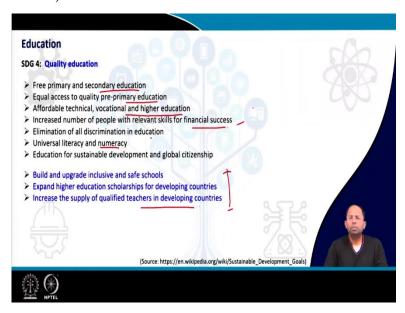
Urban Service Planning Professor Debapratim Pandit Department of Architecture and Regional Planning Indian Institute of Technology Kharagpur Lecture 54 Education

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Welcome back. In lecture 54, we will talk about education. So, the different concepts that we will cover are education in ULB's, URDPFI guidelines on educational facilities. Then we will do a case study or Newtown Kolkata. We will then talk about the Sarva Shiksha Abhiyan and some other government programs. And finally, we will talk about the national educational policy.

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So, as we have learned earlier. SDG 4 is about providing quality education, the sustainable development. So, this is one of the most important sustainable development goals because education is the basis for jobs, getting jobs, acquiring skills and which is again linked to poverty eradication. It is linked to economic development and so on.

So, SDG 4 has several targets, the first one is to provide free primary and secondary education. Then equal access to quality pre-primary education. So, basically, we are dividing education into primary, secondary and pre-primary. Then, affordable technical vocational and higher education.

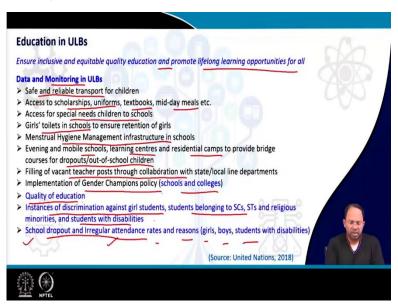
So, we have to provide both technical, vocational and higher educational at affordable prices. As well as it has to be made available people have to give an access to this kind of education. All groups, all population groups should get access. Increased number of people with relevant skills for financial success.

Elimination of all discrimination, universal literacy and numeracy. So, it is not only just, we have to make sure that people who have been left out, they should also be made literate as well as they should be also given basic knowledge of numeracy as well.

Education for sustainable development and overall global citizenship. So, these are some of the basic targets and some of the process targets are build and upgrade inclusive and safe schools, expand higher education scholarships for developing countries and making sure supply of qualified teachers in developing countries.

So, more or less you see that education is something which is basic and it has to be provided to everybody and people should have opportunity to have an education at any point of time and also education should be skill oriented or job oriented so that at the end of the day people should have a job or they could be gainfully employed after getting an education.

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So, at ULB level to ensure inclusive and equitable quality education and to promote lifelong learning opportunities for all, there has to be several tasks that has to be undertaken particularly these are linked with several government programs several government policies as well. But in general, we can say in terms of data and monitoring that has to be undertaken in ULB's, we have to not only education but also safe and reliable transportation for children to schools and other facilities.

Access to scholarships, uniforms, textbooks and midday meals. So, that means everybody should be getting this, maybe from poor background as well as from rich background. Access for special needs children to schools. So, there are special needs children who also have to go who have to be taken to schools for them special schools may have to be set up.

There has to be girl's toilet in school because that is one of the primary causes while girls drop out from schools. Menstrual hygiene management infrastructure in schools. So, because of girl children we have to create this kind of facilities.

Then evening and mobile schools, learning centres and residential camps to provide bridge courses for dropouts and out of school children. So, many people have dropped out or even senior people who are working they also need to upgrade some skills and all. So, all this

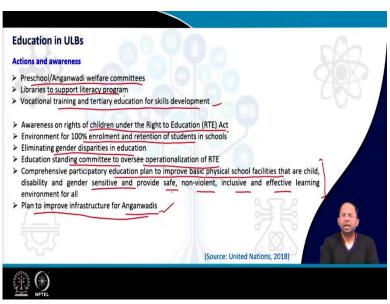
could be again carried out through evening schools as well as mobile schools. Then to also create teachers, good teachers so first job is to feel the vacant teachers post and implementation of gender champions policy in schools and colleges.

This is also part where boys or men are trained to uphold the importance of the women gender or to make sure that the right of those, the other genders, so they are the gender champions, so creation of that.

