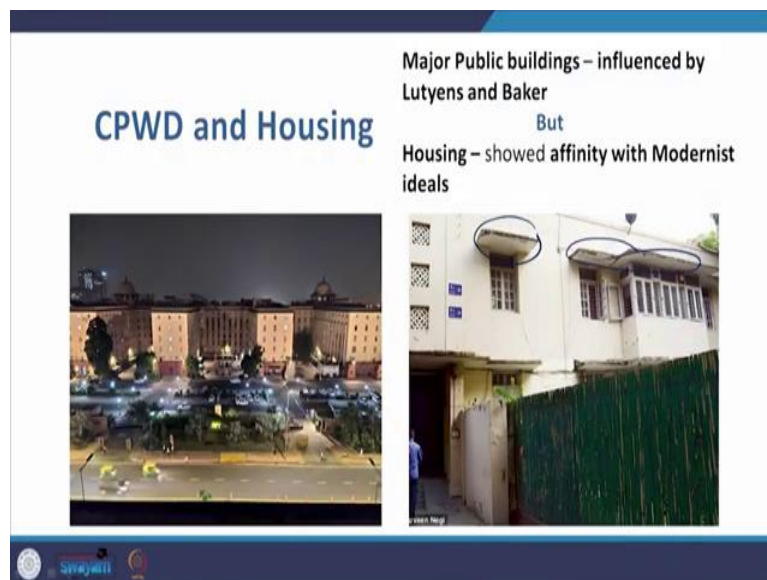


**Modern Indian Architecture**  
**Professor P S Chani**  
**Department of Architecture and Planning**  
**Indian Institute of Technology Roorkee**  
**Lecture: 10**  
**The First Generation (1945 - 1970) - Part 3**

Hello students, once again I welcome you to the study of modern Indian architecture and we are seeing a series the first generation from 1945 to 1970. And when we look at this series we will see how the Indian architecture evolved during this period by a first generation of Indian architects who came after having studied in the west and brought those fundamental ideas of modern architecture or modernism into India.

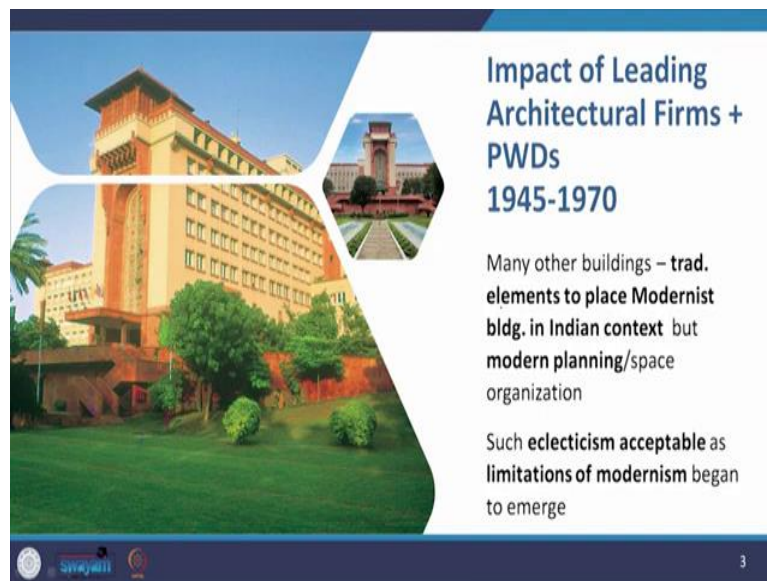
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Now, we had seen last time that the CPWD was focusing on two parts housing and public buildings with regard to their public buildings they were influenced by Lutyens and Baker. So, they made those buildings which were having a modernist facade with some addition of traditional Indian elements, showed the example of Vigyan Bhavan for example.

But with regard to housing they showed great affinity with modernist ideals, we had seen the pictures of these industrial city of Tony Garnier and how even Corbusier and Gropius were influenced by that, we saw the example of the reason of Seidlung project and these houses they built in Delhi particularly were very similar to the entire modernist concept, of course there are these additions in the facade that are because of the climatic conditions, like you see these sun shades here. So, these kind of elements will be missing in western architecture, but the facade per se is very, very similar.

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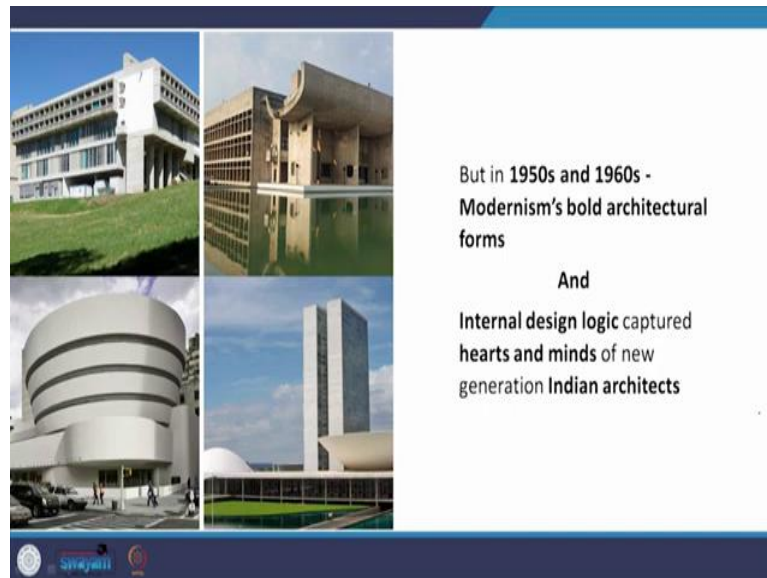
If you move on and look at the impact of reading architectural firms and PWDs I had told you that not only was CPWD trying to put together a modern building with these traditional elements even private firms were trying to do that like EB doctor who designed this iconic five star hotel ; Ashok hotel in Delhi.

