Modern Indian Architecture
Professor P. S. Chani
Department of Architecture and Planning
Indian Institute of Technology, Roorkee
Lecture 24
Impact of Western Architects: Louis I Kahn - Part 3

Hello, students. Today we will continue with our study of the Impact of Western Architects. And today we will see Part 3 of this series on Louis Kahn. Now, some of you might be wondering, why are we focusing so much on this period, and the works of the architects like Le Corbusier, Louis Kahn and Walter Gropius, I sincerely believe that these western architects and the first generation of Indian architects truly laid the foundation of modern Indian architecture.

Most of the works that we see today are an evolved version of the conceptual ideas they brought into India, whether it was brought in by the Western architects who came to India or it was brought in by Indian architects who studied in the West, and came back to work in India, or Indian architects who studied in India, and were impacted by the Western architects and their ideas, or even Indian architects of that period who was studying in India and they were also studying these works simultaneously.

So, whether it is iconic works of architects like B. V. Doshi and Charles Correa, etcetera. Or it is the bread and butter of buildings weighed by a large number of architects in the modernist idiom. After this presentation, we will come to the introduction of critical regionalism. And again, I believe that critical regionalism is the true modernist Indian version of architecture, even till today, even in the 21st century.

If we were to define what is modern Indian architecture, there is a variety of buildings in India today, which are a reflection of a global architectural identity, they do not reflect in Indian identity. But there are a whole lot of buildings being done by very iconic architects or I should say, architects who have done a fair amount of study of the Indian architectural idioms, Western idioms and putting them together, those buildings are really a wonderful study.

At the same time, we should not negate the contribution of a large number of architects so do day to day buildings, bread and butter buildings, and there is a lot you can learn from them. There are a lot of good functional buildings are there all over our Indian landscape. So, please do make an attempt that whenever you are passing through a building, do study that building

it for his form, function, and if possible, even the structure and try to understand the ideas the architect has implemented there.

There is a lot you can learn, especially from good buildings. Do make an attempt, wherever you are, whichever city you are, whatever iconic buildings have been built, or in a city nearby you please do make an attempt to visit those buildings. Some of the buildings that I am teaching you here, do see them live, if it is possible to actually fully appreciate some of the points we are making here. So, let us come to the contribution of B. V. Doshi.

(Refer Slide Time: 03:40)

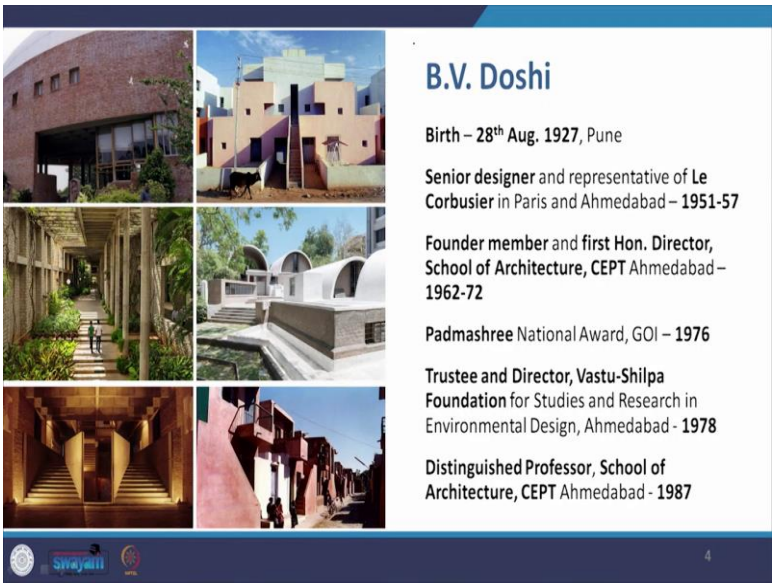
Balakrishna Vithaldas Doshi, one of the greatest modern Indian architects, I can even say one of the greats internationally. He won the Pritzker Prize in 2019. He has also won the RIBA gold medal. He is got Ordre des Arts et des Lettres from France. The Padma Bhushan from our country. Amazing contribution to architecture.

But when you look at these buildings, they are not glass and steel, sleek looking buildings, but they are amazing studies of what architecture can be, the kind of spaces that speak to you, the kinds of spaces that are so serene and simple that you really enjoy them. I have personally, there are not that I have visited many of these buildings, but even the study has created in me an immense desire to see them personally.

(Refer Slide Time: 04:37)

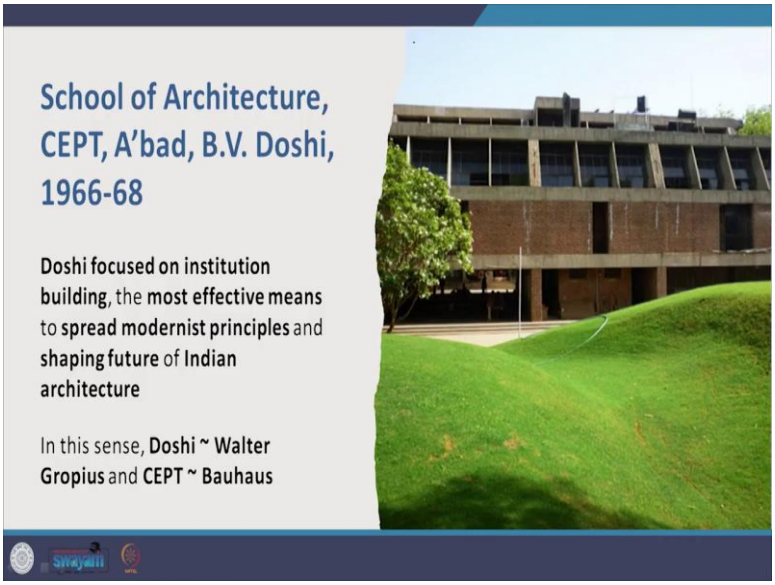
Balkrishna Doshi was impacted both by Louis Kahn, and by Corbusier because he had an opportunity to interact with both of them and worked with both of them.

(Refer Slide Time: 04:47)



He was born in 1927 in Pune, he was a senior designer and representative of the Corbusier in Paris and in Ahmedabad from 51 to 57, the founder member and the first an honorary director of the School of Architecture that is in CEPT, Ahmedabad, he got the Padmashree in 1976. He was a trustee and director of the Vastu-Shilpa Foundation that he became in 1978 and a Distinguished Professor of the School of Architecture CEPT, Ahmedabad 1987.