Overall goal is to provide this quality education. The overall quality of education that has to be tracked. Then instances of discrimination again girl students, students belonging to SC ST's and religious minorities and students with disabilities. This has to be tracked and monitored.

Then school dropout and irregular attendance rate as well as reasons why they are dropping out, what is the rate of that dropout, both for irregular attendance and eventual school dropout both has to be tracked for both girls, boys and students with disabilities. So, this will help us to understand how we can prevent these dropouts. If I know the reasons for them. And similarly, discrimination and all has to be reduced. So, these are the different things that we have to monitor and track at the urban level.

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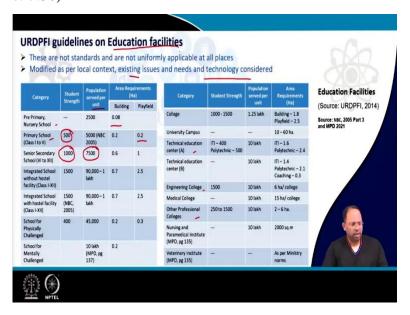
So, what kind of actions and awareness programs that we can conduct? Actions could be we could do preschool and Anganwadi's Welfare committees to determine how these are being operated. Libraries to support literacy program. Vocational training and tertiary education for skills development so some of this we have discussed earlier in our previous lecture.

Then awareness of rights of children under Right to Education Act. Environment for 100 percent enrolment and retention of students in schools. So, we have to create infrastructure or the overall learning environment so that people want to go to school as well as the stay in schools.

Eliminating gender disparities in education. Then educational standing committee towards the operationalization of RTE's Act. Then comprehensive participatory education plan to improve basic school facilities that are child disability and gender sensitive and provide safe non-violent inclusive and effective learning environment for all.

So, of course we have to improve the infrastructure for schools and plan to improve infrastructure of Anganwadi's as well. So, Anganwadi's there is need to improve the preprimary education so that is where the Anganwadi's comes in and this has to be significantly improved.

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So, now coming to the URDPFI guidelines on educational facilities, this we have discussed in our previous lecture. These are standards and this are just, you know these are not standards but these are guidelines and that means that they cannot be uniformly applied everywhere. So, of course there has to be modified as per the local context, existing issues of that area and the needs and the technology that goes into that particular that would be adopted all this determines.

How many of schools, what kind of schools, what area has to be provided for them. So, roughly you can see that the standards covers pre-primary schools or nursery schools,

primary schools plus 1 to 5. Senior secondary schools from class 6 to 12, integrated schools from class 1 to 12, integrated schools with hostel facilities. Schools for physically challenged, mentally challenged and so on.

So, in addition colleges, university campus, technical education centres and engineering colleges, medical colleges and other professional colleges, these also has been specified. So, in some cases you see the schools are only building the area requirement for buildings that has to be given is given. In other case the play field requirement also is specified. So, schools should have their own play field.

So, if they do not have a play field it can share playfields from surrounding areas also. So, that is possible but in general schools, we have to determine how many schools should be provided for a certain area based on maybe how many the population figures that are given over here, it says that for every 5000 people, there has to be a primary school with a capacity of 500 students. Or for every 7500 people there has to be a senior Secondary School of capacity of thousand students.

So, this is how we can determine how many schools are required or how many colleges are required or at urban area. So, this again this would is just a guideline, this has to be modified as per the context.

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And in the next case study. This is case study from Newtown Kolkata, we will see how schools have been allocated or you this how many schools have been set up in this particular city. So, new town is a new development in adjacent to Kolkata. You can call it a satellite

township. So, this is designed to house primarily the population which will serve, which will work in the I.T companies in the nearby areas and so on but at the same point of time it will it is an extension area for Kolkata and when we are determining educational facilities for Newtown, two things have to be considered. Not all facilities are public facilities some are private facilities also.

So, public facilities have to be given as per the social commitment that means for every society for right to education, we have to provide certain number of schools, certain number of training centres and so on.

Whereas for private facilities are set up based on commercial viability that means a company can determine that they can make profit by providing, by opening up a school and based on this commercial viability, private facilities are opened up and of course private facilities because people pay for these particular facilities, they can also avail better services compared to public facilities. But at the same point of time public facilities also can be equally good based on the government effort to provide good facilities or good schools with proper infrastructure in an urban area.