And here also traditional elements were added to place the modernist building in an Indian context, but within the building continued to have modern planning and modern space organization, such eclecticism became acceptable because the limitations of modernism began to emerge in front of us in the 1950s and 1960s.

Now, this was something that was happening all over the world because modernism had impacted architecture globally, but wherever it was widely accepted and integrated into their architecture within a matter of maybe two or two and a half decades architects and the developers et cetera realized that this faceless entity needs to have a regional flavour, we will come to that later.

But this statement that this eclecticism was acceptable as limitations of modernism began to emerge is a very important significant statement at this point we will leave it here like that but we will come back to it in a significant way to analyze and study it further.

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But in the 1950s and 60s the impact of modernism bold forms was very, very evident and had really got hold of the hearts and minds of young Indian architects.

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And this is the first modernist generation we are looking at AP Kanvinde, Charles Correa, Hasmukh Patel, Habib Rahman, Jhabvala, Nari Gandhi amongst the some of those architects who studied in the west and then came to India to practice architecture and in some cases also take part in teaching in architectural schools.

Since I belong to IIT Roorkee, a very similar pattern I saw up close in my own department where I had two three faculty members who were of the same age group and they had studied in the west and then their masters program were there and then come back for example to

architecture department of Roorkee university and they were teaching us. So, they also imbibed those modernist ideas and we could see that getting reflected in their teaching in the classroom.

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Now, in the beginning the work of this first generation had a stamp of the mentors, for example if you look at monastery La Toure by Le Corbusier this is a completely brutalist work, brutalist work or the word Beton brut means raw concrete. So, raw concrete finish in the facade is brutalism, it is not brutal as in a brutal in English being very brutal, but it comes the brute word is to do with concrete or raw concrete brutalism Beton brut raw concrete, so brutalism.

So, this is that brutalist building and Prema bhai hall designed by Doshi is also a brutalist building very, very similar to the building designed by Corbusier. For example, Corbusier used to follow a certain harmony or rhythm in the way he made the vertical concrete louvers, you can see that that they are close and then they are getting spaced out et cetera and you see that BV Doshi also follows the same kind of rhythm in the Prema bhai hall.

So, then in the beginning we could very clearly see the stamp of the mentors on the work of these young architects, but they were also unified in their desire to bring new architectural approaches to India.

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So, the first generation evolved considerably with time and their own experience of design and execution led them to make buildings that turned out to be very, very different from the beginning. For example this stadium designed by Doshi is a brutalist work in the early years very strongly impacted by his mentor the Le Corbusier.

But as we move on if we come for example to the CEPT Ahmadabad which is chronologically after it you find there is the impact of Corbusier and Louis Kahn and we will study that in a little more in detail, but he is predominantly designing a modern Indian building very much keeping in mind the topography of the site and the climate of the place.

Then came for example Sangath his own studio and it is made using barrel walls, so he makes it even more regionally connected. Then IIM Bangalore and this last building that is designed I believe in the 21st century. So, here we see what I said the work of this first generation in this case BV Doshi evolved considerably with their own experience of design and execution.

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### The First Generation

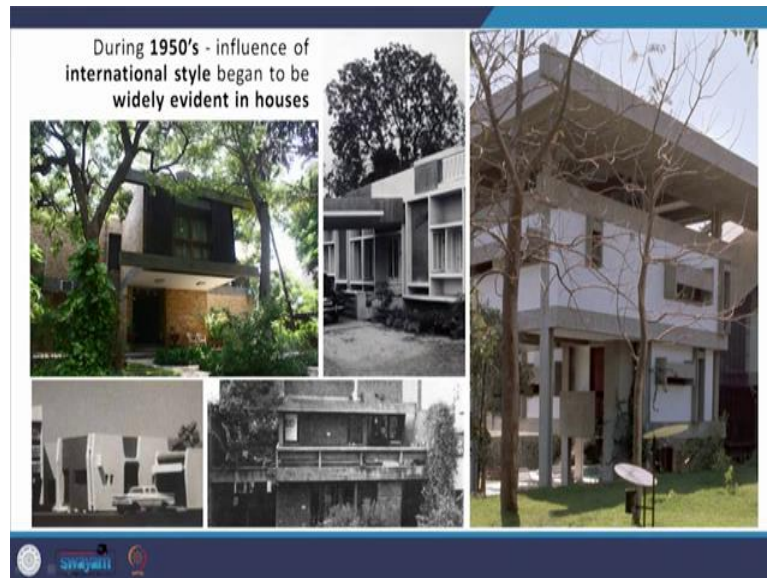
- Iconic architects and Modernism – overwhelming influence on young Indian architects
- Le Corbusier, Walter Gropius, Louis Kahn...

