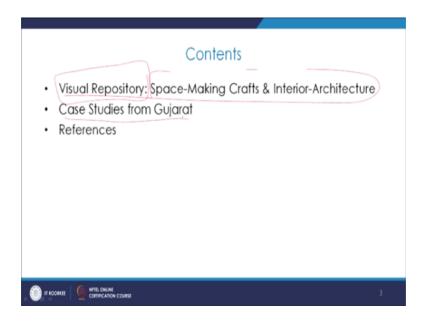
# Role of Craft and Technology in Interior-Architecture Prof. Ar. Smriti Saraswat Department of Architecture & Planning Indian Institute of Technology, Roorkee

## Lecture – 17 Case Studies from Gujarat

Namaste! Hello everyone, welcome to the NPTEL course Role of Craft and Technology in Interior-Architecture. We are going to discuss module number 17 today, where we will visually see some case studies focusing on the building crafts of Gujarat.

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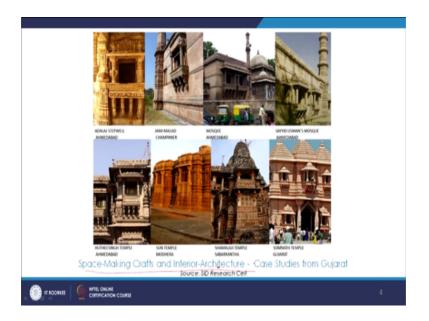


So, we will be talking about space making crafts and interior architecture and we will see a visual repository, that highlights some cases from Gujarat and towards the end we will see some references. So, like I said it is a visual repository, and we have been talking about building crafts and role of craft and technology in interior architecture.

What are space making elements, what are space making crafts and how do we try to establishment inter relationships between them. And we have already seen also the classification of you know different kinds of elements, what are the structural elements, and what are the surface level elements, what are furniture elements, we also try to understand craft in terms of structural crafts and nonstructural crafts.

So, right now I am not really going to discuss everything in detail but we will be just visually seeing the case studies and the examples that have been put here from Gujarat and few of them we already saw in you know few previous lectures. And we are going to see more glimpses from Gujarat and they would be few repetitions, but because your significant examples they have been put here

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So, here again we see the space making crafts you know, the building crafts or space making crafts and different examples which are very famous for timeless architecture and how we see different kinds of building crafts integrated within. So, this is the *Adalaj Stepwell* Ahmedabad, this is from the mosque in Champaner, here again we see when mosque in Ahmedabad mole mosques the temple Somnath temple here, we see more temples here the very famous sun temple at Modhera.

So, we see them. So, the built form itself is so, fascinating and the structural aspect has been taken care of, and the stone craft you know the material stone and also the craft that we see associated with it the stone carving here precisely that you know enhances the space and stone as a material is used for creating that space, plus the building crafts which are inter linked to the making of the built form, also create the timelessness to the structure and there is this ornamentation that gets added up and then there is lot of aesthetics which is involved.

So, all over here we see this elaborate detailing, which takes care of the structure here as well as its very aesthetical and it celebrates the engineers craftsmanship that we have been seen you know throughout history, and these are very historically significant examples and here the work is more prominent and its more exquisite of course now in contemporary times the expressions are different, but theres definitely a transition in the way the craft is done, but there is still a celebration and realisation of the building crafts, which are involved in the making of the space.

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We see some more examples here of the interior elements and here we see the furniture, this built in furniture over here.

So, we see the traditional furniture, we see some colonial furniture and we see some contemporary furniture, these have been classified again as per the research which went in this book the stone buildings of Gujarat. And here of course, we see some traditional elements from this mosque in Dholka in Gujarat. Then they are also wall finishes, there is an element of calligraphy involved there are different kinds of texture that have been put on wall.

So, all of these you know this required sensitisation, this requires understanding of the material, understanding of the tangibles and the intangibles to create a space which you know which generates an experience which is worth living for the user.

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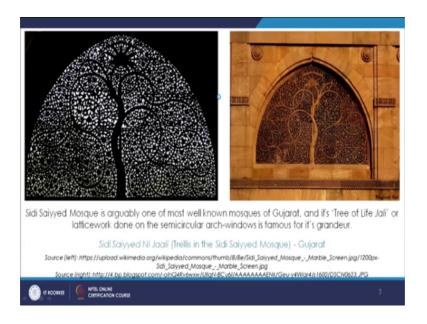


Here again we have seen this example this puts forth so many art and craft forms in just one frame and this is a case study from Gujarat, and we see ceramic work here, the carpets, the block printing, the fretwork of course the masonry work, there is also Plaster of Paris, there is guilding, there is painting of course there is woodcraft involved glass craft involved.

So, we see this presence of material culture and craftsmanship throughout the history of India and we see several examples specifically you know when we talk about Gujarat it is a very rich state and its known for its art and craft forms, and traditional craftsmanship. Some more examples that we see over here this is in Sidpur, and you know some details also which could be seen in the furniture right from the hardware like the handle over here to the other details at the surface. Then we see some more examples here and we see the different kinds of craft forms involved the different space making elements involved.

And the elaborate details, decoration, ornamentation, carving all of these example that we see here visually in the form of a repository. They highlight the value and importance of building crafts and architecture and specifically how Gujarat has such you know exemplifying illustrations and it is known for its heritage.