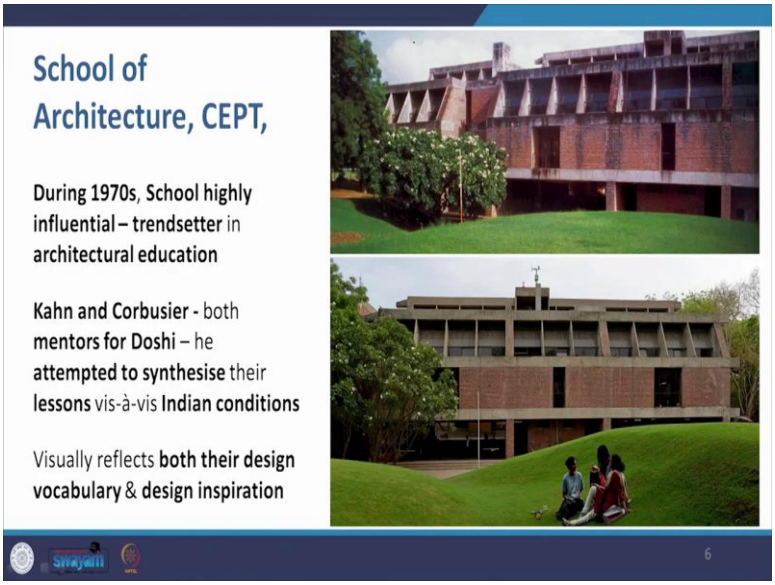
(Refer Slide Time: 05:19)



Doshi focused so much on institution building that is building up institutions. In fact, I can say that if there are two areas where he has contributed the most it is in institutional buildings and in cost effective housing, whether it is the project that I will show you and the other projects that we will have an opportunity to reflect on later.

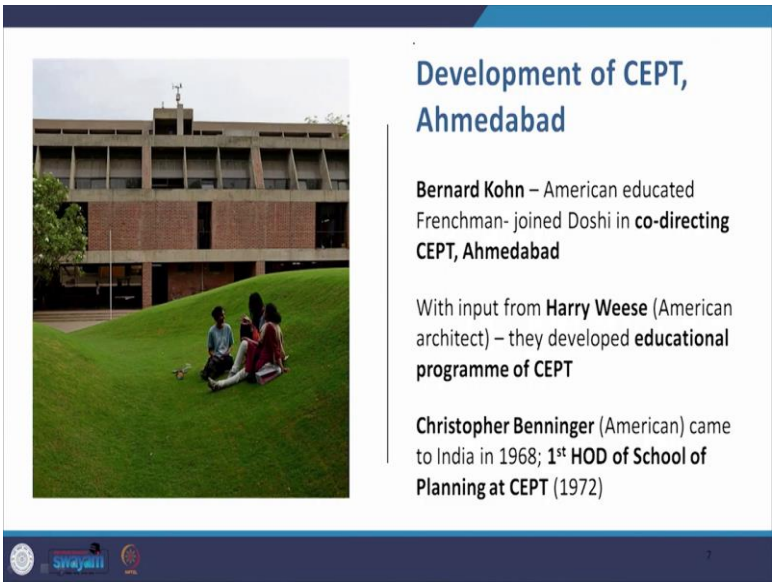
But probably the biggest contribution is in his early years was the establishment of the School of Architecture, CEPT, Ahmedabad and the most effective means of spreading modernist principles and shaping the future of Indian architecture through this institution. So, in a sense, see Doshi or I would rather say CEPT is to India, what Bauhaus was to the world. And so Doshi his reflection on education in India is the global reflection of Walter Gropius.

(Refer Slide Time: 06:19)



During the 1970s, the school was highly influential and to the trendsetter in architectural education continues to be. Kahn and Corbusier were both mentors to Doshi. And he attempted to synthesize their lessons vis-a-vis Indian conditions. Visually reflected both their design vocabulary and the inspiration that he got from them.

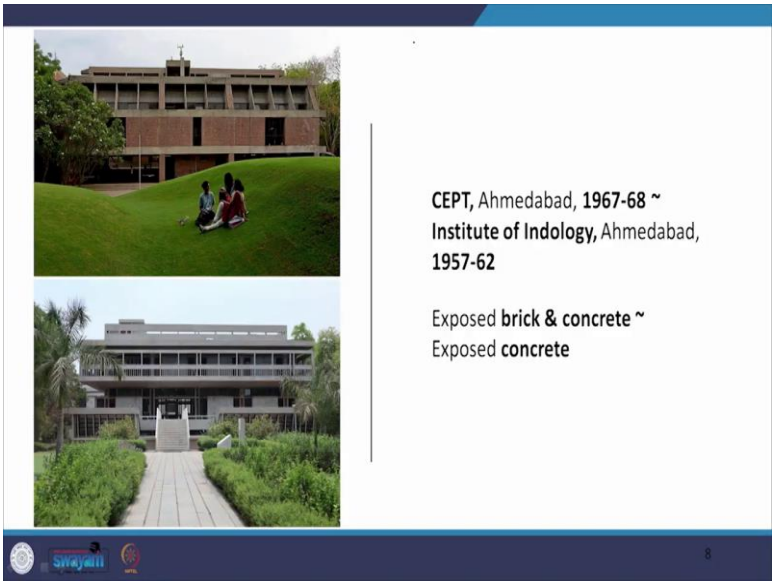
(Refer Slide Time: 06:41)



In the development of CEPT, Ahmedabad in particular, the contribution with that of Bernard Kohn, and he was an American educated Frenchman who joined Doshi in co-directing CEPT, Ahmedabad. He also got input from Harry Weese, who was an American architect to develop the educational program of CEPT. Then there was Christopher Benninger, who continues to practice in India, came to India in 1968 and was the first Head of Department School of Architecture CEPT, Ahmedabad.

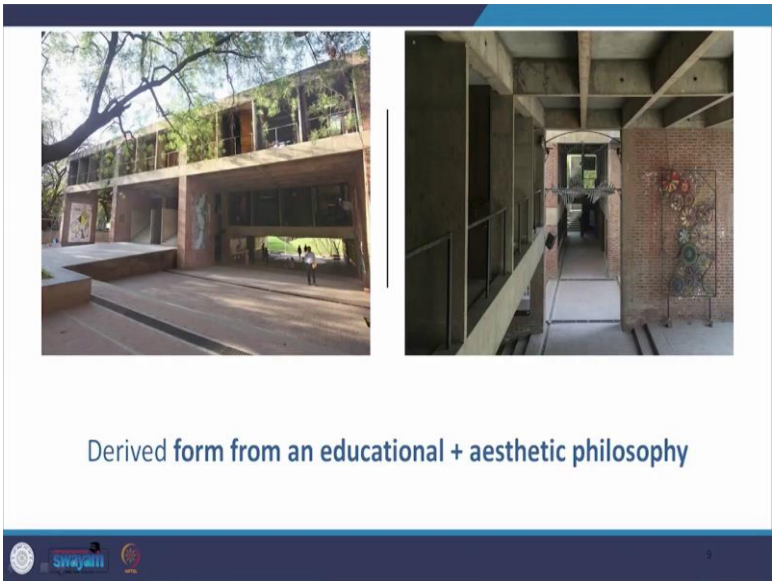
We have not yet talked about the contribution of Charles Eames and his wife in preparing what is called as India report. And the pedagogical contribution of these two is also very important, and hopefully, we will get an opportunity to talk about it in the presentations to come.

