

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

**NPTEL
NPTEL ONLINE CERTIFICATION COURSE**

Housing Policy & Planning

**Lecture – 14
Housing for all mission(PMAY) & Technology Sub – mission**

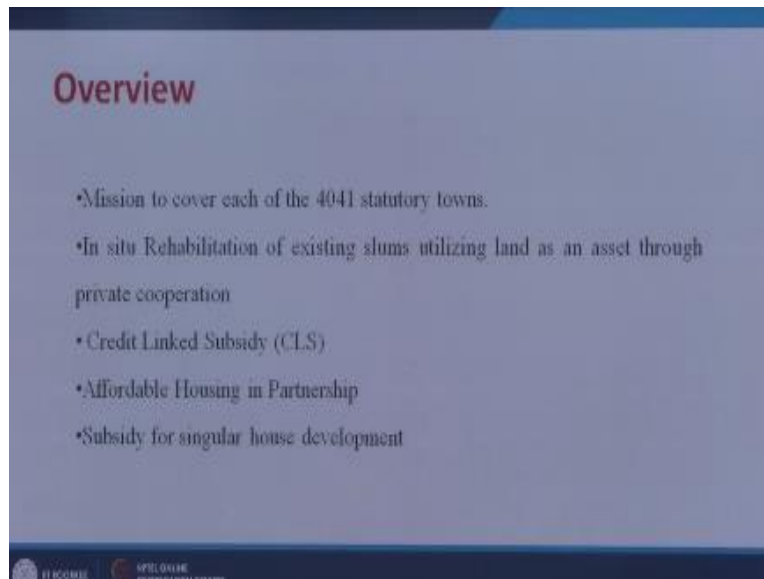
**Dr. Uttam K. Roy
Department of Architecture and Planning
Indian Institute of Technology Roorkee**

Hello, today we will discuss about the major housing program which we are running right now is the PMAY and with this the technology submission which government of India has adopted, before we come to this discussion what will have today let us summarize or let us have quick recap what we have discuss last day related to this technology last day we showed you some example of the mass housing projects constructed by the industrial building system or the fabricated components.

And we learn that even for India the housing projects by using pre-fabricated components is feasible and viable and it can offer the time and cost efficiency than the other conventional constructed projects. So today we will discuss the housing for all mission and technology submission. So PMAY is essentially announce program started with the aim of housing for all by the year 2022.

So by the time the nation complex 75 years after the independence every household will get a pakka house that is the aim and target for this program and the pakka house will consist the water connection ,toilet facility and 24 x 7 electric supply and also the pakka accessibility in terms of road for all house, that is the aim of the PMAY. So in 2015 last year it was launched with the grand aim of the housing for all in short it is called HFA mission.

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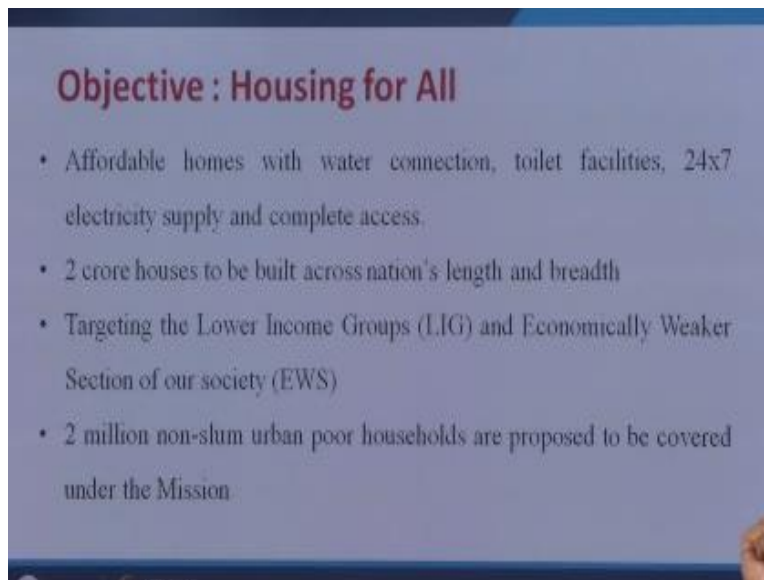
So this mission covers basically more than 4000 statutory town municipal corporations and municipality. So it involves the in site rehabilitation which is called redevelopment of existing slum using land as an asset through private corporation , so when we discuss land component earlier in this series of lectures we saw that the redevelopment is one of the major concern which government of India is focusing and this is the example were you can see that redevelopment is encouraged as the incentive rehabilitation.