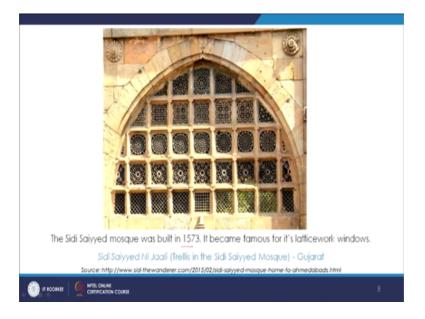
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This is what I just briefly mentioned in the previous module and when we talk about the building craft and we are talking about stone as a material this is one of the most exquisite piece of interior architecture in building craft that I could talk about. So, this is *Siddi Saiyyed* mosque again in Ahmedabad and it is arguably the most well-known mosques of Gujarat and this the tree of life that we see here.

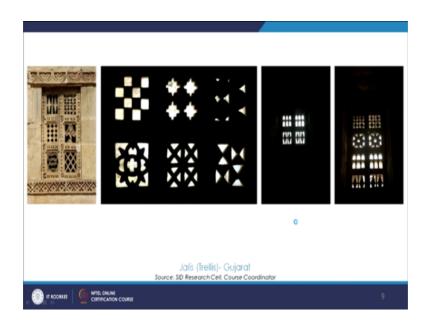
The tree of life *Jali* or trellis done on the semicircular arch windows, is famous for its grandeur. It is a very famour *Jali* that we see over here so intricate, so beautiful, you know this is the tree of life that we see. And the craftsmanship is just marvellous because this huge *Jali* of course, is made into certain parts into pieces, but you cannot see the joinery very evidently. It is done so painstakingly with amazing craftsmanship lot of time being put in and the result is just amazing.

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It was built in 1573 and it is now very famous for its lattice work. Here we see the details this is another detail of the trellis work that we see in this mosque, and we see lot of different motifs and how they have come together and how they have form this trellis and this semicircular arch.

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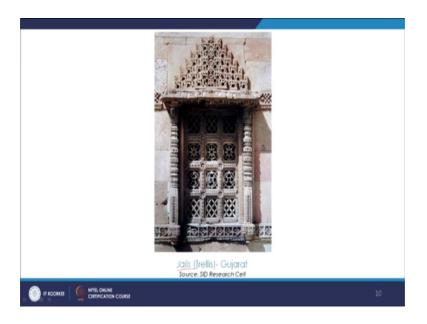
We see some more *Jalis* from Gujarat and we see different kinds of motifs again a tree like motif over here and then we have some geometric motifs, some other kinds of you

know very free flowing motives could be seen here and what again you know what time of the day we are looking at these *Jalis* whether from outside or from inside a different kind of experiences generated every time. And then there is display of light and shadow which is beautiful and meditative and all of these done you know by hand and it is all done by the craftspersons and now they have been lot of studies which also talk about the contribution of *Jalis* you know in the climate responsiveness of the buildings which is of course, established as a passive design feature earlier.

But now because we talk about lot of simulations and lot of building energy efficiency models, there has been a calculation about how the mass and void ratio within these *Jalis* actually contribute to the climate responsiveness of the buildings and how they make the buildings you know work with the work as the moderator of the immediate environment, and what kind of you know wind affects does this *Jali* bring in, what kind of light and shadow effects does these *Jalis* being in what kinds of light and shadow effects does do these *Jalis* bring in.

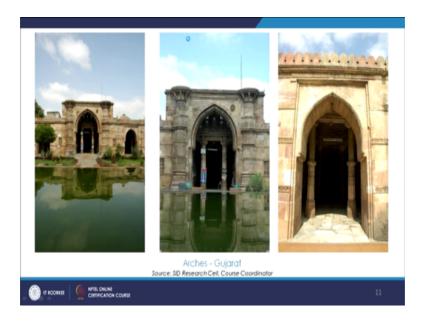
So, those kind of research is also have happened. So, rather than just calling them as ornamental space making elements, they are actually crafted spaces and the *Jalis* which are added they also help in the climate responsiveness.

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So, it is a scientifically proven fact now. Some more examples here we see this elaborate *Jali* of course, with the entire frame and the structure, and we see the different kinds of modules again over here this is a different kind of module and here again some ornamentation and detailing part.

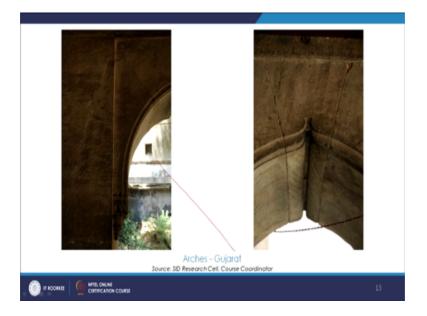
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We will see some more examples very visually. So, there are arches that we see in different case studies from Gujarat and we are talking about the space making elements in the previous module and before that also and here again you know.

This is an arch entrance and it add so much monumentality over here. So, what is the scale of the arch and where is it placed also makes a difference, and what is the making involved in how many parts it is done all those details. So, it is not just a small decorative element anymore, but there is also a proper science how it is made; where it is placed; what is the proportion and scale to the space; what is the experience created. Again talking about more arches.

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Some more details this is the making and the joinery detailed over here that we see.