(Refer Slide Time: 07:27)



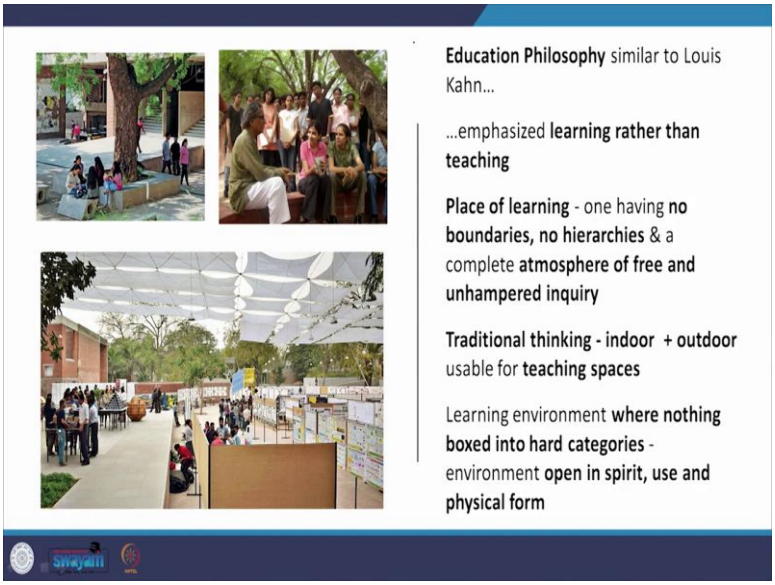
So, CEPT Ahmedabad can also be compared to the Institute of Indology. Indology was done earlier, about 10 years earlier. And it was an exposed concrete we have discussed this project earlier. And whereas CEPT was an exposed brick and concrete, so the material palette changed from the brutalist material palette of Corbusier to the exposed brick and concrete palette of both Corbusier and Kahn. I would again remind you and you might find it very repetitive, that actually exposed brick and concrete would come much earlier with the works of shoosmith and Walter Sykes George who were British.

(Refer Slide Time: 08:13)



So, this is a derived form, the School of Architecture at CEPT, Ahmedabad, this is derived form from the education and aesthetic philosophy that was followed here.

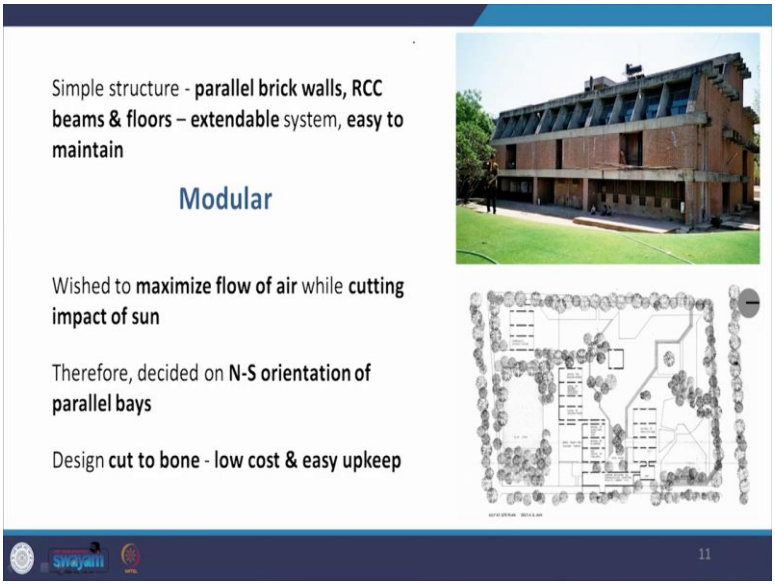
(Refer Slide Time: 08:22)



The education philosophy implemented here is similar to that what Louis Kahn attempted to do in IIM Ahmedabad in that, emphasis was on learning rather than teaching something that is now becoming more and more to be applied in our colleges that it should be more of a learning experience and just one-way traffic of teaching to the student. The place of learning one which is having no boundaries and no hierarchies.

And there is a complete atmosphere of free and unhampered inquiry and learning. It is the traditional thinking of indoor and outdoor spaces to be used as teaching spaces together in a learning environment where this is nothing boxed into hard categories, so that you have an openness in the spirit, in the use and in the physical form. And therefore, the learning can go on in an atmosphere of unhampered environment.

(Refer Slide Time: 09:24)



It is a very simple structure that is something which I have always found very fascinating about CEPT, Ahmedabad. And there is one thing that I often tell my students, the best design is a simplest design. If you are working on a design problem. If you keep on iterating, the design that you are doing, when you reach a point of immense simplicity, and there is nothing more that can be added to it or subtracted from it.

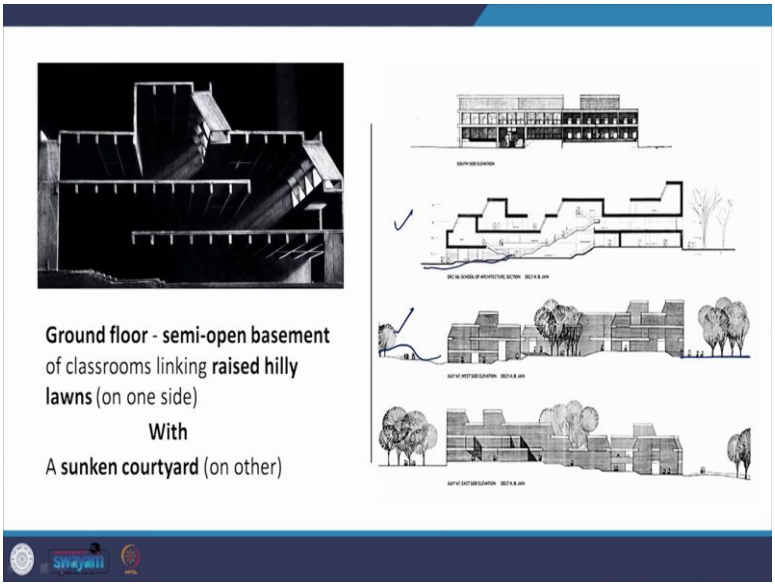
That is the point where you should really focus on, try to get achieved that design, which seems to work in the simplest and in the most comfortable manner, spaces are not forced upon or there is no compulsion of space that you have put together. Something that is so well highlighted in School of Architecture, CEPT, because there is a parallel brick wall mechanism that he has used here, these are the parallel brick walls.

