities, we might be able to compete with them in terms of the businesses that are prevailing in these cities but in terms of infrastructure, we are definitely trailing behind.

Environmental Benefits and the Challenges of Urbanization

Now, we will move on to discussing the 'Environmental Benefits and the challenges of Urbanization'. You have impact on the atmosphere and the climate. Creation of heat islands, there is a change in air quality, change in patterns and precipitation. Impact on the lithosphere and the land resources. So, there is Erosion and other changes in land quality. The top soil is gradually getting eroded and we have main important cause as pollution; different types of pollution. Impact on the hydrosphere and water resources; flow of water into streams, flow of water through streams, degraded water quality. So, when you have factories situated upstream near the rivers, all of the affluents tend to flow downstream. So, any industry that produces certain affluents has to be situated sensibly and in a place where its going to cause least impact. If you see the impact on biosphere, you have modification of habitats, destruction of habitats and creation of new habitats. If you look at this, you have loss of greenery and because of increasing impervious surfaces, most of our roads and most of our services are concreted these days. So, infiltration is very less. So, you have the increasing percentage of impervious surface, the groundwater is terribly affected and then because of taller and taller buildings coming up, there is a lack of greenery. So, you have again that as a problem, then because of having impervious surfaces runoff. None of the water gets absorbed and it gets wasted.

Now, if you look at the Slum situation. Slum situation can be thought of as, how is it going to be an environmental impact but because of slum, there are other increasing accessible impacts because of this. Because of slums, the areas around it get degraded, pollution happens, epidemics happens, so its all a part of a vicious circle. So, if you look at this over here; 1981, 1991 and 2001. In Greater Mumbai, the percentage was 30 and now it is 48.9. In Chennai, it is 13.8 in 1981 and in 2001 it is 17.7. So, you can see irrespective of whatever the city, there has

been a stupendous increase in the slum situation in our country. Now, if you look at the solid waste generation. Again, all of this is because of the slums and squatters which are happening because of lack of housing situation. Mumbai again, collection in percentage is 90%. Chennai is marking again in 90%. Kolkata has not increased much and in Delhi it is 77%. So, when you actually look at these numbers you will be like, how is it actually impacting the environment, it is a gradual process where the soil level, the level of fertility is completely getting impacted because of the use of fertilizers because of slum people using. All of their chemicals are entering the water system, the soil system and because of that a lot of other environmental effects are happening. Another important reason is growth and motor vehicles in India and other metropolitan cities. I don't think we even need numbers to know this. When we go on to our streets, we can look at a view even five years ago or even last year, there is a tremendous increase in the number of vehicles. This is again because of lack of public transportation connectivity in many areas because of that the roads get congested and overcrowded.

Wastewater generation, collection and treatment in different metropolitan cities. Water resources are gradually diminishing not just because of large population numbers but because of wasteful consumption and neglect of conservation. With rapid urbanization and industrialization, huge quantities of wastewater are entering rivers and that makes the consumption of river water pretty much obsolete. We have to make sure that our rivers are flowing in full and for that we need to make sure that we are supporting afforestation, we are making sure trees are getting planted, you are not cutting down trees, saplings are getting planted, we have to control and regulate the temperature and at the same time we have to regulate the consumption of natural resources. Industries are not the main consumers of electricity and water. It is only the houses because of wasteful consumption and lack of awareness.

How can you correct some of these problems of pollution in urbanization? Public transportation - one of the big things that needs to be built on; buses, bike paths and walking paths. Public parks need to be developed; Trees, play areas for children, Places for people to get to know each other. So, when you have a lot of green areas and lung space in the city that automatically makes sure that the air quality is not getting spoilt inspite of having too many vehicles or other areas around. Other problems of urbanization; Poor housing, poverty, Unemployment, Public systems that cannot handle number of people. So what can we do and what can be done to what we see as a threat? Some causes of damage to the environment due to urbanization lies in the legislation and the regulating agencies in the country. Failure of governance in today's cities has resulted in the growth of informal settlements and slums that constitute unhealthy living and working environment. Serious attention should be given to the need for improving urban strategies, which promote efficiency in resource use. Vehicular pollution control in

metropolitan cities and other cities deserve top priority. Urgent attention should be given to reduce the generation of solid waste at sources through mandatory standards of regulation fee and tax incentives and education and voluntary compliance. Incase adequate steps are not taken to prevent pollution and to improve the quality of life by providing more social amenities, the life of the urban dwellers of India may become more miserable and this may cause health hazards and worse devastation.