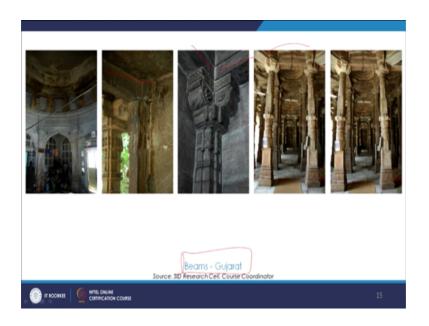
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We see some balconies is very elaborate and exclusive balconies that we see. And we see this very richly carved and decorated bracket which is of course serving the structure with there are also these bands and these decorative elements that we see over here and there is lot of detailing.

So, all of these historical examples are very timeless and each panel or a each piece, the weight is carved and weight has been assembled, it is a very exquisite example of building craft. We see some more details over here, the joining details the making details the assembly detail.

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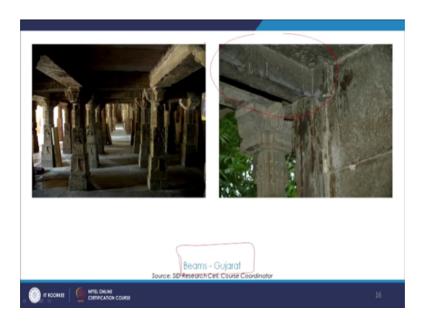


Now, some beams that we see, we see lot of examples here. So, of course, the times have changed the construction technology has changed, not enough space is available maybe such you know huge heavy materials are not required and there is no denying that you know the change has to happen. The only thing that we are discussing through this course is that, how to understand these systems of making and how to understand the interrelationship between the craft in interior architecture.

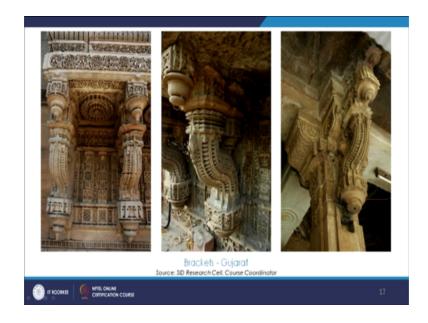
And of course there are lot of contemporary designers and architects who are also doing it, we saw the Udaivilas example in the last module and we are going to see lot of contemporary expressions in lot of contemporary interventions which are going to come up in the subsequent modules also. We are just trying to understand this tradition and continuity, how learning from past celebrating the existing skills, the repository that we have, the knowledge systems that exist with us, the knowledge of material that we have already and how with the passage of time with slow transition and continuity, trying not to dissolve what originally existed.

But coming up with expressions which are contemporary more acceptable combined with the innovation, how do we work further and generate the you know symphony of building craft and space making and create some new experiments.

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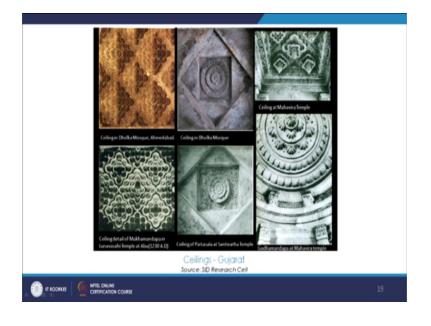
Some more examples when we talk about the beams and we see lot of images over here; Brackets: very elaborately carved ones lot of detailing over here enormous detail, here. So, all these space making elements and the beautiful stone craft that we see associated with them, and how they are taking care of the structure as well as creating a vocabulary and ornamentation, which is very unique and probably difficult to recreate at least in today's time.

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When we see lot of ceilings very interesting ceilings when we see the lot of case studies from Gujarat. We see very elaborate ceilings and lot of patterns and motives and you know details over there.

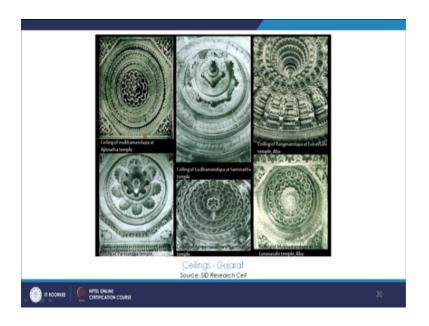
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So, this is when ceiling in the Dholka mosque again, we see the fractal geometry in the enormous detail it has constructing it of course is not less than a science how to put it in place together. So, it is not just ornamentation, but of course, a lot more than that and yes ornamentation the added layer of ornamentation does magic it does look very aesthetic.

Here we see again this ceiling at Mahavira temple. This is the Gudhamandapa at the Mahavira temple and here also we see this enormous detail in the ceiling another temple and we see the ceiling over here. And this is the ceiling detail of Mukhamandpa in the temple at Abu just look at the details, some more ceilings and some really beautiful ones.

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So, here again we see the Rangamandapa from the temple in Abu and just look at the ceiling it is just pure magic the details, the carving in the building craft that is involved in the making of it. More examples this is again ceiling of the Mukhamandapa of a temple the Parsvanath temple. So, there is the creation of this 3D effect and the volume, the depth that we see the details that are extruded and which are you know highlighted.