The first generation iconic architects and modernism had an overwhelming influence on them. The examples predominantly are that of Corbusier, Walter Gropius and Louis Kahn out of these two actually came and built, and designed and built in India. Corbusier who did a lot both in Chandigarh and Ahmedabad followed by Louis Kahn who is predominantly known for IIM Ahmadabad.

And then he did another building in the Indian subcontinent the Sher-e-Bangla assembly and I believe there are other few limited number of small projects which I am not very sure of but these two are very distinctly clear. The contribution of Walter Gropius was indirect. Walter Gropius had been the teacher of Habib Rahman and AP Kanvinde in the united states, he directly taught AP Kanvinde in Harvard, Habib Rahman was in MIT.

So, he did get to learn from Walter Gropius maybe as a visiting faculty or maybe he met him. We will come to these points later in a separate presentation of the impact of Walter Gropius and Bauhaus on Indian architecture. So, direct and indirect impact was done by these icon, it was made by these iconic architects.

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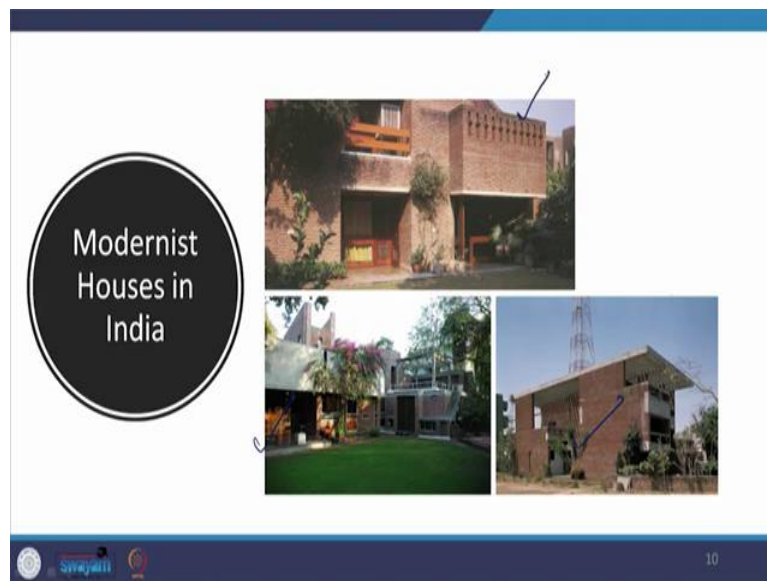
Therefore, during the 1950s the influence of the international style or modernism began to be widely evident in houses most of the houses being built were in exposed brick and concrete. Now, as I told you a few lectures back it does seem that it is coming from Corbusier and Louis Kahn, because Sarabhai house and we will see that later, it was an exposed brick in concrete. Louis Kahn also worked in exposed brick and concrete, predominantly brickwork in Ahmedabad.

So, not only that there was a house that he designed Corbusier designed a set of houses called Maisons Jaoul which was in exposed brick and concrete it was done using Catalan vaults et cetera and served as a very good model for Indian architects to imbibe modernism into India, how that happened, what was the interesting thing behind it we will study that in a little more detail when we study western architects in India and will focus on that work.

Now, since brick and concrete became common many architects including BV Doshi, Charles Correa, Raj Rewal, even AP Kanvinde all of them started using it in their houses or the houses they designed. One more thing I would like to add please do not forget the contribution of Walter Sykes George and Shoosmith who were originally the ones who had made brick in concrete buildings.

So, I had pointed out earlier also that the dominance of brick and concrete projects in Delhi for example owes a lot to what Walter George and Shoosmith had done earlier, but yet generally speaking literature gives this credit to Corbusier and Louis Kahn and not to Walter George and Shoosmith which I think is unfortunate because they do have a role to play anyway.

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So, these are some examples, these are some modernist houses in India, this is the house design .This is BV Doshi's own house. This is called the Parikh house by Charles Correa and I believe this is a house designed by Raj Rewal.

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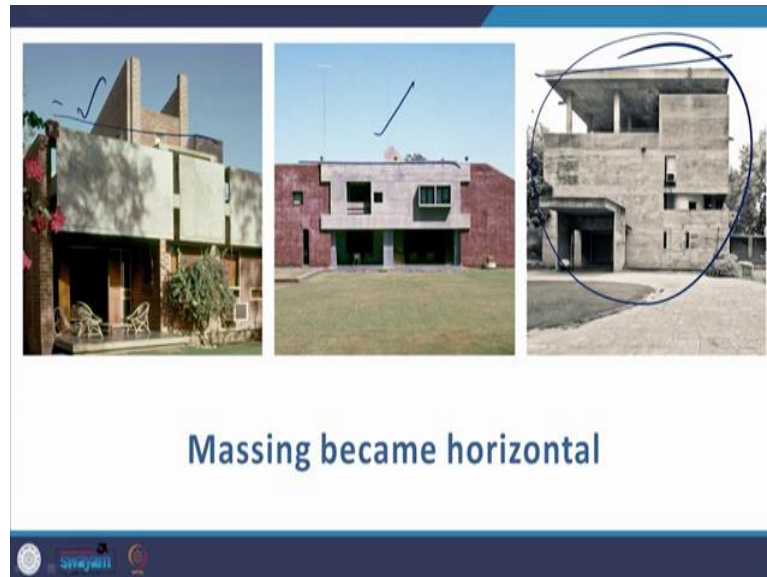
Now, if you come to the house design of BV Doshi I am trying to relate it to the Sarabhai house, because I told you earlier that iconic architects and their works impact I am sorry impacted these young architects. So, in this case this is the Sarabhai house with the Catalan Vaults in exposed brick and the beams are in concrete.