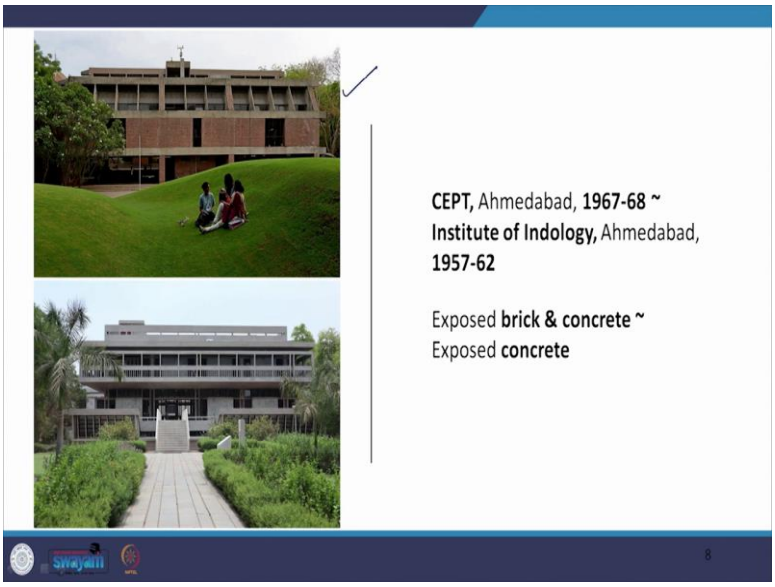
And the use of RCC beams and slabs, floor slabs, it is an extendable system which is easy to maintain. So, if for example, this was to be extended it is just addition of similar ways. So, it is a modular system. And it is very easily maintainable not only because the facade is exposed brick and concrete, but otherwise also the entire system is designed for modularity and easy maintainability.

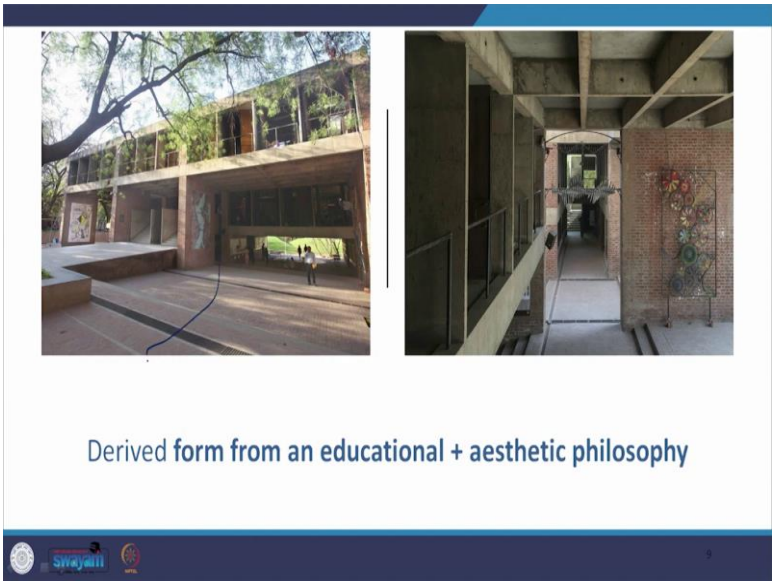
He also wished to maximize the flow of air while cutting the impact of the sun, the entire form addresses that issue. So therefore because of this, it was decided to give it a North-South orientation of parallel bays. And design was cut to the bone, again the design was made as simple as possible not only because simplicity makes the design better, that is my opinion.

The other thing is because it is low cost and easy upkeep. This point which come back again to a project done by Bimal Patel in one of the future presentations.

(Refer Slide Time: 11:31)