So, again there are principles of making which highlight things there is sometimes a flat surface but there is an optical illusion the way it is given a depth it appears to be 3D. So, like if there is a lotus motif we will see the same motif in different space making elements at different scales, and at different placements and it gives a very different

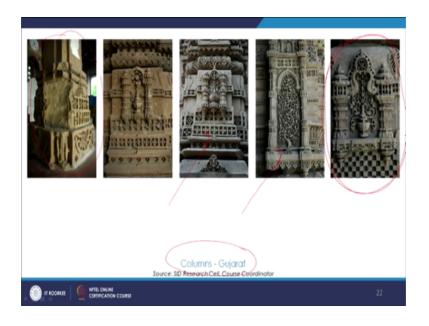
effect altogether, its no more a flat lotus but sometimes it is just it is bulbous it excludes out, it creates a 3D effect to it.

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Some more ceilings we see here again here this example from Dholka. This one again a very elaborate ceiling design here as well. We see the columns different columns from Gujarat and here. So, there is lot of detailing on the column base and specifically the capital and here we see the lot of detailing.

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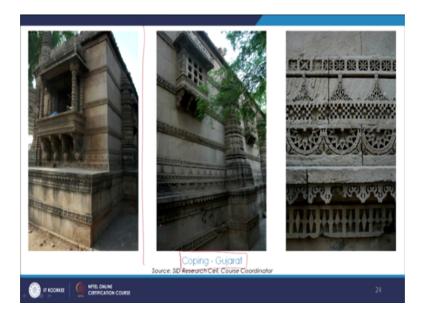
Somewhere here you know these are the zoom in pictures and maybe the context is missing for you but yeah these are the elaborate designs and carvings that we see on the columns, this one over here.

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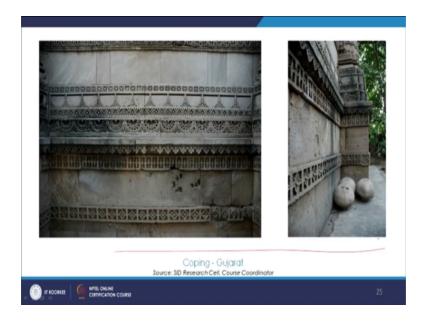
Some very recognisable motifs that have lot of stories behind them, more examples of columns here we are talking about the capital, this one. So, just see its not here only you know only the base and the capital is not elaborate, but the entire shaft and from top to bottom it is a very exquisitely design column. So, we have all different kinds of examples that we come across then going through the more examples. Coping:

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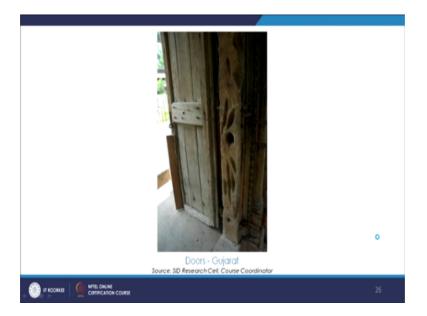


Can we just look at this elaborate coping designs; very intricate and very you know, nicely handmade and adding to the entire built form accentuating it enhancing it, more examples.

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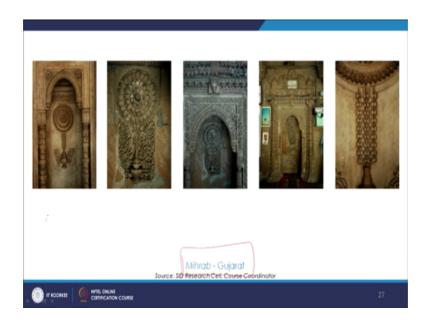


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Now, we are going to talk about the doors. So, again breaking the built form in terms of space making elements in the kind of crafts which are integrated within them. That is what we are trying to understand throughout the subject and throughout the entire intention of you know taking this taking a course like this and specifically through some models like this one, when we are focusing on case studies from Gujarat- Mihrab.

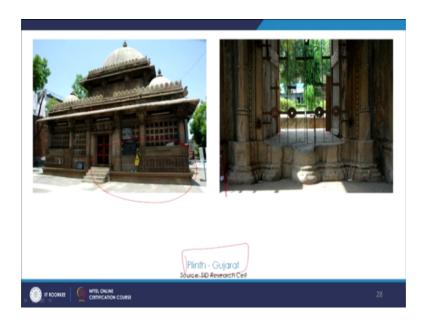
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So, when we see the Mihrab in the mosques, again they were very important elements and which have highlighted the building crafts quite intricately.

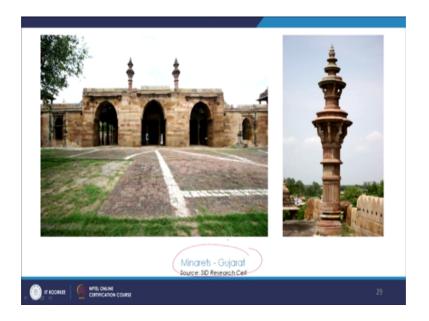
We see over here, lot of detailing here as well very intricate quite detailed out. So, we see all these examples and right now it is just so satisfying to only go through them visually because trying to understand the further details think it is a very less time that we have, but of course, though different modules we will also see some construction part; like few of the place we saw in the in the previous module itself where we are also we were also trying to see the construction details.

