

Culturally Responsive Built Environments
Dr. Ram Sateesh Pasupuleti
Department of Architecture and Planning
Indian Institute of Technology, Roorkee

Lecture - 34
How to Study Vernacular Architecture

Welcome to the course, Culturally Responsive Built Environments. Today we are going to discuss about How to Study Vernacular Architecture. So, what are the methodological processes one have to follow up on in studying the vernacular architecture either in the form of a building, in the form of a detail, in a form of a layout. So, what I will be doing is I will be going through a review of some of the literature work from Brunskill's illustrated handbook on vernacular architecture work. And, what kind of methodology he have established in the extensive recording and as well as the kind of intensive service.

And later on, I try to elaborate on the work which we did from School of Planning and Architecture, Bhopal as well as the Indian Institute of Technology Roorkee. So, how we encourage our students to study the traditional architecture elements before in the early semesters of architecture course. So, when we talk about how to study vernacular architecture, as we discussed in our all other previous lectures the scale of this culturally responsive built environments it ranges from a small room to a size of a continent. Because, the culture it can have its implication and its influence representation from small room to a scale of a continent.

So, that is where the representation and follows in different scales and how they actually come together. So, when we are studying about this vernacular architecture we have to be precisely know what exactly are we looking for. In fact, let us say someone is saying I am looking at long houses in that more region; obviously, the scale is fixed, the region scale is fixed and the type of house is fixed. And, if you are putting at time of the house again the construction time or it is so, that is also fixed. And, let us say a someone is looking at if you are looking at the vernacular houses in sub architect climates right; obviously, when you talk about the sub arctic climates it goes from almost from Canada to Sweden, Norway, Russia. So, the whole stretch of geography ranges.

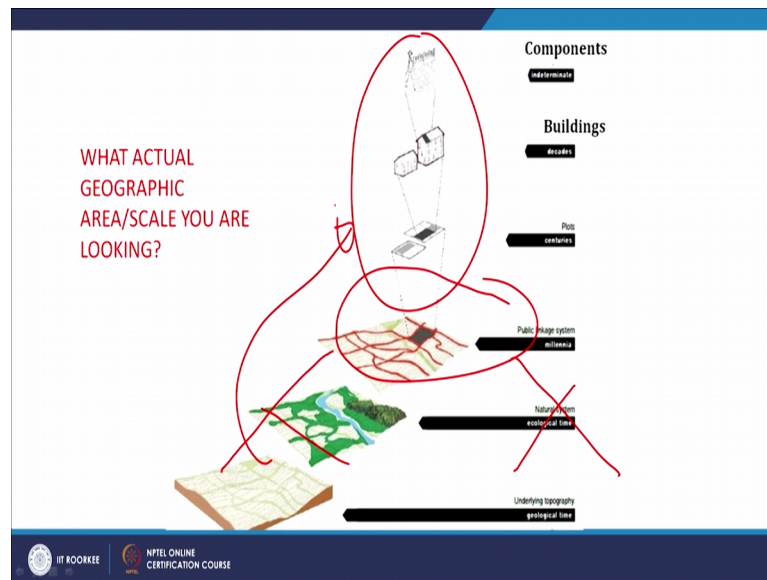
But then when we take the sample of it; obviously, a few from Canada, few from Kiruna or in a Swedish part, few from Norwegian part, few from Finland part, few from Russia.

So, the geography goes within that sub arctic built. So, what exactly we are looking at? Are we looking at, houses in a cold climatic zones especially in sub architect or architect climates. Then our sampling will vary, we cannot just come to a very good conclusion only by taking a Sweden example, we cannot conclude for the whole sub arctic; obviously, the sampling has to go around. And, student of mine Nipun Prabhakar while he was working in Nepal with some projects on (Refer Time: 03:52), he has a passion of photography. So, he was documenting on the whole doors of Nepal.

So, which means his focus was clear that he is looking at the vernacular door so door only the door element. So, which means throughout the Nepal how the doors are able to communicate to the society, you know what is the role of the doors and how different trends are there in the traditional doors. And, how it is aggregating the spaces, both from an urban scenario the rural scenario and how it is corresponding to the streetscape and basically the whole symbiotic process. So, now his focus has lied more onto the element of door and similarly a person working on the roofing material someone working in the roofing material.