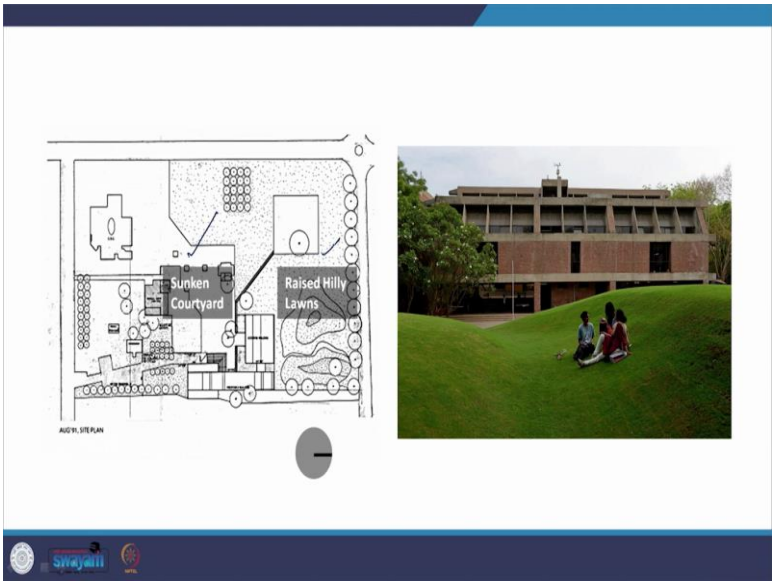






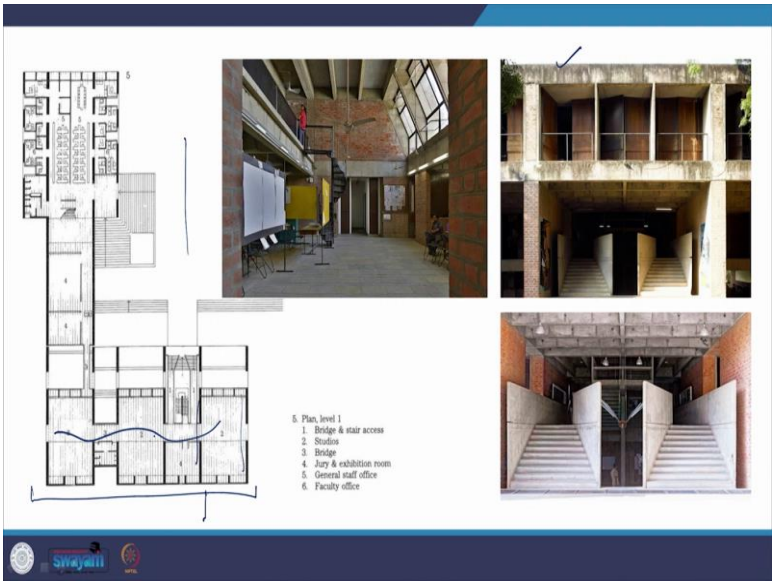
The ground floor is a semi-open basement of classrooms that are linked by linking raised hilly lawns. So, if you look at the elevation, and the section, this side is the raised hilly lawn, and this side is sunken courtyard on the back. And the basement within this entire area is more or less connected from the front to the back. Now, these images if you have seen earlier, if you go back, this is the image of the lawn in front. And this is the sunken courtyard at the back.

(Refer Slide Time: 12:09)



Here again, if you look in the plan, the sunken courtyard is towards this side, and the raised hilly lawns are towards this side.

(Refer Slide Time: 12:17)

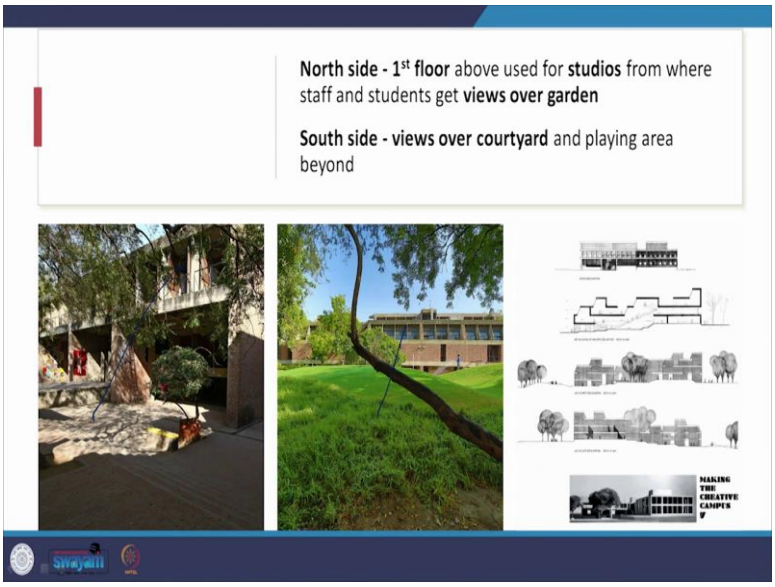


So, here is if you look at in the plan, the actual plan of the building, this is where the raised hilly area or the lawn is, and this is the side of the courtyard. And these are the parallel bays and just the space completely flows. So, it is not just a flow of spaces for modularity and maintainability. It is not just an arrangement of spaces for easy flow of breeze and also the cutting of the sunlight, which is the kind of brise-soleil etcetera that has been used and deep shaded areas that have been used. It is also the educational philosophy behind the school, that there is unhampered spaces, there is a lot of freedom of interaction. As you can see from the way the studios have been arranged.

(Refer Slide Time: 13:08)

So, light and breeze flows through the building section. And it is achieved because of this North-South orientation. And to reduce sunlight and create these breezeways you have the advantage of getting not skylights for into the studios. These are the deep shaded areas in the section going that the space that is going underneath the building.

(Refer Slide Time: 13:29)

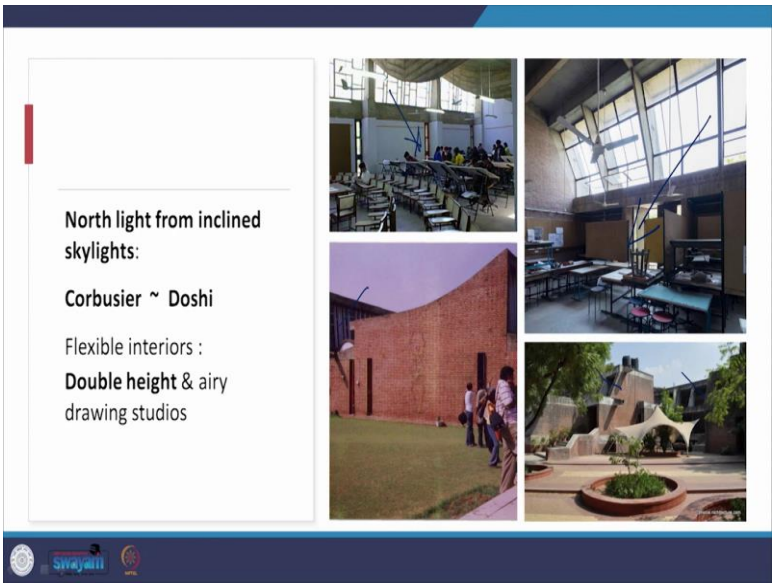


On the north side, the first floor is above used for studios from where the staff and students get a view of the garden. And the south side when you are you get a view of the courtyard and the playing area. So, here from this side, you get into view of the courtyard. And from this side, you are getting the view of the garden.

(Refer Slide Time: 13:48)

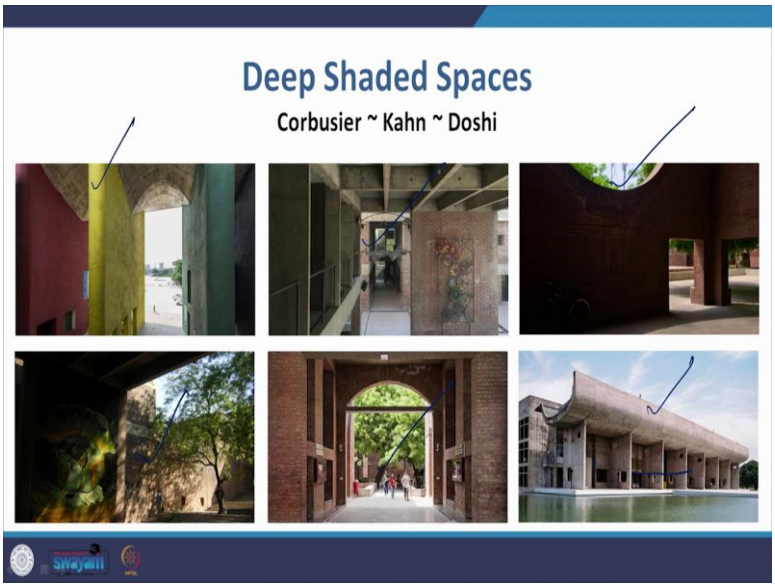
Interiors of shaded from glare and heat. Very similar to what Louis Kahn had done, there are these deep shaded areas and there is as you can see, in all these images, there is no glare, there is light, but not glare.