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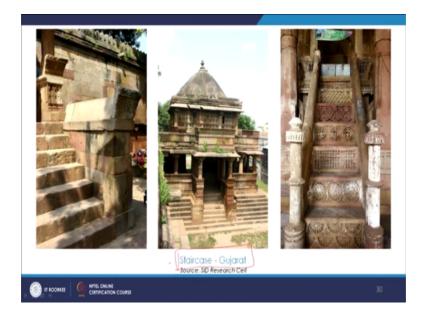
The plinth, threshold and plinth, the Minarets:

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The minarets that we say see in lot of mosques they also form a very important element, they are basically also like landmarks which are also seen from far-off and you know to create a sort of a cone of vision and to put them as highlights with beautiful details is also a good idea. Some more examples that they are seeing visually.

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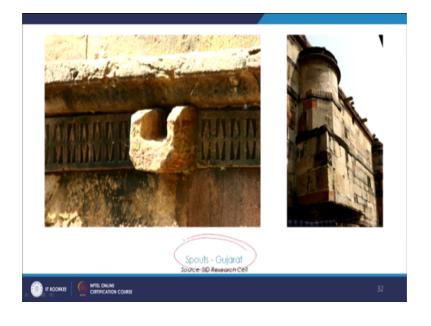
So, we are talking about the staircases here and we see different kinds of staircases, this is the *Minbar* and even here this staircase is quite intricately detailed out, see different kinds of carvings and motifs so, that is also seen.

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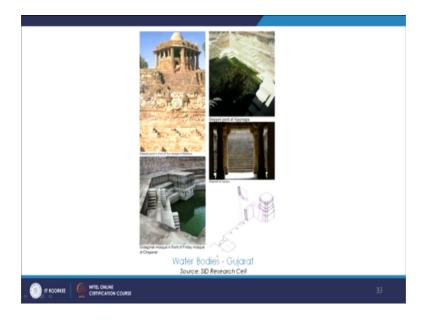
Some more examples of the staircase; so, this is the case of a spiral staircase, you see some examples here you know also the step wells there is a very famous step well in Gujarat. So, there are lot of details of the staircases there.

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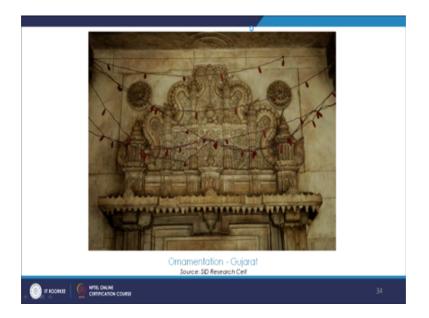
Taking another small elements, which creates a very interesting view the spouts and they are functional of course, to drain out the water but they look aesthetic as well the way they are placed and in the water falls out of these, its again a sort of a view that really you know creates magic for us sometime in the times of the rain.

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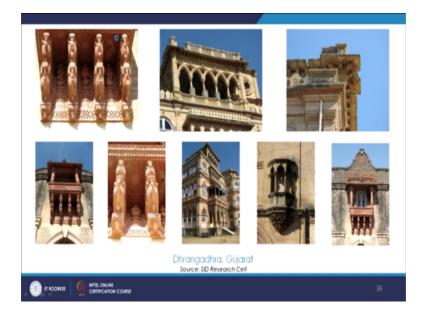
Some more examples from Gujarat and we are talking about water bodies. So, we see some step ponds over here and we see some step wells over here. And so much has been written and talked about the step well especially in the case of Gujarat, and they are such beautiful examples of building craft.

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Some more examples here we see extensive ornamentation, lot of details.

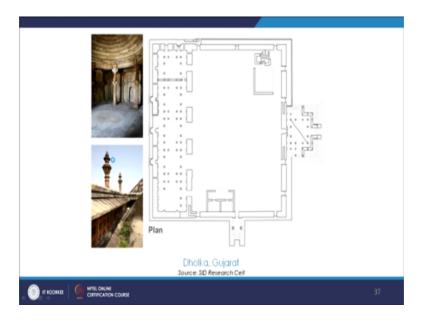
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Again continuing our visual repository we see some examples of *Jharokhas* and we saw some details in the previous module as well, but I found it so interesting that I am repeating it.

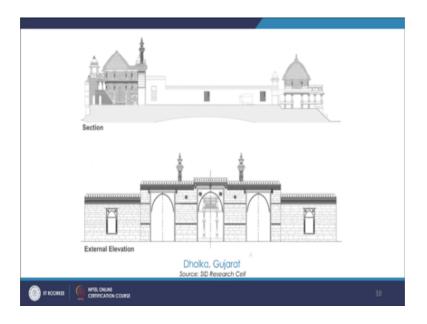
So, different kinds of *Jharokhas* different levels of detailing different scales. So, again within one particular element also we would find lot of variations, some more examples of stone craft, this intricate detail here arches, brackets.

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So, all the details are easily seen when one goes to Gujarat, if you are not been there already please plan it would be worth it.

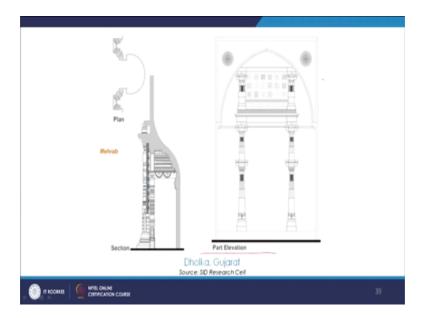
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So, again we see some drawings from Dholka, and in one of the modules that we are going to cover later we will be talking about systems of decoding interior architecture and then we will try to understand you know the proportion systems, the relation between the section and the elevation, what were the principles of space making.