Let us say in a whole south west of England, then it talks about much more bigger region and it talks about what kind of material it goes, what kind of techniques it goes, what kind of logistics it goes into the transportation of the material from the queries to the sites and how economical it is. So; obviously, the focus is very different. So, it is very much fact this particular site is very much fact for any researcher to think about because, first and the foremost thing is we should identify what we are looking for.

(Refer Slide Time: 05:22)



Then when we talk about a spatial scale as I said there is a space time framework which was actually defined by N. Bentleys work. He what he talks about this kind of how different layers of the built environment, how they are compromising I mean a set of change aspects and that which goes in time. For example, you have the underlying topography which changes in a geological time, you have the flora and fauna natural systems which changes in an ecological time. Today, if you take a case of Uttarakhand many rivers or many floors have dried because of some various projects, the channels of the river channels have been diverted and obviously, the settlement pattern has been differentiated.

So; obviously, the existence of flora and fauna, the river system, the eco systems actually have been root cause of the survival of these traditional settlements. So, which is the natural system with changes in an ecological term. Above it you have the public linkage system which is a network of services, the road networks, the connections. So, that is where which might change in a millennium. Later on, above that where we come to the blocks and plots which might change to the ownership and to the integration and disintegration of various flat ownerships and demarcations; obviously, they might change in a centuries time.

Above, it that is the mostly architects focusing on the building is the decades which might change in decades. May be 2-3 decades, 1 generation; obviously, how they change

with new in material inventions and degradation of the old materials. And obviously, that much more components which could be the intermediate components which might change now and then. So; obviously, what we are looking at is a kind of space time framework and just remember the existence of flora fauna is very equally very much equally important of how a building exist in that particular site or not.

Imagine a volcanic site and how it has made the further settlements to undergo tremendous change. If there is a floody site obviously, it has an impact on the nature of the settlement nearby so; obviously, this ecosystem. So, what as an architect the most of the students most of the they only concentrate on the above three and maybe the urban design also they compliment this. But much of the time we normally kind of ignore this part of it, but it is very much related to the existence of the vernacular settlements.

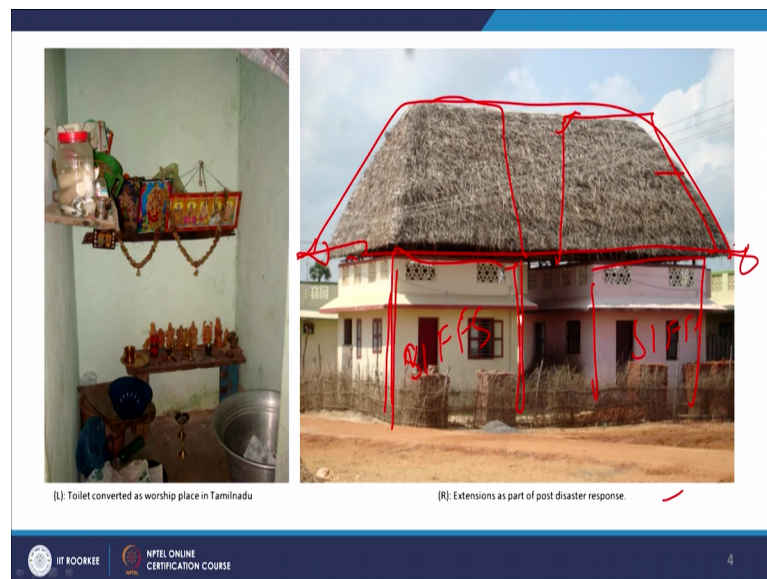
So, before documenting about any it is a building or is a neighborhood or anything one need to have a thorough idea at least an idea of which location it is. So, that from there you can actually analyze the logistics of material transportations and the labor skill, labor availability you know. So, they are all matters to a talking about domestication of these materials you need to know where the sources are coming from.

So, that is why we are talking about, when we talk about the focus what actually actual geographic area or a scale you are looking. Are you looking at door? Or a window element? Are you looking at a building typology? Are you looking at a group of buildings as a neighborhood? Are you looking a particular clan of I mean a type of building where particular clan is occupied? Right, a particular tribe is occupying a certain so, you are you looking at these natures of tribes all over the country or in that region. So, you need to understand that very carefully.

And what is your outset of your geographical area which is your study area right. For instance in any of the vernacular architecture it is not like a kind of donkey work you go and measure the work and you document it, one need to apprehend so many questions in their mind. In fact, I will explain my own journey, how my journey has started. When I was a student of architecture back 90 late 90's and early 2000's. When I was going through lathu, when I have seen some abandon houses I could, the first question which came in my mind was why this house with a good amount of technological innovations under concrete technology, why these are abandon by the locals?