But primarily there is social commitment from the government to provide schools but at the same point of time in an urban area like Newtown, we cannot say that all schools should be made from the government because a significant amount of people would be studying in private facilities. So, we have to find a balance between how many private facilities and how many public facilities should be provided.

So, first of all we have to determine the demand and supply for of spaces of educational facilities in similar areas. So, what the planners from Newtown found out was that many higher educational, vocational and trading institutes higher spaces in commercial buildings that means they do not own building or own land area where separate institutes are being created but they hire spaces in other commercial buildings.

Then tutorial centres like for engineering, medical management, marketing, these are spread out throughout the urban area at different places. There is no specific zone or there is no specific plot of land which is allocated for this.

Reservation of land for but in case of large universities and colleges there has to be reservation of land because otherwise there is at one a large chunk of land is not available. So, there has to be creation of larger plots of land where this kind of colleges or universities

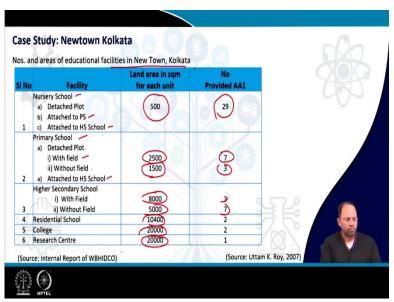
could be set up. Skill oriented trading units needs to be set up near industrial and commercial land use.

Then the other thing that has to be considered is should every neighbourhood should have a school or we can say that based on the ability of people to travel from one zone to another based on availability of public transport, people may travel at a larger distance to go to the schools and all. So, this proximity within neighbourhood or criteria for locating schools, of course schools have to be in proximity but does it needs to be within the neighbourhood, particularly in case of private facilities and all.

Non-formal education facilities for merchandise people, this also needs to be provided. So, these were the considerations that the planners went through while determining what sort of educational facilities has to be provided for this new township which is Newtown in Kolkata.

So, the Newton in Kolkata was set up was developed by a state government company which is West Bengal Housing Infrastructure Development Cooperation. It was developed in three phases, action area one, action area two and action area three. The current case study is on action area one. It has 660 hectares of land under action area one and the total plant population for this area is around 2.5 lakhs.

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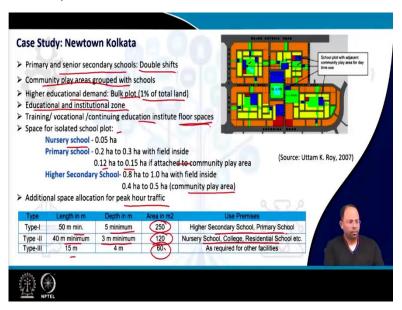


So, this where eventually these are the number of educational facilities that were provided in Newtown. Nursery schools were provided, somewhere with detached plots. Somewhere attached to primary schools, somewhere attached to high schools.

So, total land area allocated was for each unit was around 500 square meter and overall total 30 of this primary schools were provided. Then primary schools with again either were in a detached plot or it was attached to high school. Detached plot primary schools either had a it has a play field with it or without field. So, with field the size allocated was 2500 square meter whereas without field size allocated for the plot for this kind of schools was 1500 square meters. Total 7 of this schools with fields were created and 3 without fields were created.

Higher secondary schools with field, the size given was around 8000 square meters whereas without field was 5000 square meters. Again, you can see the numbers as well. Along with that residential school area was reserved, college area was reserved, 20,000 square meters and a research centred area was reserved for 20,000 square meters.

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Now some key principles were followed. Some of the primary and senior secondary schools were thought to be operated under double shifts. So, of course that will reduce the area requirement or it will reduce the overall number of school requirement because the same school can operate in two shifts.

Then some of the community play areas were grouped with the schools. So, in that case the schools did not require any field, it can utilize the nearby community areas as you can see over here. This school plots can utilize the community areas over here or here and so on.

Now of course there has to be certain rules and regulations in regards to usage of this particular fields by the school children and because the people living in the surrounding area

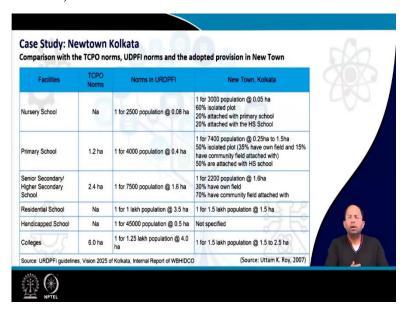
they may protest. So, some rules has to also be formulated for that. For higher educational demand, for plots which cater to higher education, bulk plots were reserved with 1 percent of the total land area was reserved for this.