(Refer Slide Time: 14:03)



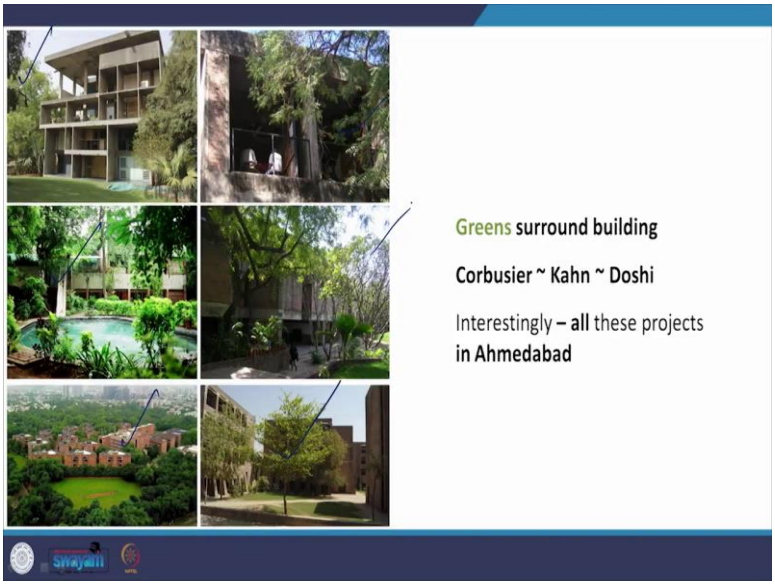
North skylight, which is inclined bringing enlightened to the studios is very similar to what Corbusier had done in the Chandigarh College of Architecture using the North light to bring in light into the studio. So, you have the skylight here, as you see in CCA and these are the skylights that you see in in the School of Architecture, CEPT.

(Refer Slide Time: 14:23)



Deep shaded spaces was something that we find in the work of Corbusier and Kahn and then in the work of Doshi, these are deep shaded spaces that you find in the High Court building in Chandigarh and even in the Assembly building here and then you find it in IIM Ahmedabad here and here I believe here and these are two spaces that are from School of Architecture in Ahmedabad, that is when I just hesitated here actually goes to show that the space creation using exposed brick and concrete and when you photograph them put them together, there is such a lot of similarity between them. And in certain other cases example we will see it goes even further than that.

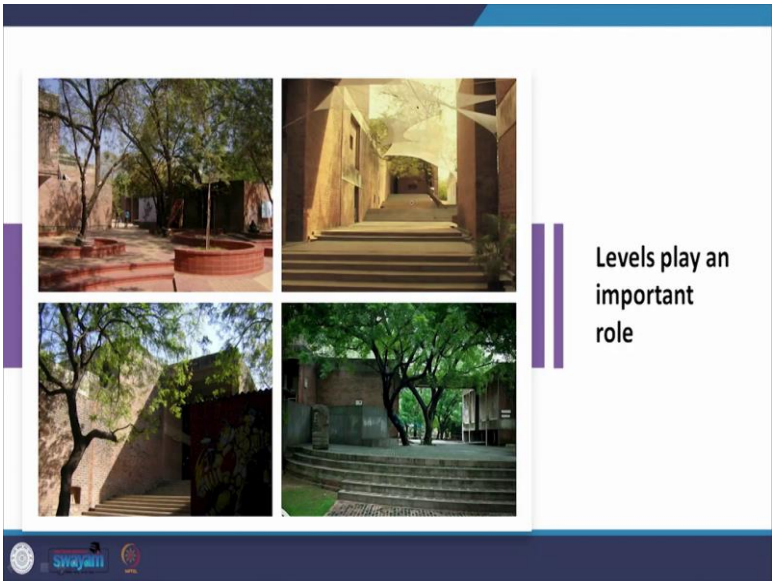
(Refer Slide Time: 15:07)



But then what has been done here? The greens around the building, again very similar to the idea of Corbusier and Kahn, you find that amazing, this immense amount of greens in Villa Shodhan, you find that in the Sarabhai House, and then you find that in the IIM Ahmedabad campus, then you find it here.

So, this is something which is a response of these Western Architects Indian climatic conditions, something that is already there in traditional Indian architecture. And Doshi also picks on the same idea . Interestingly, all these projects that are here in these pictures are all in Ahmedabad Villa Shodhan, Sarabhai House, IIM Ahmedabad, and the School of Architecture at CEPT.

(Refer Slide Time: 15:51)

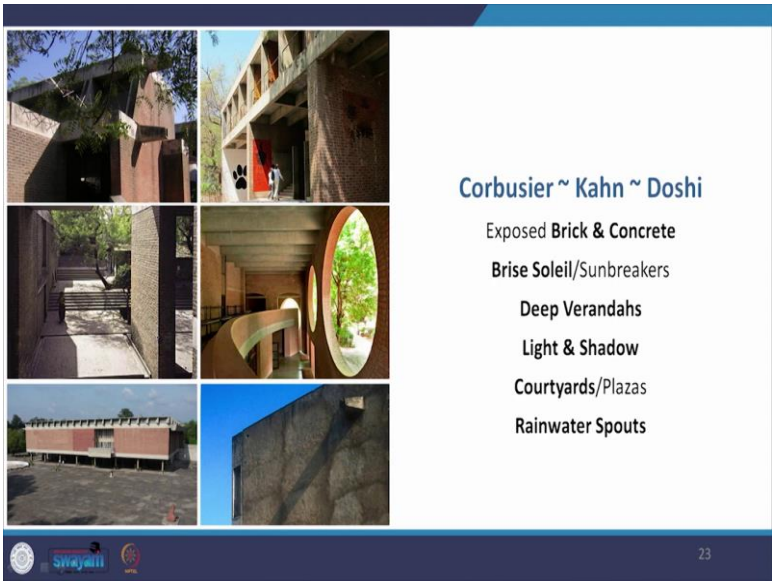


They are also levels that play an important role, creates a lot of interest in the spaces that are there.

(Refer Slide Time: 15:56)

And the Brise Soleil that you find the Brise Soleil here in IIM Ahmedabad, you find it here in the faculty wing of IIM Ahmedabad, you find it in the Villa Shodhan, you find it at the Mill Owners Association building and you find it in School of Architecture also.