Earlier government tried or attempted many options by resettling the slump of people outside the project, outside the area little away from the city outs cover the city, where right now the whole objective is to inactive rehabilitation. Then the in very important part which used consistories is credit leaks link subsidy, so subsidy will be given which is link with credit of or the housing finance taken by the people that is another very important part.

Affordable housing in partnership this particular unit was they are also doing the JNNURM. it is the mechanism were the private sector and public sector they come hand to hand hand to hand and they make the partnership and they deliver the housing projects, so affordable housing in partnership is existing in this scheme also and also subsidy for singular house development apart

from that any poor person which is making their own house they will also get some subsidy out of the government fund.

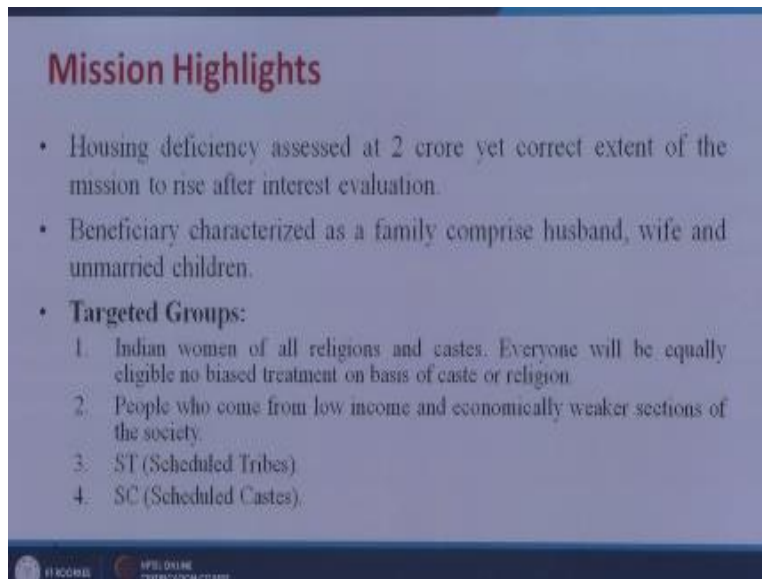
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So the objective is we told that the affordable home site water connection, toilet facilities we have discussed 2 crore houses to be built across nation's length and breadth and the main target population here is this lower income group and economically weaker construction were they are in the cities and the towns and also 2 million non slum urban poor household who are proposed to be covered under the mission.

So one part is the slum population which is basically coverings economical weaker section LIG other than the slum they are some non slum population who which will also covered under this mission. Now let us see the mission high lights this will discuss already another thing the beneficially characters raise at the family comprising the husband wife and unmarried children they will be given the priority.