The very first question, have given me the whole direction into the vernacular architecture in the study of vernacular architecture. So, one need to apprehend some questions you know why this is like this, why they are making timber, why they are though timber is available in Uttarakhand why people are unable to use timber today as a building material, why they are used to break an concrete structures?

(Refer Slide Time: 10:35)

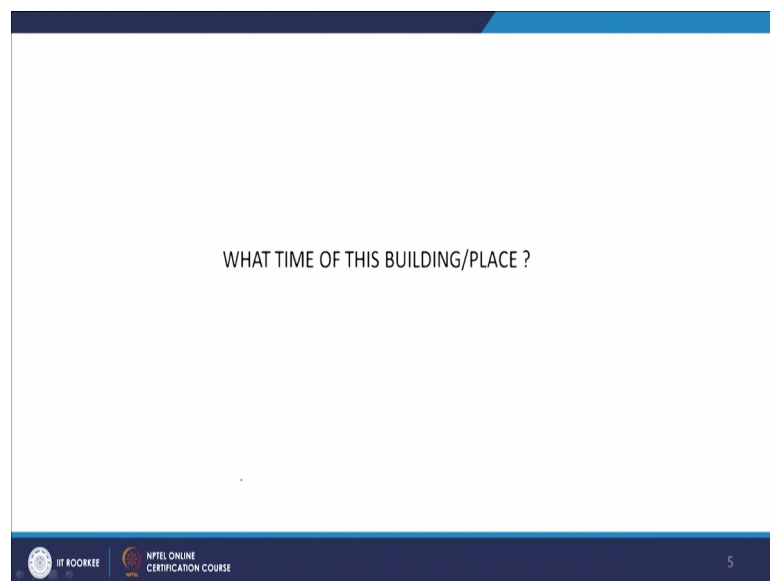


And now, good example this image of mine when I was studying when I was studying in Tamil Nadu in Tharangambadi. This development so, these are all development in the bottom one is basically given by the NGO SIFFS have provided this and a curiosity in this photographer is the language is so different, you know the vertical languages so different.

This is what they have been given and this is what they have been made right, they been developed. So, fortunately two brothers got this house and then gradually they develop this house with a local materials and they try to make one roof. They would have done a small roof individually that language would have been different, but why a big roof combining two things because, unnecessary material. So, then I come back that is the two brothers got by lottery method or whatever the method have got two adjacent to each other. So, which means even the process is linking to the architectural outcome and her presentation.

So, another photograph which I can say anyone who look at the photograph they only see the pooja. Why this worship toilet was converted as a worship place? So, this is the very basic fundamental questions. So, then it goes back to back too many answers you know it goes back to the cultural norms, it goes back to the financial feasibilities, it goes back to the availability of skill, craftsmanship. So, many issues within it and sometimes goes to that permanency and the tenure aspects of it. Till now, we talked about what we are looking for, what is the geographical context and the scale of the study.

(Refer Slide Time: 12:33)



And now, we have to see what time of this building or a place because one need to have a fix of a time. Let us say, if you are looking at kind of barn houses in the early 90's century. So; obviously, it fix the time frame from when to when or if you are talking about any colonial buildings especially in the smaller towns then you have to talk about is it post independent or until independence.

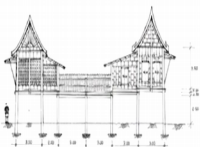
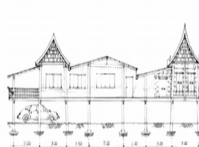
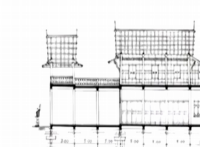
So, if you look at Tanya Sen Gupta's work from U C Bartley, I mean Westminster and U C Bartley. So, you can see that you should study till the independence time how the buildings have been negotiated. So; obviously, there is a time which is static condition and then you are observing within the building within the time frame.



So, that itself is producing a database within the time frame. So, which could be add on to a kind of artist story and database or it could be used in the conservation processes you know, so that is a data which your building upon. Because, the moment you are mixing

so, many times even within a building sometimes, let us say 2-3 generations have modified it. Obviously, in one building you can see different timings, but still that that is again talking about a particular stretch of a time like we talked about the transformation of a traditional Thai house.