So, how do we going about doing this? Create affordable housing community centers. Create services to build better lives. We have to create jobs by educating people, by encouraging businesses to move there. Solution approach : learn to love nature and environment, applied learning is necessary from the teen age. So, we have to start all this at the school level along with the subjects that we need to teach them to appreciate our environment and how to take care of the cities we live in. Proper connectivity of environmental law and its application to the civic society, Expand the periphery of environmental impact assessment to different disciplines like vehicle market and buyers, urban activists,etc; Reduce personal traffic and make public transport popular; Make go green concept universal for all the activities. Improve the governance structure to make it more efficient. Suggestion to plan inclusive workplace and reduce unnecessary construction and give opportunity to increase green belt.

Self-Sustained Communities
Now moving on to, self-sustained communities. What are sustainable communities? Why do we want these communities? It is the follow through of what we just studied as these negative impacts of urbanization or finally the impacts of urbanization because of us not taking care of the environment. How does the community impact or influence the ability to produce good local food system? Is a *community food system* possible without a good community base? So if you think a committed community is necessary to foster the concept of a local food system we actually need to know; What is a sustainable community? and how can we work towards building such communities?

A community that can persist while meeting the needs of its members and the needs of its subsequent generations. American communities could exist because of the general tolerance, prosperity and abundant land in the US. Examples of peaceful revolutions, often during times of political or religious unrest, where members can find individual fulfillment and yet be a part of a community. If you look at the history of such communities in the United States; Utopian communities - that is where you have an idealistic perfect society. Where you have certain shared collective goals and ideologies. You might think it is Utopian because it is not possible on paper or in reality but there have been some minority communities like this in the United States that have successfully developed. In 1663, you had the Dutch Mennonites in Delaware, they were the first in the US in recorded history. 1663 - 1776 - 20 new such communities developed,

primarily religion based and German. In 1728 - you had the Amish community in Pennsylvania. In 1774 - you had the Shakers in Sabbathday lake, Maine. Founded by Mother Ann Lee who was English and which is very much still in existence but of course has very few members. In 1824 - you had the New Harmony, Indiana. Founded by Robert Owen, again a British citizen. First secular Utopian community. Till 1824, all of these communities were based on religious ideologies. It was only after this that it was secular and it was not based on religion. 1800 - 1850 - you had 90 new communities which were formed, both regligious as well as secular. 1840 you had the Brook Farm in Massachusetts and North American Phalanx, Red Bank, New Jersey. This was founded by Charles Fournier which was again a secular community. 1870 - 1895 - over 100 new communities developed mostly all of them were secular. 1874 - Hutterite Bon Homme in South Dakota and 1900 - Estero, Florida which was founded by Cyrus Teed. So, these communes, how do you go about defining the communes we just discussed. It's a relatively small, often rural community whose members share common interests, work and income, and often own property collectively. Commune members usually place the group ahead of the nuclear family unit, generally maintain a 'common purse' and collective household and make intimate as well as general decisions as a group. Some communes began with a charismatic leader and others did not. The average age of commune members in 2001 was 40+. It's often based on personal growth and self-fulfillment. In the recent times, the communes that have come about is - you had 627 officially listed in North America. However, some sources put that number at 12,000.

International Communities - a newer term for any group of people living together with a common purpose. Usually not as closely tied as communes. Usually do not share income. A broad term which includes most sustainable communities, beginning with Utopian communities. One of the most important examples that is relevant here is; Auroville near Pondicherry. That is an international community following their own set of rules and regulations, where you are not allowed to own property, you can actually live over there. The property actually belongs to one person or a group of people or a trust, so that kind of thing goes on. You have a certain kind of ideology for living over there, where you want to have a sustained community. They do not bring in produce or vegetables from outside. Whatever is grown there, only that is available.