So how did the entire interior architecture of the built form could be decoded into different elements in systems in place. So, that would be interesting to you know understand, vis a vis of course, the role of craft and technology in it.

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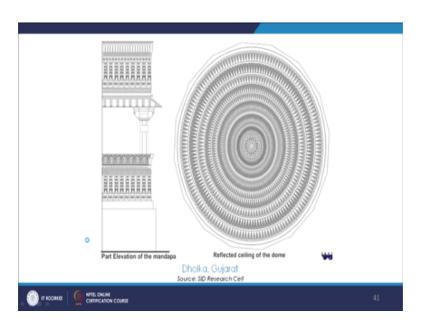
Some more drawings and you know the details that have been highlighted, again here the building craft, the stone crafts.

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Here again just look at the details, very intricate each part has been really worked upon handcrafted with lot of details in intricacies.

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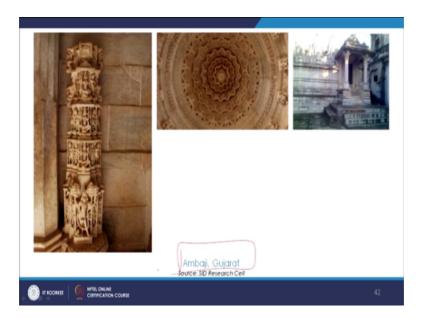


This is a ceiling that we saw in one of the pictures and these are the drawing that were produced.

And like I said in the previous module also I was also a part of this research team, and with due credits I am taking the liberty of you know putting forth these examples

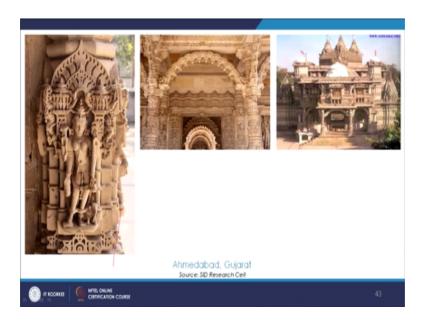
because they are very significant for the course like this and also in general for architecture students and professionals.

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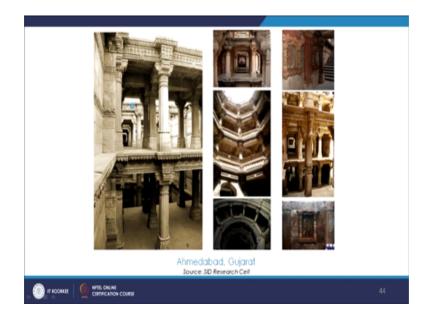
Again here we see Ambaji and they continue discussion, they continue discussion on the details that we see here again, the ceiling. So, this visual repository is quite amazing actually.

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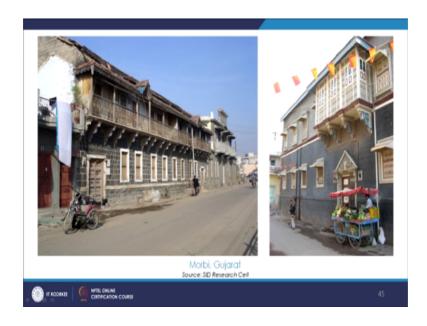
Just look at this, it is very exquisitely handcrafted look at the details enormous detailing.

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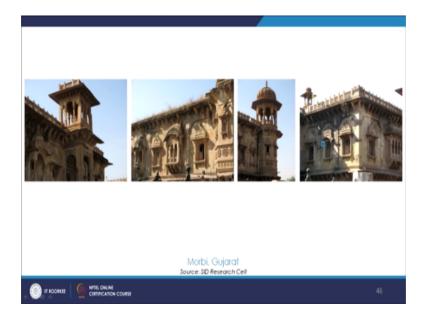
Some more examples from Ahmedabad itself the step wells, then Morbi you see some examples from Morbi here some detailing.

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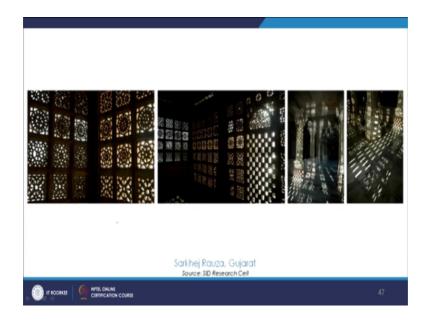
Then we see some more examples here of different space making elements.

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Here this detail the entire view from this side. So, all of these details in all of these elements in building crafts, they help us understand also the making of the entire space. How they are assembled together, how they are constructed, what is a kind of joinery and of course there is an added layer of ornamentation to it.

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*Jalis* we have been seeing lot of *Jalis* and my fascination for them never ends like *Jalis* one of the most fascinating space making elements that I you know find when I see different interior architecture example specifically is these timeless historical examples.

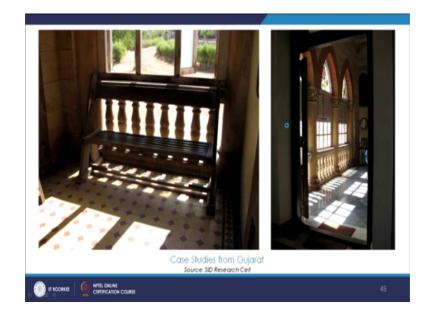
So, this is a very famous Sarkhej Rouza from Gujarat and then we see these *Jalis* and the different kinds of play of light and shadow in ambience being created.