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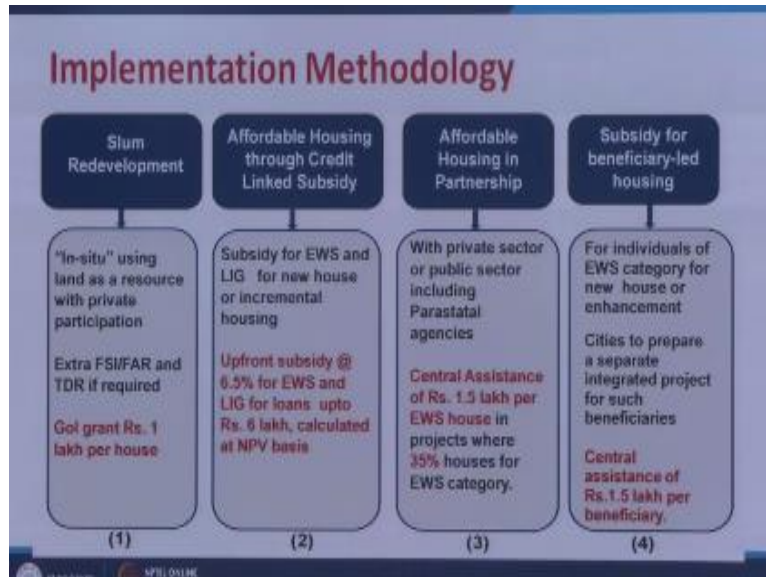
Mission Highlights

- Housing deficiency assessed at 2 crore yet correct extent of the mission to rise after interest evaluation.
- Beneficiary characterized as a family comprise husband, wife and unmarried children.
- **Targeted Groups:**
 1. Indian women of all religions and castes. Everyone will be equally eligible no biased treatment on basis of caste or religion.
 2. People who come from low income and economically weaker sections of the society.
 3. ST (Scheduled Tribes)
 4. SC (Scheduled Castes).

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Other than that the target groups are Indian women of all religious and caste. Everyone will be equally eligible no biased treatment on basis of caste or religion will be there. So people who come from the low income and the economical weaker sections of the society including the ST and SC people they will be given priority and that this program. Now this whole mission PMAY or housing for all mission have 4 peellers or 4 major sub component namely the slummed redevelopment.

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Affordable housing through credit linked subsidy, affordable housing in partnership, subsidy for beneficiary led housing in the first sub component basically I told you that the whole focus is to redeveloped the slum as is varies. Wherever they are in the same site the same location the slum can be redeveloped. So in this redeveloped they are using land of resource. I talked about the land sharing model value view discussed the land as reform, land as policy unit that time also discuss that how land can be used.

So apart from the land sharing there are giving FSI and FAR and TDR to the prospective developer to encourage. The redeveloped in the slum project are the slum location and not only that there all shard giving the rupees 1 lakh per house as a government contribution. So that whole project became viable. The second component other then the slum, the first component is by in larges dependent it is made for the slum population.

The second so this is basically a kind of supplies or intervention it is basically giving the houses to the people delivering the houses to the people. The second component which is housing affordable housing through credit link subsidy is the devein side intervention because it is helping a poor people LIG by giving the subsidy in the housing loans of 6.5 % up to 6 lakhs one.

So if a poor person gets a house even from the slum in the redevelop project are from the market. They can get interest subsidy of 6.5 % few ledger back view going the discuss the housing finance that time also discussed that interest subsidy is one very important element what government of India brought in the current last few years. So the second component is focus on that. The third component which is basically affordable housing in partnership in 19's after the land became very carefully for the housing projects which we discussed. The bigger was not available.

So, government wanted no private authority because of the here urban land selling act, so for that reason the large personal land was not available. So only one mechanism was possible that if government acquires the land government provide the bigger land and the private sector who is otherwise unable to acquire the bigger land from the market. They can come and they can invest their money and both can make a partnership and deliver the housing.