So, sustainable communities are a step forward from that. This is formed to address the environmental, social, economic, and spiritual needs of the members. A community of homes built around sustainable principles such as clean air and water, efficient resource use, mimicking natural ecosystem cycles, more community and good food i.e healthy food. An example of this, we will be studying as a case study is an abundance ecovillage. This is in the year 2000, Fairfield, Iowa. This was modeled after village homes, founded by Lawrence Gamble

and Mark Olson. The area we are talking about is 15 acres, 21 single families, 3 family common buildings. Agricultural base with 4000 square foot greenhouse. Solar and wind as an energy source. Rain catchment and water recycling. So you can see how sustainable this eco village was.

Earthaven Ecovillage was in the year 1991, Black mountain, North Carolina, Founded by Geoph Kozeny. 325 acres, 60 people hoping to grow to 150. Eventually you have 11 neighbourhoods around a central core. This is a Spiritual base. Agriculture essentials with permaculture design, managed by the Imani Farm. Forest management and you have an educational centre. All of these, you can see that they tend to not want to move out of these sources. What they actually move out for is, economic reasons in the sense they want to sell their produce and make sure they are able to make money to make their village sustainable. That is the only way via which they can call themselves, Sustainable is by moving out and selling their produce. There is another Eco village which is built in 1992 in Ithaca, New York, founded by Joan Bokaer and Liz Walker. 175 Acres, 60 Homes, 150 people, 2 neighbourhoods built. Community base with agriculture component essential. 80% green space, 55A in permanent conservation easement i.e within their planning department they had a permanent conservation easement and they had an organic farm which was completely run by them as a CSA i.e completely self sufficient, they didn't have to move out for any of their produce. Education on sustainability was their primary concern. This is the Farm, in 197, Summertown, Tennessee. This was founded by Stephen Gaskin with many of his friends from California. California was getting congested and they wanted to move into a fresh area with a lot of clean air and water. Over 800 acres and 250 people, spiritual base "We are all one" was created. They did not believe in a God as such but they had a spiritual base. Agriculture base, mainly agricultural organic farming with sustainable practices. This was the Findhorn Eco Village. This was in 1962, Moray, Scotland. 45 buildings were built with 300 people, many community buildings and spaces. Agriculture base, they had the 'Earthshare' provide 70% of fresh food for community. Meat provided by the farm nearby. So, they had the sense of a barter system where these farms were self dependent on each other but as an overall community they were self sufficient. They have a lot of community businesses that were running. This is the Serious community in 1980, in Shutesbury, in Massachusetts, Spiritual base again. Agriculture was the main occupation with organic farming and education was an important component. Where they wanted to educate people and make people move in, to teach them how sustainable farming could be done and how they could live by themselves without depending on the outer environments. Village Homes, this was in 1972 - Davis, California. This was developed by Michael and Judy Corbett and this was based on the garden village concept. 60 Acres, 242 units which was both single family homes as well as apartments. 650 people, 16% for the first time was low income and labour could be put as a down payment. Community base. Agricultural land throughout with organic orchards, vineyards

and gardens. Greenbelts connect all and you can go to the center without crossing any important streets. Green Buildings, south orientation, passive and active solar energy. Natural drainage system, Cul de sacs with narrow streets and common spaces for neighbour interaction; parks and a swimming pool.

How do you go about designing sustainable communities? Plan for sustainability from the beginning. Design for ecological principles first. Location should be chosen for ecological stability. Often this is not possible. All community development is site specific. A community can't go too far in the planning stage before a site is chosen. The structure you look at is; Size, Density of population desired; type of housing - individual or share; Diversity - who will be included; Resource sharing; Responsibility sharing; Development of bylaws. The Density population should be desired and once people come in, they shouldn't be forced to stay there, that is another kind of diversity what you are looking at. In the sense, who is going to include; is it based on ideology? Is it going to be based on spiritualism? Is it going to bed based on religion and then how is responsibility and resource sharing going to be there and you need to make sure that does have certain bylaws, they cannot live without any law or regulation, do their own thing. They have to be sustainable communities within certain bylaws that are permitted in the state that they are in.