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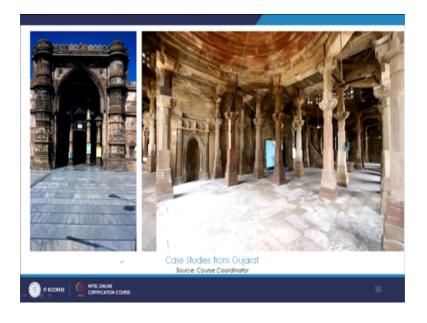
Some more examples here, this is the Mehmadabad Gujarat you see lot of examples you know of different elements like staircase arches brackets all of them here.

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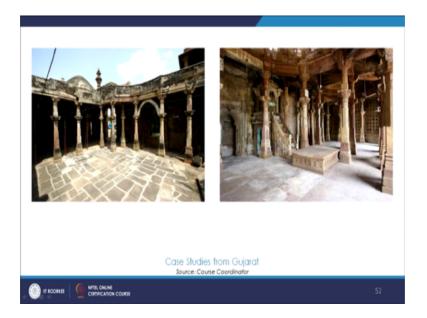
Again some more examples here stained glass over here, the stone craft.

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Further we see some case studies; look at the monumental entrance again and the kind of details that are done. And this is from the inside of the mosque and within the interior also we have been seeing lot of details in the *Minbar* the *Mehrab* the ceiling again here.

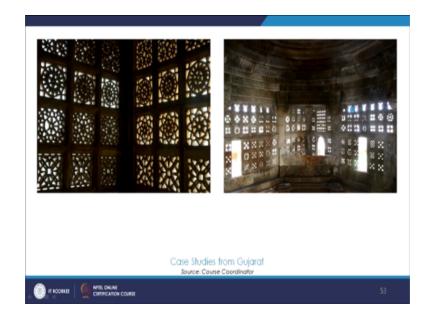
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Here we have seen the details of the *Minbar* in one of the pictures in the great detail.

Here we see again lot of trellis designs, lot of modules which have been assemble into this trellis.

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So, there are so, many details you know even if the one building you spend time therefore, hours and days and weeks, there is so much to learn about, the principles of making, the skills involved, the kinds of tools, the material culture, the knowledge of the

material, the volume that is created, the scales and proportions that have been you know put in place. So, it is like a learning field learning mechanism and it is this repository itself gives us so many observations, so more examples of the trellis.

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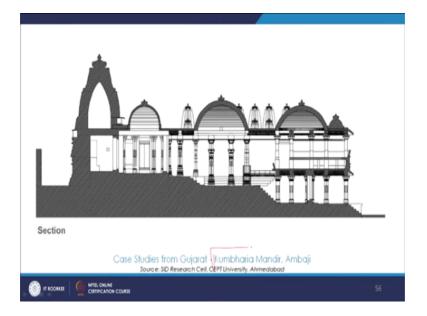
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Further different kinds of motifs, here again different kind of play of light, we see some furniture the built in furniture and here also we see some detailing. So, it is functional as

well as decorative, and there is also the use of locally available material. There are few more drawings.

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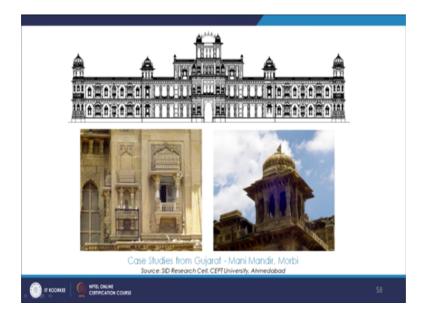
So, very famous temple in Ambaji the *Kumbharia Mandir*, here also we see lot of intricate details.

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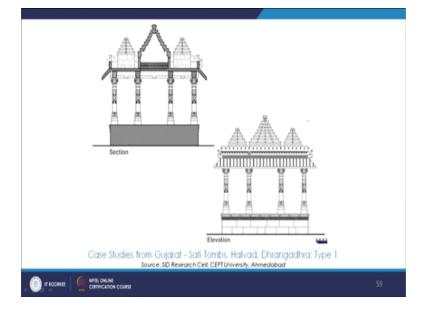
Entire shaft, the base, the capital everything is quite ornate.

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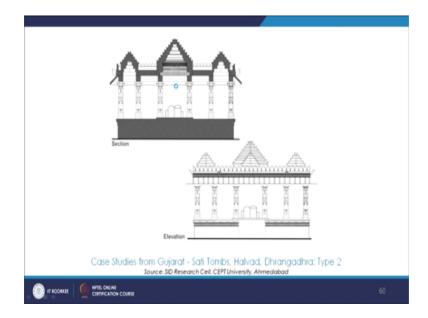


Some more examples the *Mani Mandir* in Morbi. So, entire forms I mean even just looking at this the proportions the scale the kind of entire volume which is created, it is quite unique and timeless, some more drawings and more details.