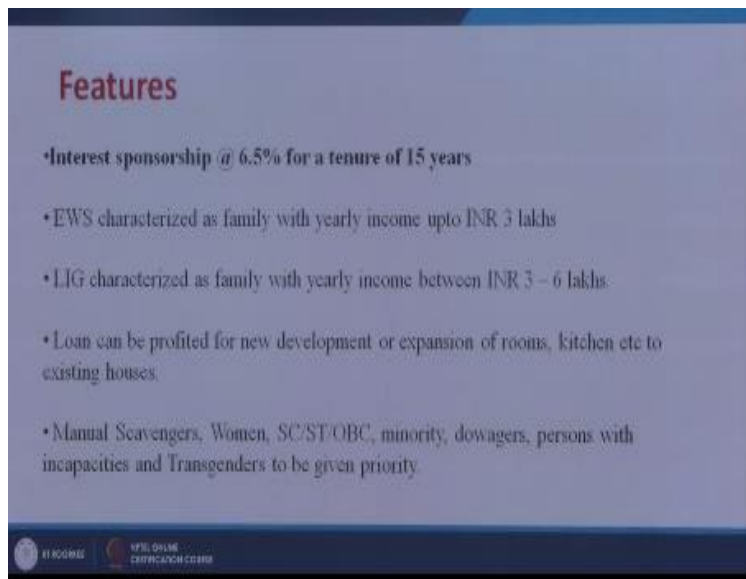
So here the government can provide the land and private sector they can provide the money. So land and finance these are two very important resource put together that was the major essence of the joint venture PPP projects in the housing sector which was tried in ninety's and based on the learning's and its efficacy and tested models of the joint venture projects the government of India they have adapted affordable housing in the partnership during the genuine ram period .

And now the current PMAY has adapted that particular model with little modification now under this model the private sector or public sector including parietal agencies will be given assented assistance 1.5 lakh 5WS house in projects are 30% houses 5WS category is resolved. And then apart from this so this is basically a facilitating method so that the market including the private sector encourage to create more number of housing.

Whereas the first two it was the supplied side intervention and it was the demand side intervention. So this is also act to the supplied site it will generate more housing because the private sector is also participating. The second part the subsidy for the beneficially rate housing it is demand side mechanism, because in the subsidy central assistance of 1.5 lakh per beneficially it will help people to help their house constructed by themselves in the cities or

towns, so this is another subsidy component or the demand side intervention. So based on this 4 peelers or the 4 sub component the whole PMAY is working right now. Every state government are working to prepare the state plan and the city level plan to submit to the government of India to get the funding under 4 component and to deliver more housing in your future.

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This we discussed so here you can see that the income criteria what they are discussing the 3 lakh and 3 to 6 lakh for EWS and LIG correspondingly and apart from that the we have discussed expansion element of the room and kitchen that is also mention the Manual Scavengers, women, SC/ST/OBC, minority, and this type of people will we given priority for the get in the house under the PMAY.


There are few phases cons visualize face 15 to 17, 17 to 19 and 19 to 2022 under the three face whole program or mission will be completed. So that we can reach housing for all by 2022. This is typical comparison of Indra Ayi Jojana and PMAY how the cast sharing is compared we have taken a can story example from the Tamilnadu State. Where we can see that the estimated cast of one house under the IAY right now is 1,20,000.

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Comparison:
Indira Awas Yojna & PMAY (Gramin)

Cost Sharing of each house under IAY		Cost Sharing of each house under PMAY(G)	
IAY Unit Cost	Rs. 70,000/-	PMAY(G) Unit Cost	Rs. 1,20,000/-
Central Share (60%)	Rs. 42,000/-	Central Share (60%)	Rs. 72,000/-
State share (40%)	Rs. 28,000/-	State share (40%)	Rs. 48,000/-
Additional Amount for RCC roofing provided by Government of Tamil Nadu	Rs. 40,000/-	Proposed Additional Amount for RCC roofing provided by Government of Tamil Nadu	Rs. 50,000/-
Estimate cost of one house	Rs. 1,26,000/-	Estimate cost of one house	Rs. 1,70,000/-
In addition:		In addition:	
Dovetailing of SBM funds for toilets	Rs. 12,000/-	Dovetailing of SBM funds for toilets	Rs. 12,000/-
Convergence with MGNREGS in lieu of 90 mandays	Rs. 16,470/-	Convergence with MGNREGS in lieu of 90 mandays	Rs. 16,270/-
Hence total amount	Rs. 1,48,470/-	Hence total amount	Rs. 2,00,270/-

Ref: A case of Tamilnadu State



Whereas for the urban area it is 1.7 lakh or 1,70,000 and the total amount including the serves component are the infrastructure component coming it is around 1.5 lakh and for the urban area it is coming around 2 lakh. So, it is not differing much but roughly the unit cost of the IAY three four of the unit caste visit PMAY.