Now, if you come to see here what you see, this is the house of BV Doshi , so what I am seeing here is the impact on say for example this house of AP Kanvinde, I believe this is the



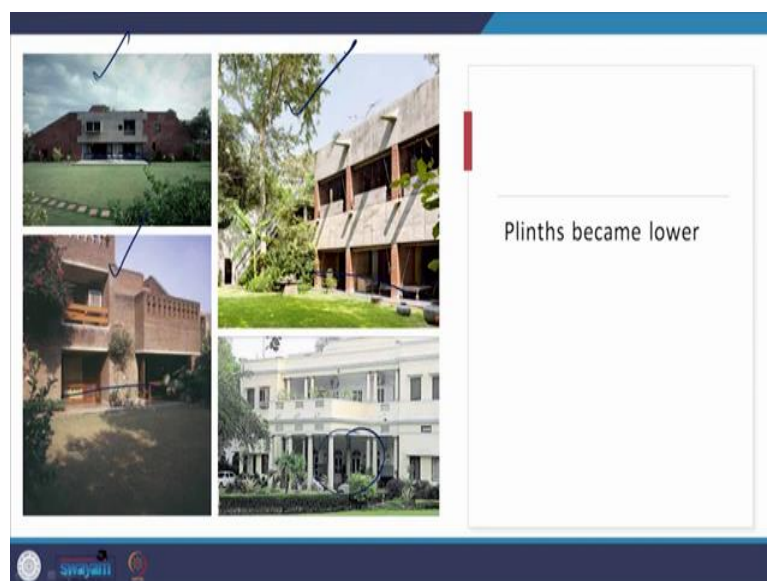
house of architect Ram Sharma, all these houses if you look at the image of Sarabhai house and take it free flowing interiors RCC became the material of modern era houses modern era for houses and public buildings and RCC has since then become the dominant structural frame for much of the buildings that we are making today.

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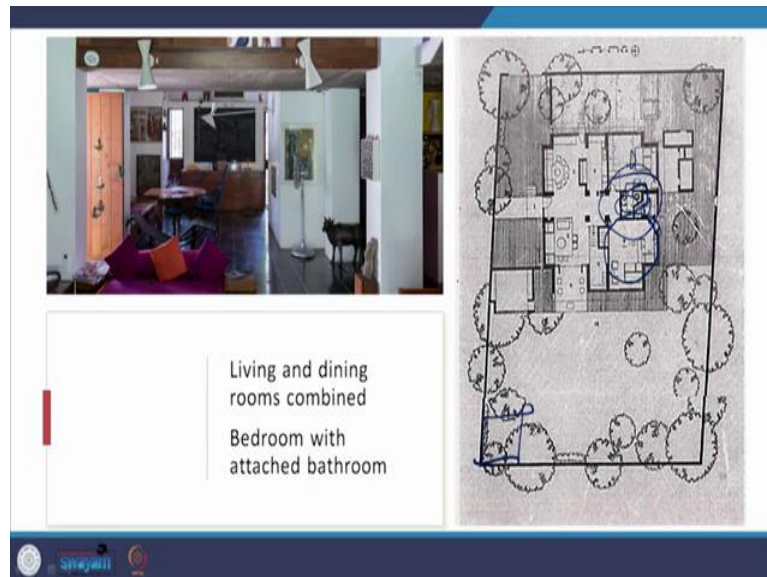
Then the massing became horizontal in all the buildings we had flat roofs and terraces that could be used. Now, this is Doshi's house this is the house designed by Charles Correa, this is Shodhan house by Le Corbusier having the flat roof, so having designed this house here these young architects also carried on that idea.

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When the plinths became lower, I wish I could have found a better photograph to show you the higher plinths in colonial buildings, but you do see some what of a height here, whereas it literally flattens out in this house by Charles Correa, I believe it is the I keep getting confused it is either the Parikh house or the Ramakrishna house and this is the house done by Raj Rewal, this is Sarabhai house by Corbusier and so you see that the plinth is more or less flat and directly connected to the Greenscape outside.

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Now, important developments that happened this is the house of BV Doshi along with the plan of the house we will study this plan in detail, because it is a very interesting composition I am not using the word plan I am saying the word composition and we will study it later and understand how wonderfully and in a very simple brilliant way Doshi put together this design.

So, one thing that happened because of the international style was that living and dining spaces became common. So, you see this in Doshi's house and then the bedroom was attached with the bathroom, so you have the bedroom here and the bathroom is attached with it or you have the bedroom here and the bathroom is accessible, so that is another thing that happened in the earlier times bathrooms used to be outside the house, now they became inside the house and attached with the bedroom.

That simply happened because sanitation improved. See many of the changes that we see happening, let me go back to the slide and explain it to you why is it that we are able to now make living in dining spaces as one single space why simply because we are working with an RCC frame and because we are working with the frame we do not need load bearing walls.