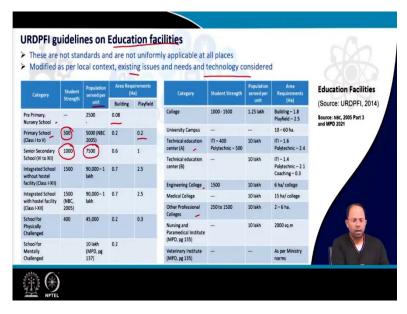
A separate educational institutional zone was created. Trading, vocational, continuing education institute was considered to be in certain other plots. So, floor area spaces where reserved for that. And overall space for isolated in case of our isolated school plots size given was for nursery school was around 0.05 hectares. For primary school it was 0.2 to 0.3 hectares which had got field, if it did not have a field, it was 0.12 hectares to 0.15 hectares.

For higher secondary school, it was 0.8 to 1 hectare. And 0.4 to 0.5 hectares where they utilize the community play area. The other major problem while designing schools in an urban area is the parking or the peak hour traffic driven schools are commencing or when the school ends, there is huge amount of traffic jams, congestion that happens near the schools. For that extra area was also provided. For higher secondary schools and primary schools our total length of 50 meter and depth of 5 meter in those particular plots were reserved.

Total area of 250 square meters was reserved. For nursery schools colleges and residential schools 40-meter length and 3-meter depth was reserved leading to 120 square meters extra square meters just for parking and traffic management. And for other facilities similar other areas were also preserved.

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Overall if we compare these standards or the areas that were reserved in Newtown with the TCPO norms and the previous URDPFI guidelines not the current guidelines the previous one. So, here you can see that for nursery schools the previous guideline was 1 for 2500 population. Right now the guideline states around 1 for 2500 person. For 2500 people we have one primary school and for primary school it is 5000.

For pre-primary it is 2500, for senior secondary it is 7500. So, over here you can see that for primary school it was instead of 5000 it was considered 1 for 4000, this is the previous URDPFI guideline whereas in Newtown it was 1 for 7400.

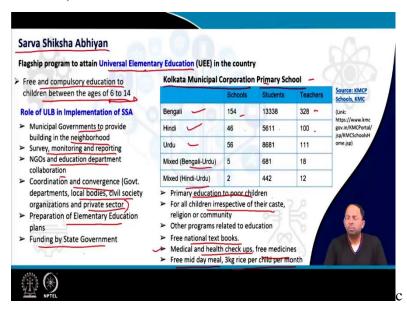
So, maybe this is because double shifts are being considered so we could straight away almost double the population that we are considering. Similarly, 50 percent of schools were given isolated plots and where 50 percent is attached with high schools. Now within the 50 percent with isolated plots, 35 percent were given the road field and 15 percent have community field attached with them.

Similarly, for others residential schools and all the URDPFI guidelines say 1 for 1 lakh population whereas for Newton it was adopted 1 for 1.5 lakh population. Also, the areas reserved are much less because Newtown is a costly area. Every plot of land cost a lot of money. So, even though these standards are given like this, the actual area adopted was lesser in Newtown.

The reason given was the land is very costly over here and probably the higher affair was given so that we can go for vertical development, vertical growth instead of horizontal

growth. So, these are the reasons why this is how the school facilities have been provided in Newtown area.

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Now coming to the government programs which look into the different aspects of education in urban areas. One of the flagship program is to attain universal elementary education in the country. This is where free and compulsory this is also known as the Sarva Shiksha Abhiyan or now also Samagra Shiksha Abhiyan. So, here free and compulsory education is given to children between ages 6 to 14 years.

So, this is so nothing is charged, the ULB's role to in implementing this program is to provide municipal governments should provide the building in the neighbourhood where this kind of schools could be conducted.