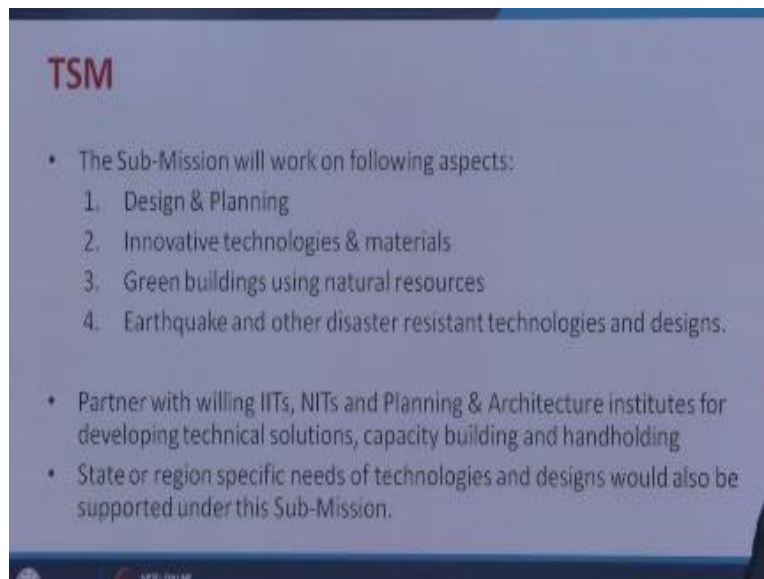
No under the PMAY they have conceptualize technology sub mission, in the last lecture we discuss that the technology can be are driver to deliver more number of housing in given shorted period of time with more cost efficiency and time efficiency and we have showed the examples and we have discuss various typologies. Now this time for the first time government of India understood this basic understanding this there that technology can be a fantastic driver to deliver more housing.

Before that also the mention of the technology as a catalytic was there in the national urban housing and habitat policy. But, right now the technology sub mission is conceptualize in a bigger way it is NV stage to change the technology for onsite construction to a offsite construction with green and uninvited more up technology. So, that better quality of the housing within given the period of times achieve have full by the people. It is possible. Now technology

sub mission has fore component which there government of India as identified. The first component is the design the planning. They are very much consent about the final product as housing. So the design and planning could be very much innovative with 100% effectiveness of the floor area 100% effectives of the design of the openings in terms of light and ventilation and energy efficiency.

So there involved there designer planning. The second component involve the appropriate technology and materials. They are so for identified 8 technology and latter on the have I did another 8 technologies, so 16 technologies and approved material which are durable green which is eco friendly which they can use for long term period. So, that is the second component under the technology sub mission.

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The third component is green building concept using natural recourses as the building components which are used in the new technology should be green involving a very less amount of the end body energy, so that the component is eco-friendly and also it is very least amount energy for running and maintain in the material. So, green element of the building design is involved here.

So the first component is the design or planning of the layout and the building units assets. The second component involves the technological part. The third component involves the basically material natural resource parts, its performance parts and fourth component involves in the earthquake and other disaster resistant technologies it comes involve the value resilient factor of a housing or a building.

So because building housing with talk him first ledger that housing is also ensuring the 50 factor of the people are the inhabited are the usages. So we cannot compromise in this matter. Because last few decades we have seen that severe earthquake or severe natural disasters happen in our country and as a result major demand was there in housing project. So we can bring new innovative technology and materials, but not compromising with the safety and security of the structure and the material.