So, if we remove those walls we can have this vast space open free space connecting the living and dining as one area. So, the arrival of a structural frame designed by a structural engineer or a civil engineer has a direct impact on architecture.

Similarly, you look at this bathroom attached to the bedroom, it is because of improvement in drainage and sanitation, because now proper drainage and sanitation was taking place, there was much more hygiene in the way that human waste and other waste was disposed off, therefore putting the bathroom next to the bedroom was not going to create any unnecessary problems.

So, that is on the side of the technical part that technically it became better and then there is the socio cultural part also, socio culturally also with the message going out by the Indian probably the government or the society at large people started realizing that such kind of attitude is not helpful I do not know at what point I wish I was a student of history and philosophy or something or sociology and try to understand when this change took place that the washroom the toilet began being in the far corner of the angan has now become an intricate part of the house plan.

But what I am saying is that these changes are not happening it is not an architecture saying now I put a bathroom here, I will make this space like this, no, something is happening somewhere else and so the architect is responding to that change, whether, it is structural, whether it is technical with regard to sewage and drainage or whether it is socio-cultural that is why I often say architecture does not drive change architecture is driven by change.

Sometimes people do not like such a statement, because architects are made to think that we are the best in all this we are the ones who really bring change and buildings are the most important, buildings are very significantly important and a job of an architect is also vitally important, but there is a team now that works and within the team an architect plays a significant role. So, all these come together.

There is one more thing I try to tell you if that is true then you should be a good student of structures and technology, because if you read them properly and you are able to see this upcoming technology or change will bring this change in the built environment you can be ahead of others in using that technology in your building.

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Now, things like free standing staircases came up and cantilevered porches simply because of better structures simply because there were people who were who not only invented RCC, but they were people who were willing to design such cantilevers and you could have these porches without the column supports and you could have these free standing staircases because of RCC.

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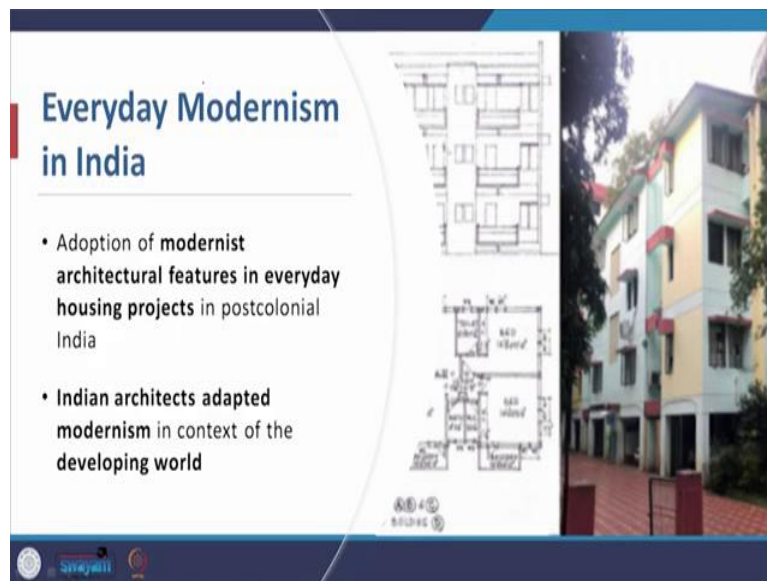


Then the horizontal bands of large glass windows as you see here again made possible because the outer wall is only a curtain wall, so it is not carrying any load. Now, the same thing does not happen here in this house simply because it is in India and for it has to be

modified for Indian climate, so the windows are actually recessed and they are put in these box louvers or box sun shades that recess inside, so that the direct sun does not impact them.

But the size of the windows and particularly at the ground floor when you see this entire opening which is in shade all sliding glass doors, then you realize this building is being supported by a frame or the use of concrete fins as we saw in gold Golconde to keep or keep out the sun and that would make it more comfortable thermally inside. So, the same idea was followed but modified for Indian climate.

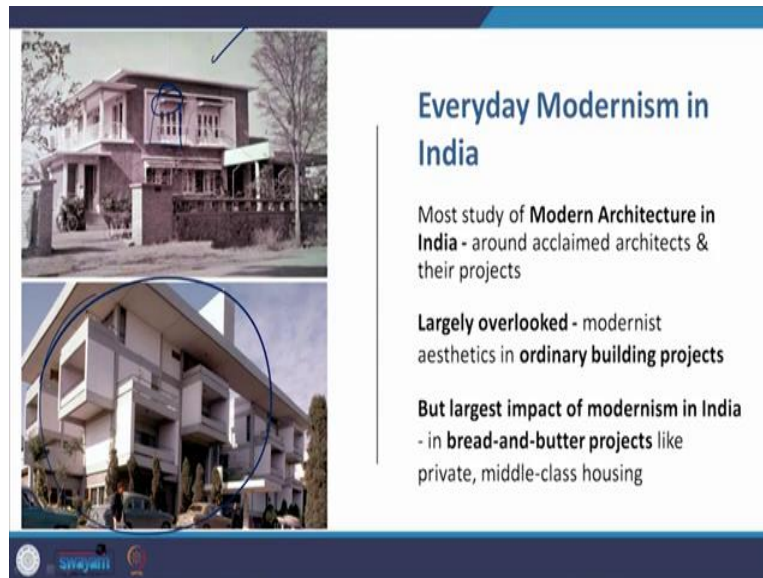
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Now, there is something called everyday modernism you see when you look at these examples I told you that the living and dining space became one and the bathroom came and gave attached to the bedroom, then you think in your heart well I am also living in such a house, in my house also the living and dining is connected my kitchen that my mother has is an open kitchen we have a lounge also connected and our bathrooms have connected bedrooms have connected bathrooms.