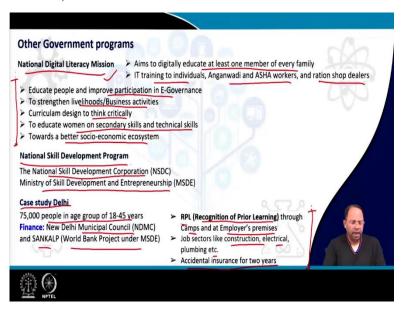
Survey monitoring and reporting of people engaged in the schools or teachers in the schools and what kind of education is being provided. NGO's and education departments can collaborate to provide this kind of education. Coordination and convergence between the different government departments, local bodies, civil society organizations and private sectors to provide universal elementary education. Then preparation of the overall plans for implementing these programs and finally funding has to come from the state government.

So, in Kolkata Municipal Corporation runs several primary schools so that we can provide educations to kids with 6 to 14 years age group. Some schools are Bengali medium with the, and some schools are Hindi medium schools and some schools are Urdu medium. some schools are even mixed with Bengali and Urdu and also Hindi and Urdu.

So, these are the number of schools under each category and you can see the number of students engaged and the number of teachers engaged and here primary education is provided to the poor children. So, you can say this is a social commitment this is undertaken by the ULB. The ULB itself Kolkata Municipal Corporation is ULB which is running these primary schools and funded by the state government. So, all kind of children can avail this kind of schools irrespective of their caste, religion or community.

So, in addition to education there are other programs also which are carried on with different activities trainings and so on. National textbooks are given free of cost, medical and health check-ups. Free medicines are provided. So, if you remember from the health services, we said that schools also act as health centres. They have free midday meal, 3kg of rice per child per month. So, they have provision of nutrition also via schools this is also being attained.

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So, in addition government runs other programs to in regards to education. The one is National Digital Literacy Mission. So, here the aim is to digitally educate at least 1 member of the family. Now this means IT training to individuals, Anganwadi and Asha workers and restaurant shop dealers, so that people can use the IT systems for both for data entry as well as for looking into analysing the data.

So, this will help people to improve their participation in e-governance. They will educate the people. Then this will help in strengthening livelihood and business activities. The curriculum needs to be designed in such a way so that the people can think critically. To educate women on secondary skills and technical skills and finally towards a better socio-economic ecosystem.

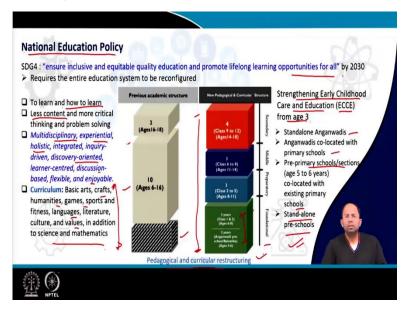
So, more or less this is nowadays we are getting I.T systems in every part of life. Many transactions happen online, many kinds of buying and selling happens online. So, people have to be digitally literate. So, this programs actually tries to towards making people more digitally literate and particularly Anganwadi Asha workers, restaurant shop dealers, if they are digitally literate, they can conduct their operations in a way so that data can be recorded real time or they could be utilized real time.

Then along with that we have the national skill development program. We have discussed this earlier. So, this is run by the National Skill Development Corporation along with the ministry of skill development and entrepreneurship. So, one case study in Delhi for example 75,000 people in a age group of 18 to 45 years are being targeted. So, this entire program is financed by New Delhi Municipal Council and SANKALP through a world bank project under this ministry of skill development and entrepreneurship.

So, our Recognition of Prior Learning RPL is conducted through camps through conduct of particular camps and particularly at employee's premises, these are conducted so that these people are trained in the employer and eventually they get a job with those particular employers.

Job sectors are like construction, electrical and plumbing and finally people are these trainees are also given accidental insurance for two years. So, this kind of trading programs are part of the national skill building programs and these are also provide vocational training to the people in the urban areas.

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Finally, we come down to the National Education policy. This is a recent introduction by the government based on SDG4 which talks about inclusive equitable quality education and lifelong learning opportunities.

Government has to be to achieve this particular goal the government has to revamp the entire educational system and accordingly the government has come up with the National Education Policy in the year 2020 and the idea is to make sure that people can not only learn but also know how to learn. So that they can continue learning even after the education after their formal education.

So, the focus is on less of content that has to be covered but more on critical thinking and problem solving. How people can think and can innovate, then the training has to be multi-disciplinary, experimental. The learnings have to be experimental, it has to be holistic, integrated, inquiry driven, discovery oriented, learner-centric, discussion based, flexible and also enjoyable.