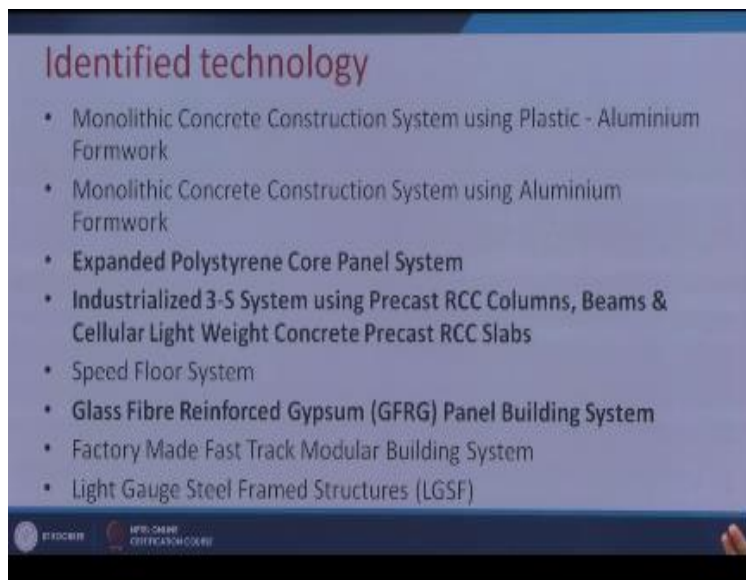
The government of India there are partner with willing IITs, NITs and school Planning Architectural for developing the technology and this materials. Because as of now the same of materials already develop being experimented in simple approach some of the materials are not developed some of technology are develop and executed experimented one search example we discussed last ledger same of the technology are begin developed by same research level reduce or the developer.

So they want commend all this and they want bring the technology with here under developed and not experimented. So, the IITs, NITs planning or Architectural schools are coming off to experiment all the technology to make the prorated demonstrates houses. So that government after same time is able to take the technology options across the country and they can use suitably the appropriate technology for appropriate target groups for each state.

That the works going on right now and then stated region pacific need for technology and this design would also be supported and not the sub mission for example the state likes Uttarakhand, Himachal Pradesh or Sikkim or Arunachal Pradesh this are the hill states, so the hill states they have different geographical variation to topographical variation the plain land and the other location are likes resorted are the forest land sub different texture different controls all together.

So how different regions can generate different design different planning and different technological options could be adapted those matching those metrics are also being explore at the government level. So the next level the private company, private developer, state government authorities the housing board of the developer authorities are pool to gather and told that okay this is a matter this is a option. So to choose the option and do the need full whatever is required.

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So at the first stage there are identified 8 such technologies which are personally are fully experimented in India for example the monolithic concrete construction system using plastic aluminum form work this is one technology system monolithic complete construction system using aluminum form work expanded polystyrene in code panel system this is a under development industrialized 3-S system using precast RCC column beams and cellular light Where concrete systems.

The last day the example I showed for Mahada and Shrieked System the last day the example I showed for Mahada and Shrieked they are using the three system so this is one of the system which is already tested in the ground and then speech floor phase system which is a very first system to construct a free floor in a quicker time then GFRG balance which is nothing but the

glass fiber reinforced gypsum panel building system this system basically experimented for lower storied building in India but there are organizations who are working for the higher stories compared and the high rise building, so this can be prescribed for atleast some of the geographical location to deliver bigger housing projects. Then factory made fast track modular building system this also under experimentation some of the IIT's working on this.

Light gauge steel frame structure LGSF system so these are the 8 technologies after that they have identified another technologies one public sector under taking Hinduism preferably submitted they are working under the ministry of housing and property alleviation they have made various demonstration houses so somebody if you are interested to see how it works you can visit their factory, visit their campus to see the efficacy.