So, how is it that you are calling them as modernist iconic works and my house is not or my flat is not simply because the ideas developed by these modernist architects iconic architects even in India, then percolated down to all the common buildings that people used to make. So, same idea percolated down. So, everyday modernism in India the adoption of modernist architectural features in everyday housing projects in post-colonial India. Indian architects adapted modernism in the context of a developing world.

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**Everyday Modernism in India**

Most study of **Modern Architecture in India** - around acclaimed architects & their projects

**Largely overlooked** - modernist aesthetics in **ordinary building projects**

**But largest impact of modernism in India** - in **bread-and-butter projects** like private, middle-class housing

Most study of modern architecture in India is generally moved in circles or is around acclaimed architects in their projects, think about it whatever you have studied concerning modern world architecture or modern Indian architecture, it is generally about a set number of people and their works, you see a series of A architect, B architect, C architect, D architect and we are fascinated by the things that they have done. If we actually mathematically count the number of building they have design, it is not a great number compared to the buildings required in India or houses required in India or housing required in India.

So, who has done those some I told in some cases it is the engineer, contractor they also come together and do the design, because so many designs are readily available and they understand it. But there are also whole lot of architect's young and old who are practicing entire to tie three cities and they are designing buildings.

For example, in that time because we are talking about the 1945 to 70, this is the Shirke house designed by Bavde V V Bavde and he was a practicing architect in Pune and this is a modernist house, but this modernist house has been modified for Indian conditions with sun shades and the windows are there but we are not providing end to end windows. And so everything in the house is modified on the outside for Indian conditions, but it is a modernist house for India.

Now, when I say acclaimed work this is a house designed by AP Kanvinde, it is in Gujarat. Now, obviously this house is more talked about more discussed than this one and this house I forget the name I will come to this later on when we have to study Corbusier why because he

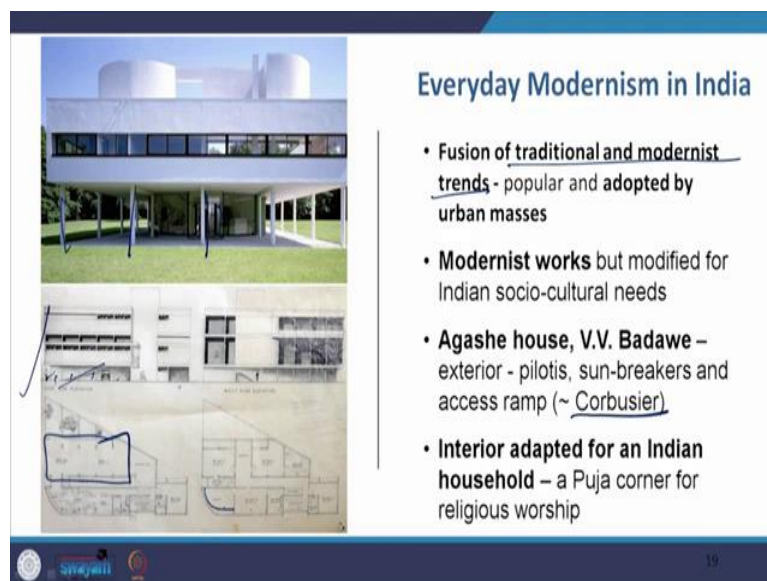
is using some principles of Corbusier in this house. So, this is an iconic work whereas the Shirke house is your bread and butter work.

So, these projects but done by these architects are largely overlooked, they have modernist aesthetics in ordinary building projects, but the largest impact of modernism in India is through these bread and butter projects like private middle class housing that is the truth.

See, If I were to give this lecture to a set of people who are still living in a housing society or they were living in Gurgaon or Delhi or Pune or Lucknow in a flat they will say that my house has not been designed ; my building has not been designed by any of these acclaimed architects you mentioning. My building or our society has been designed by this young architect or this old architect, whose name also you and I have not heard.

But the same things that you are telling us, are there in our houses, we have got that free plan, we have got that kind of interiors, we got these kind of spaces. So, that is what happened, the largest impact of modernism happened in the bread and butter projects in India on a very, very big scale.

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The slide is titled "Everyday Modernism in India". On the left side, there is a photograph of a modernist building with a prominent horizontal band of windows and a flat roof, supported by pilotis. Below the photograph are architectural drawings, including a floor plan and a section. On the right side, there is a list of bullet points:

- Fusion of traditional and modernist trends - popular and adopted by urban masses
- Modernist works but modified for Indian socio-cultural needs
- Agashe house, V.V. Badawe – exterior - pilotis, sun-breakers and access ramp (~ Corbusier)
- Interior adapted for an Indian household – a Puja corner for religious worship

At the bottom left of the slide, there are logos for "Sreyas" and "Sreyas Institute of Design & Architecture". At the bottom right, the number "19" is visible.