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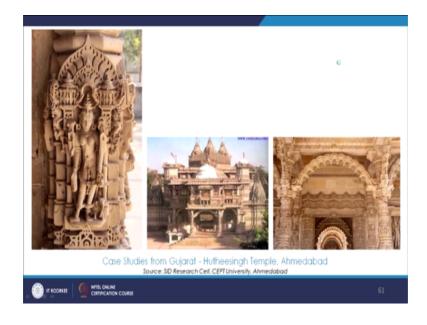


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Again here some pictures.

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The *Hutheesingh* temple in Ahmedabad we saw this picture in one of the previous slides, and again I was focusing on the intricate, elaborate details this is the drawing again which gives lot of details here at the entrance itself.

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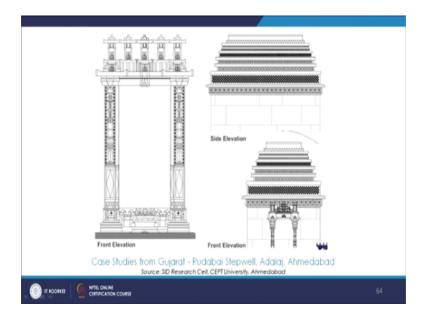
So, different elements that we see here, and we see the building crafts, stone carving specifically here.

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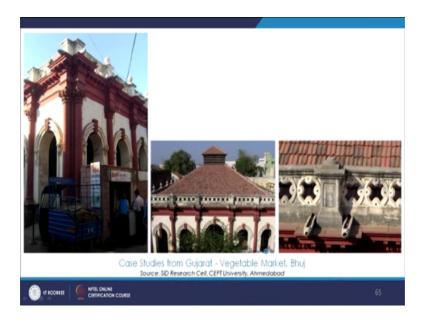
Some more details over here. This is from the famous step well in Adalaj

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So, again lot of examples, lot of detailing and its very fascinating that one reads about these step wells in Gujarat and specially you know this one at Adalaj because of the limitation of time we are not really discussing that in detail but it would be nice if you are not already read about it please go read about it.

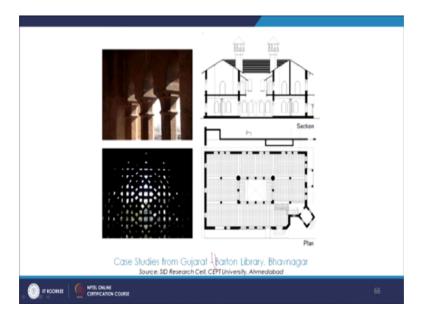
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Also there is lot of work done by architect Yathin Pandya, who has written several books, he has release several documentaries and videos.

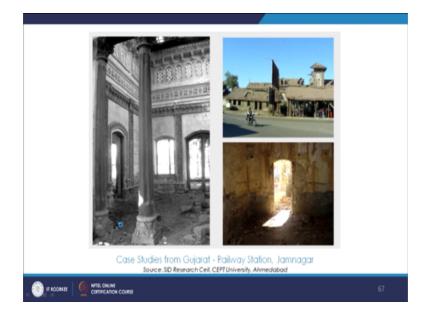
And he is really explains these elements of space making in a very elaborate and detailed manner. So, those could also be referred to. We see some more examples this is a vegetable market in Bhuj, even in the vegetable market we see very interesting details.

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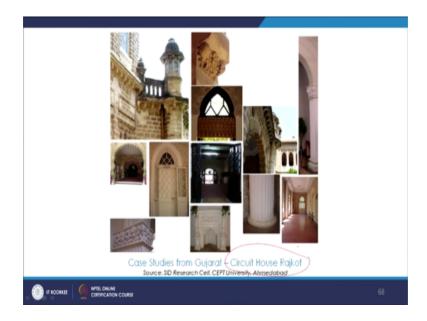


It is not just temples, but we are seeing lot of other examples, this is a library in Bhavnagar some trellis details again over here, some more details this is a railway station in Jamnagar and just look at the phenomenal details over here.

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This is the circuit house that is there in Rajkot and here also we see space making elements with different space making crafts, structural crafts, surface integrated crafts, lot of different examples.

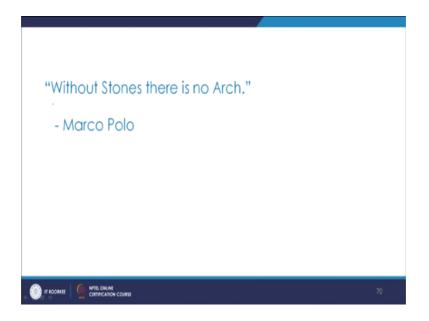
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Again the circuit house Rajkot that we just saw in the previous slide. So, this is not an exhaustive repository because there is so much to show and talk about, but just this visual repository and the glimpses itself I think it is very enriching to understand interior

architecture in terms of buildings crafts, and the role that they play in creating or enhancing these spaces.

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So, I would like to just end with this quote, "Without Stones there is no Arch." Because I extensively focus only stone crafts and that is how I found this relevant and I just put this quote, you know that how stone as a building material, how it has been so significant and we will see in the subsequent modules. To right from the Stonehenge to the contemporary buildings, what is the journey of stone as a material and what are the different examples of interior architecture one could come across and learn from and understand the principles of making from.

So, next the modulate we are going to see next, we will talk about case studies from Rajasthan which is again a very rich state in terms of building crafts and interior architecture.

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And let us now see some references. So, again this one specifically, some more.

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Thank you.