Otherwise the example site showed involving system that is also good example other than that also there are various companies in India who are working regionally or locally in every states or some of the cities atleast, so based your location your home town you can pick up the example and you can see or relate or connect with the example based on the technologies which we discussed on that at the technologies submission.

So to summarize here in the Pradhan Mantri Awas Yojana is a centrally sponsored program or mission which is aiming housing for all by 2022 that is the 75 years after the independence, so this program is aiming housing for all delivering more than two crore house for economical weaker section and lower income group people within 2022 in three phases up to 2017, 2019 and 2022 it has four components.

The first component deals about the re develop of the slums in the same site rehabilitating then in the same site by for their livelihood and for their house using the land as a resource using the land sharing and other mechanism so that the people build have to be rehabilitated elsewhere so that is the first component and for this component government will provide some amount of money for each beneficiary group.

Second component deals with the credit linked subsidy which is nothing but the every poor people who wants to purchase from the market or from developer or from the re develop project they can get a 6.5% interest to subsidy if they take a housing loan from a bank upto six lakh rupees that is a second component. The third component deals with the affordable housing in partnership government will provide some amount of money for economic weaker section and lower income group.

if the private sector and the public sector come together they develop the PPP projects or joint venture projects and also the 35% of the total units are reserved for the economical weaker section so that is a third component which is basically supply site intervention because of this government will be able to deliver more housing. The fourth component of the Pradhan Mantri Awas Yojna is the direct subsidy of the housing which is developed by the owner itself maybe the isolated building isolated housing.

So in that case where owner takes of the construction of their own house in their site government will provide some subsidy of one lakh or so. So it is under the four component government is providing the support to the directly to the breviary through the state government and the municipal corporation to achieve the more housing. One subset Of Pradhan Mantri Awas Yojna is a technology submission the main essence of the technology submission is to bring in our country the new innovative technology green technology.

Which will reduce the time of the construction substantially which will reduce the cost because of the time and which will deliver more affordable house in a quicker possible time so the technology submission is frame under the ministry of housing and urban property alleviation the organization like the MTPC and HOTCO they are the key the model agency who are coordinating the progress of the technology submission.

Under the technology submission it has four component design and planning, the green building and the resource the safety again the natural disasters and the material components so apart from that they have identified 8 new technologies which is potential to deliver the green technology and the faster technology to deliver more housing out of 8 technologies which we discussed few

technologies are already developed and experimented few technologies are being experimented and in near future because this technologies are being experimented through IIT and IT and all the research labs in the country so after sometime government will be able to experiment all this technologies to deliver more housing and another point we mentioned that the state and region specific solution for the design and the technology and the housing projects as such as being explore under the technology submission.

So within a few couple of years we will be able to see that apart from the mainstream benefit of the Pradhan Mantri Awas Yojna we will see lot of housing projects using the new technologies which will be delivering the housing in a quicker possible time in all the major cities, so with this is note we conclude the discussion on the Pradhan Mantri Awas yojna and the current government program and technology submission.

The next we will some of the discussion on the part 1 which is the policy element last few lectures like 10 to 12 lectures we discussed various policy element like land, finance, technology and legal and institutional sector so next we will summarize the discussion and we will start the introduction to the planning part so that the few lectures we can take on the planning of the housing for a city, so thank you.

For further Details Contact

Coordinator, Educational Technology Cell

Indian Institute of Technology Roorkee

Roorkee – 247 667

Email: etcell.iitrke@gmail.com, etcell@iitr.ernet.in

Website: www.iitr.ac.in/centers/ETC, www.nptel.ac.in

Production Team

Neetesh Kumar

Jitender Kumar
Pankaj Saini

Graphics
Binoy. V. P

Camera
Sarath Koovery

Online Editing
Jithin. K

Video Editing
Arun. S

NPTEL Coordinator
Prof. B. K. Gandhi

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