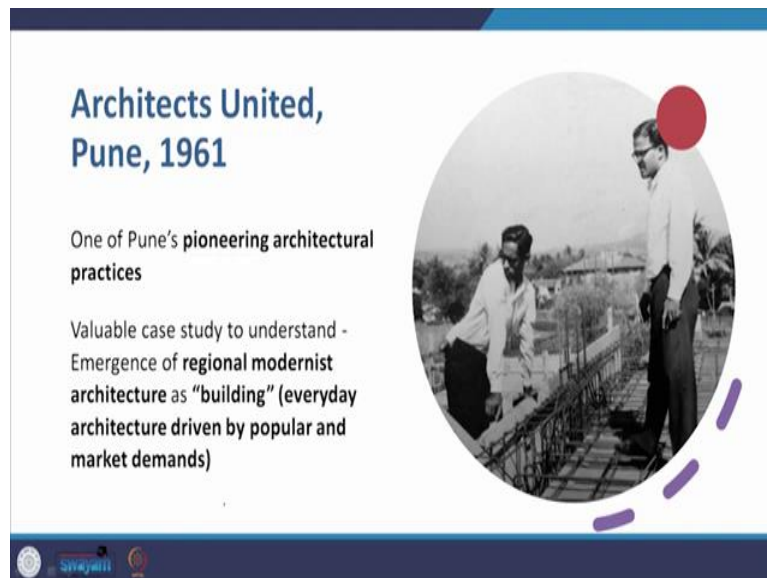
Let us take this example the fusion of traditional and modernist trends happened see the amazing thing was not being iconic architects these people still understood what they had to do and they merged traditional and modernist, they were popular and adopted by the urban masses.

Modernist works were modified for Indian socio-cultural needs, for example this is the Agashe house again by V V Bavade sorry I am sorry his name is Badawe V V Badawe and

the exterior has pilotis, the exterior has a ramp, the exterior has sun breakers everything that was there in the international style houses of Mr Corbusier, Le Corbusier you see here pilotis and then you have the ramp inside the house and you have sun breakers, it is all there in his buildings, sun breakers I would rather refer to unite the habitation where he has them.

So, the interior is adapted for an Indian household. Why? see look at the interior if you can see it clearly, if I can this is the complete living and dining space completely free and there are other areas also like the terrace created out and all that, but the important part is the exterior is like modernist style, the interior the layout is modernist, but he adds a puja corner for religious worship and thus he makes the modernist house regional, he caters to the socio-cultural requirement of the family while retaining the modernist part of it.

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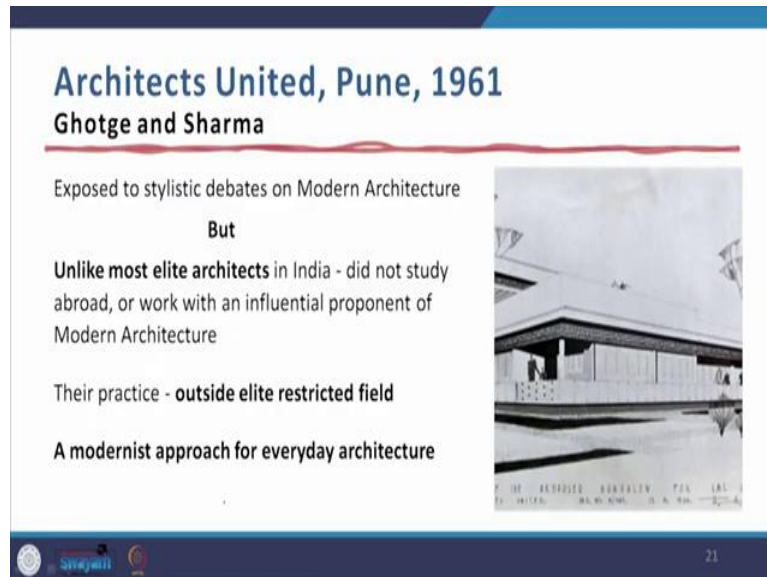
Now, in other interesting firm that came up in Pune, 'architects unite 1961' and one of Pune is pioneering architectural practices with valuable case study to understand , it is a valuable case study to understand the emergence of regional modernist architecture as building everyday architecture driven by popular and market demands.

Here I am trying to make a difference between the word architecture and the word building, where architecture refers to the work done by iconic architects, iconic works those are architecture where lot of interesting ideas of design and planning and concept and aesthetics and material use is there. So, these are these buildings they take those ideas and they build in mass numbers for lot of middle class and other people, so that was called as building.



It is also architecture but just to differentiate between the two and this is high volume, this is limited volume, this is meant for a very sensitive and very acclaimed clientele, this is meant for people like you and me.