The curriculum covers basic arts, crafts, humanities, games sports and fitness. Languages, literature, culture, values in addition to Science and Mathematics. So, that means it is a overall the education system should focus on overall growth of our individual and at the same point of time it should be multi-disciplinary. It should be driven so that people are learn how to think critically or they can innovate and overall, the system should be enjoyable. Now to do this there has to be very much importance given to the pre-primary because that is when every children's mental growth happens during this initial years.

So, huge stress has to be given to the pre-primary education. So, the overall the structure, the pedagogical and curricular structure has to be changed or revamped totally. So, earlier the structure was we have got nursery, then we have got primary and then we have got primary is still till class 10 and then there is 10 plus 2 which is the higher secondary.

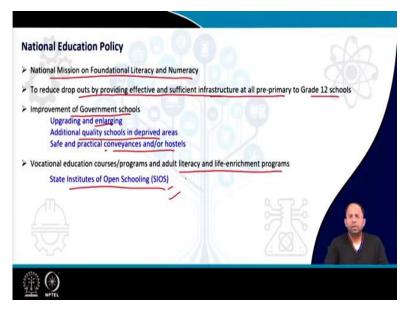
But now the system is ah proposed is where we have 5 years of foundational courses, 3 years in Anganwadi and 2 years in schools. Then preparatory courses from class 3 to 5. Middle school from class 6 to 8 and secondary schools from class 9 to 12. So, this will change the overall structure in which we provide our education or in which our schools are organized. So, that means the entire system of provision of infrastructure or facilities such as for primary schools or secondary schools this has to be revamped.

So, we were in a certain system accordingly we have URDPFI guidelines and so on but now the system has changed. So, this will require total relook into what kind of infrastructure or facilities has to be provided in urban areas and accordingly we have to re-design the entire guidelines for provision of this kind of facilities.

So, as we have discussed this new pedagogical structure looks into strengthening early childhood care and education. So, this is known as ECCE from age 3. So, there could be standalone Anganwadi's. There could be Anganwadi's co-located with primary schools because we are now combining Anganwadi's with primary schools. Pre-primary schools or section co-located with existing primary schools.

This is pre-primary which can be located with this could be also located with existing primary schools and also there could be standalone preschools as well. So, this is where lot of change has to come and we have to create facilities or reserve facilities when we plan for an urban area for this kind of new infrastructure that is required to implement the new educational policy.

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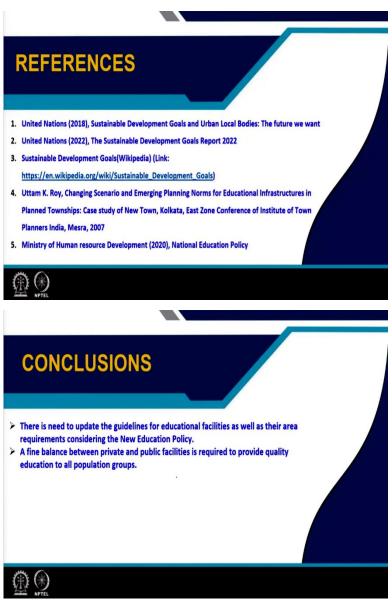


So, in addition to the standard education system, we also have national mission for foundational literacy and numeracy so that will continue. Overall, we need to reduce dropouts by providing effective and sufficient infrastructure at all pre-primary to grade 12 schools so that means we have to really revamp our infrastructure so people are happy to go to schools and they really enjoy learning and the dropout rates reduce.

Of course, there are other social issues which also affect the which results in dropouts, those also needs to be looked into as well. The government schools need to be improved, there has to be upgrading and enlarging of schools. Additional quality schools need to be provided in deprived areas and safe and practical conveniences or a transport to the schools also needs to be introduced.

Vocational educational courses programs and adult literacy and life enrichment programs also needs to be conducted. For that state institutes of open schooling also needs to be opened up. So, these are certain changes which the national educational policies has brought in. Accordingly, we have to really look into setting up new infrastructure and facilities in urban areas.

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These are some of the references you can study. To conclude, there is need to update the guidelines for educational facilities as well as their area requirements considering the new educational policy. A fine balance between private and public facilities is required to provide quality education to all population groups. Thank you.