(Refer Slide Time: 16:11)

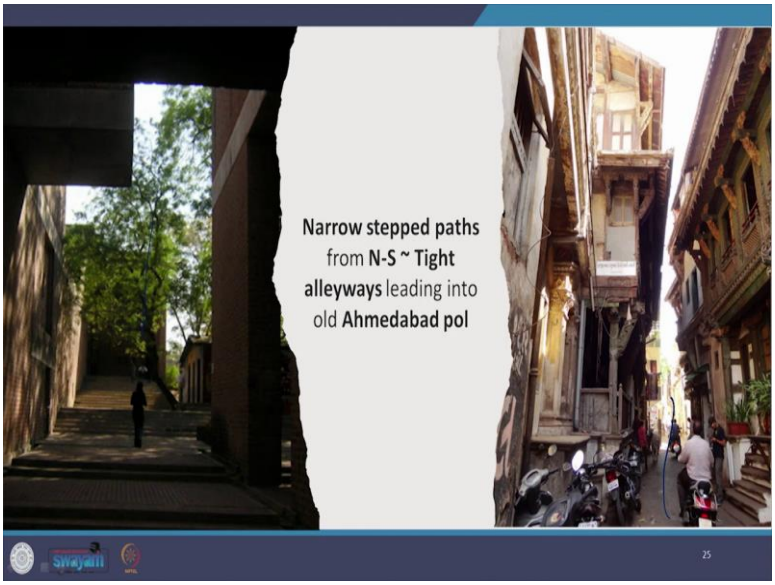


Then again, if we put these points together, the comparison of the works of Kahn, Corbusier and Doshi exposed brick and concrete, Sunbreakers or Brise Soleil, deep shaded areas or deep verandahs, play of light and shadow, courtyards, and rainwater spouts.

(Refer Slide Time: 16:31)

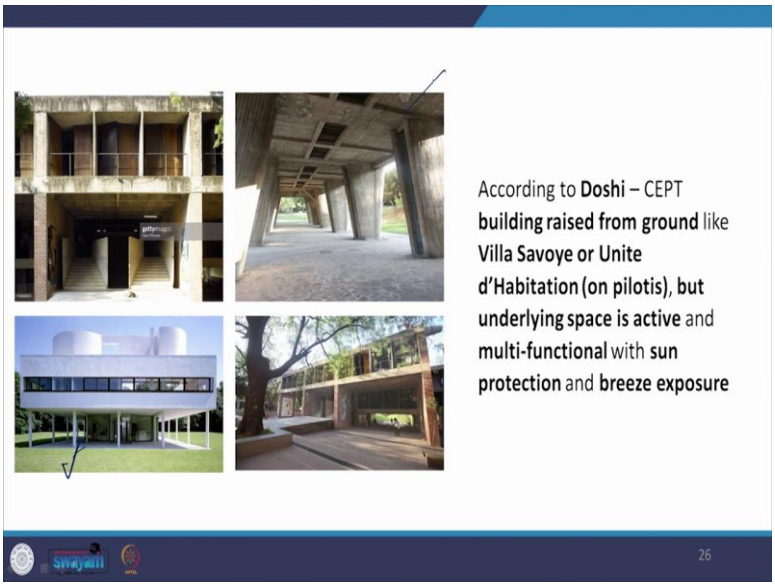
And in Kahn and Doshi one means that struck me was the creation of the staircase and this staircase in IIM Ahmedabad, this is in CEPT.

(Refer Slide Time: 16:42)



Now, the narrow step paths that have been created by Doshi from North to South is also a reflection of traditional Indian space that is the Ahmedabad pols, the narrow alleyways that lead into the old Ahmedabad pol here, which are also shaded because the floors above are cantilevered over the street. You find a similar modern concept of the Ahmedabad pol entranceway in CEPT.

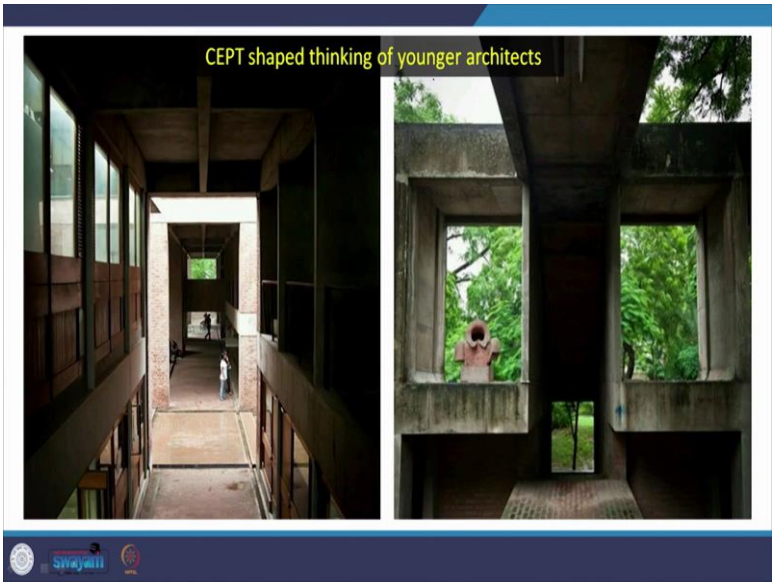
(Refer Slide Time: 17:12)



According to Doshi, CEPT building is raised from the ground like the Villa Savoye here and the Unite d'Habitation both by Corbusier that is on the pilotis. But if you see Unite d'Habitation, when it is raised on the pilotis, the spaces probably only used for parking. In the Villa Savoye the floor, the ground level is used for parking and for certain service areas. But

in CEPT Ahmedabad, but they become multifunctional with sun protection and breeze exposure. So, there is a greater use of these spaces in CEPT.