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**Architects United, Pune, 1961**  
**Ghotge and Sharma**

Exposed to stylistic debates on Modern Architecture

**But**

**Unlike most elite architects** in India - did not study abroad, or work with an influential proponent of Modern Architecture

Their practice - **outside elite restricted field**

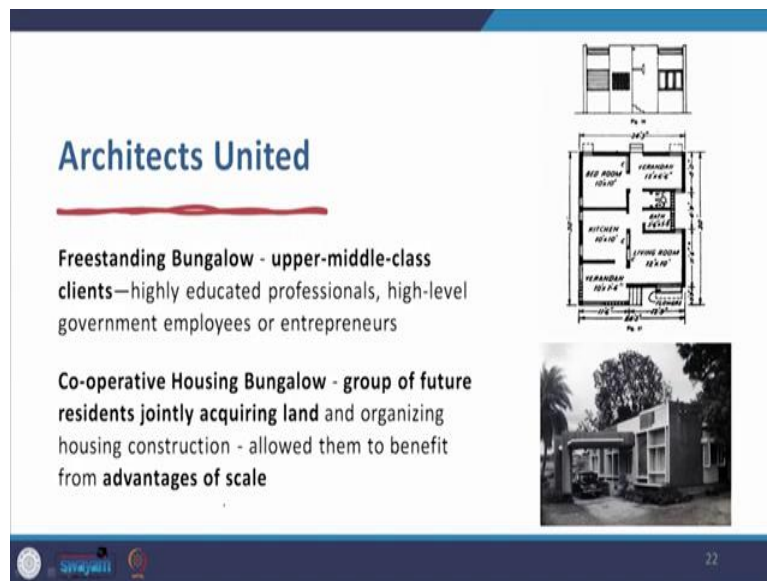
**A modernist approach for everyday architecture**

21

So, the Ghotge and Sharma, the architects of the architects united, they were exposed to stylistic debates of modern architecture, but unlike the elite architects of India they did not go to study abroad and they did not get the opportunity to work with the influential architects of modernism like Corbusier or Louis Kahn, their practice was outside this elite restricted field.

So, how did they learn? They learnt as you and I have learned, we have not gone abroad to study and we have not been taught by these iconic architects, how have we learnt in the classroom we have learnt about their architecture in the classroom, we have been fascinated by that architecture having learned that we started trying to make attempts to include that in our design problem that is given to us and we are building on that information by reading and learning. So, it is a modernist approach for everyday architecture and this is true for you and me.

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**Architects United**

**Freestanding Bungalow - upper-middle-class clients**—highly educated professionals, high-level government employees or entrepreneurs

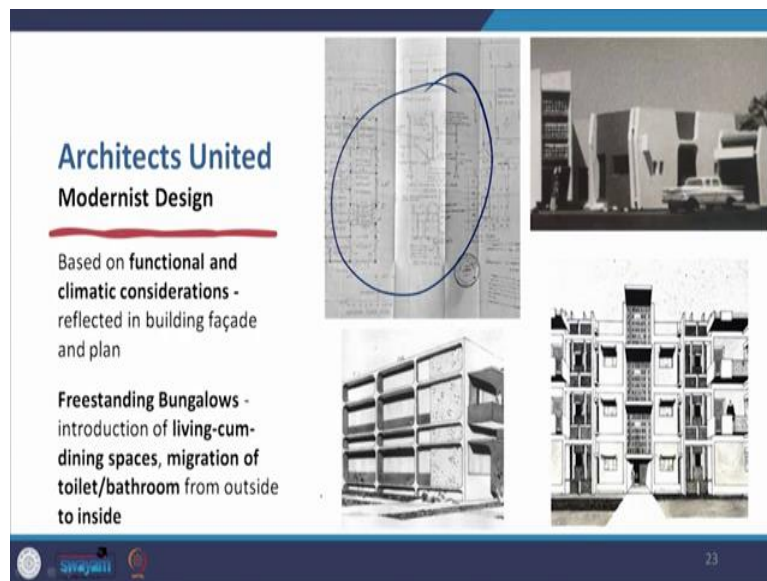
**Co-operative Housing Bungalow - group of future residents jointly acquiring land** and organizing housing construction - allowed them to benefit from **advantages of scale**

The slide features architectural drawings of a bungalow, including a floor plan with labels like 'BIG ROOM 12'x12'', 'KITCHEN 8'x10'', 'LIVING ROOM 12'x12'', and 'BATH 6'x8'', and a perspective view of the building. The footer includes logos for 'Sriyaji' and the number '22'.

Let us take a free standing bungalow that they did for an upper middle class client, highly educated professionals, high class government employees and entrepreneurs. The cooperative housing bungalow, now the cooperative concept also came up and in Pune that a group of future residents will jointly acquire the land and organize the housing construction and thus they will get the financial advantage of scale, because if they are pooling money and building an entire apartment block as a housing society, they save money on bulk materials and bulk purchases of sanitary fixtures, light fixtures, everything.

So, they understood that one person will not be able to do it, let us make a cooperative, let's pool our money together and one person cannot buy such a big land let us buy the land together. So, this very interesting concept in India the housing society came up during this time.

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Now, the architecture of architects united was based on functional and climatic considerations reflected in the facade of their buildings and also in the plan I am sorry the drawing is not very clear, but that is also being shown the way the spaces have been designed. They introduced the free standing bungalow with living come dining spaces, migration of toilet and bathroom from the outside to the inside, it has become repetitive, but again it is important that even they were following the same principle.

So, this is a very important context everyday architecture, everyday modernist architecture that most of us are more familiar with we see them in our cities, we see them as we go to a friend's house, we see them in the flats and apartments, but they are not done by acclaimed architect, they are done by architects who just took those ideas and they started building on them. These are some of the examples of the 1960s.

So, let us stop here and from next time we will start with a very interesting comparison of three Gandhi Smaraks one by Vanu Bhuta, one by Habib Rahman another by Charles Correa and we will move on from there to look at other interesting works. Thank you so much for joining today.