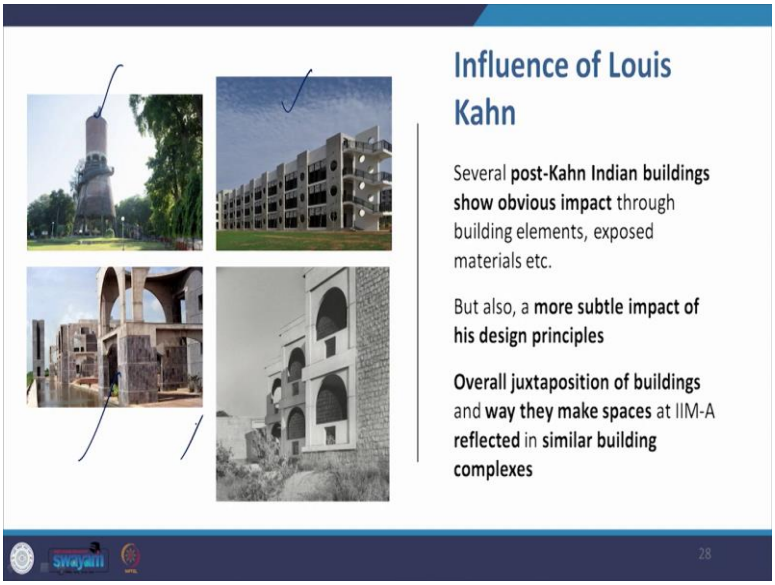
(Refer Slide Time: 17:51)



Now, CEPT itself has shaped the thinking of younger architects. This building plays the dual role that Bauhaus played, that it is not only a building from which we learn about architecture, and it presents us the ideas that were growing at that time in India, like for Bauhaus it was the international style modernism , functionalism that was growing in Europe and then spread all over the globe.

But the Bauhaus itself was an education institution of architecture, which laid the foundation of modern architectural study. CEPT seems to have played, it is one of the institutions that has played that similar role in India. So, the building is an education. And this institution itself is important for architectural education.

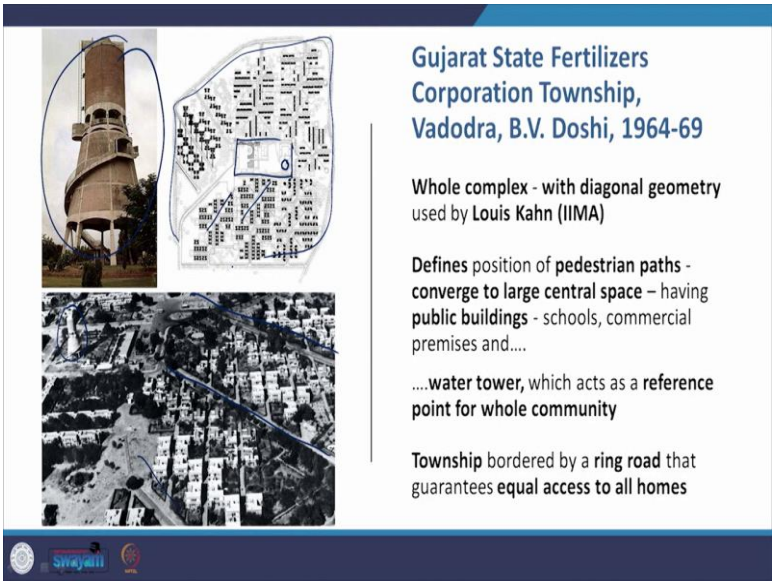
(Refer Slide Time: 18:45)



So, the influence of Louis Kahn spreads to other post Kahn buildings. Yeah, okay, so I will just tell you about this particular project, the influence of Louis Kahn, there are several posts Kahn Indian buildings that show obvious impact through building elements, expose materials, etcetera. So, you have works by Sen Kapadia, you have books by B. V. Doshi, Anant Raje. But also, there is a more subtle impact of his design principles.

For example, even in CEPT, to a large extent that is, you do not see direct visual imitation of the works of IIM , you do not see arches for example, but in certain cases, there is a more clear-cut impression of his work in for example, the works of Anant Raje, or a project of Bimal Patel called EDII that we look in the days ahead. But the overall juxtaposition of buildings and the way the spaces were made in IIM Ahmedabad are reflected in similar building complexes by these architects.

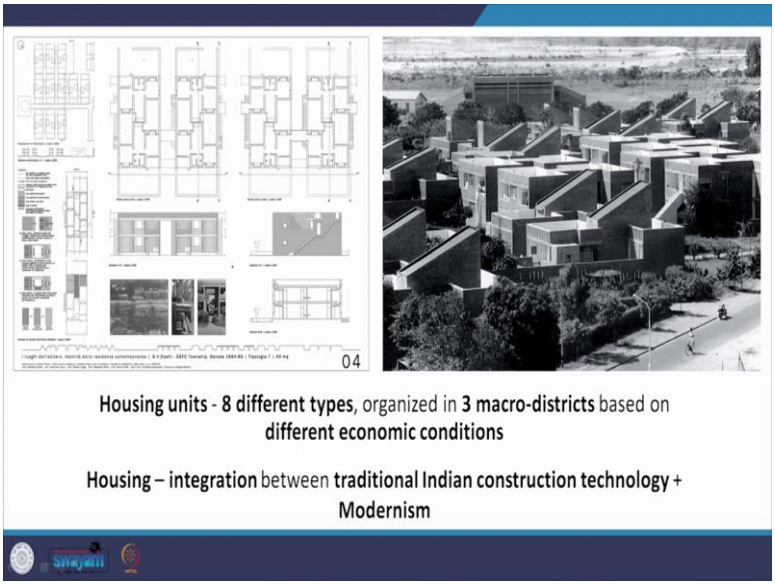
(Refer Slide Time: 19:56)



One of the projects is the Gujrat State Fertilizers Corporation Township that came up in Baroda that is Vadodara from 64 to 69, the whole complex has a diagonal geometry, akin to what Louis Kahn had done in IIM Ahmedabad. This is the diagonal that where the housing has been placed, as you can see here in this aerial view, these are the diagonals.

And all these are going towards a central space the pedestrian paths which are diagonal are all leading to a central space, which has the public buildings, the school, the bank, the post office, etcetera, the commercial premises, and there is a water tower, which is the focal point of the central space. This is the water tower here. And this is the central space in between the housing areas. So, the township is bordered by a ring road, which is all around it so that it guarantees equal access to all the homes.

(Refer Slide Time: 20:56)



The housing unit designed by Doshi here, but out of eight different types organized in three districts, which are based on different economic conditions. So, there is, for example, the level 1 to level 7, level 8 that goes downwards in the total area allotted to each house based on the economic status of the occupant.

The housing is integrated with traditional Indian construction technology and modernism, something that was also there in the works of Corbusier and Kahn, they brought in modernism, but they adopted Indian construction technology and materials. So, we will stop here, but I will make one point here. By this time, in the end of the 1960s, the impact, the ideas of these Indian architects start crystallizing within Indian identity in it.

I will highlight this in the later presentations, where I will show you how the core ideas remained but the vocabulary shifted tremendously, more and more suited to the local or regional context. So, I will stop here and we will pick up from here and look at some more buildings which are impacted by the works of Louis Kahn. Thank you.