(Refer Slide Time: 14:01)

Transformation of the Traditional Thai House

<p>Post 13th century</p>  <p>Reun Thai easily dismantled and transportable</p>	<p>early 2000</p>  <p>Six major transformations are found:</p> <ol style="list-style-type: none"> 1. Central terrace to hall; 2. Multi-level to flat floor; 3. Changes of an area under a raised dwelling; 4. Disappearance of a verandah and erection of a porch at front; 5. A bathroom at upper level; and 6. A kitchen unit to cooking space 	<p>2009 (Reproduction of Thai house)</p>  <p>The obvious features are the traditional roofs at upper level and the contemporary building at ground level.</p> <p>Source: Poomchai Punpairoj (n.d) Recalibrating the New Thai Vernacular Architecture, available on http://www.tds.tu.ac.th/jars/download/jars/v7-2/05%20Recalibrating%20the%20new%20tha%20vernacular%20architecture_040811.pdf</p>
--	---	--



6

Starting from Reun Thai the post 13 th century onwards you can see how the which is well documented based on the various ongoing challenges and changes. And in the 2009 so, it has been divided stage by stage and what are the major influences into it and how it has been negotiated and how the functionality has been determined.

(Refer Slide Time: 14:23)

EXTENSIVE RECORDING

1. Define the Survey area
2. Assemble materials
3. Decide on the Relevant period of the Building
4. Decide on Size-Type
5. Identify the Building
6. Note down the aspect
7. Note down the principal walling material
8. Note down any reliably detailed feature
9. Note down salient features according to the code
10. Add a photograph and diagrammatic sketches
11. Note down initials and date of survey

Source: Brunskill (1970)

IIT ROORKEE | NFTEL ONLINE CERTIFICATION COURSE | 7

So, Brunskill what he talks about is, he talks about mainly 2 to 3 important methods and this is one very detailed way of I am just giving you some kind of a very brief points, but one should take it into a detailed account of it. One is the extensive recording first of all we need to know the define the survey area. So, this is a survey area we are looking at, in India we call a Kasra in map. So, we need to this is a scale of our area and then the second aspect is for any of these a study first assemble the materials.

Materials in sense you need the tape, you need the pencils, you need the papers, you need the plane tables sometimes for doing any survey. The plane table equipment has to be there, you know in it when we are measuring the contours of it or when we are measuring any kind of now in the modern times where the laser equipments to measure the survey. So; obviously, we need all these materials.

Then decide on the relevant period of building. Are we talking about from starting to if you are talking about the old 12th century houses then we have a length of period. Are we talking about a phase of a building time or a style of a building time. So, we need to define decide on that relevant period of the building, decide on size and type. So, what size and what typology of it. Then identify the building because, one need to locate the building because and especially in many of the vernacular building you do not get appropriate locations.

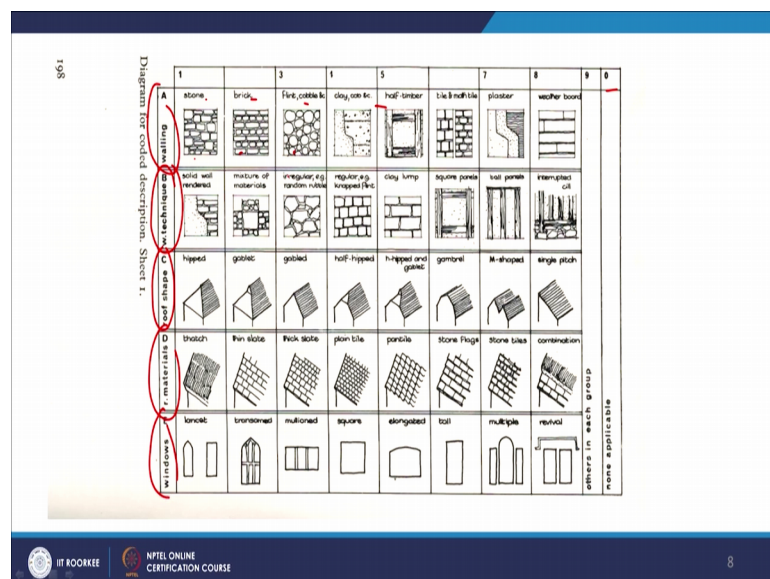
So; obviously, based on the survey aspects so, you need to identify the north aspect of it, we need to add the proximity aspect of it and the reference point to it you know. So, one we have to give a reference kind of thing. So, that is where one can identify the building and note down the aspect. So, what are the you know, what are the reference aspects to it, how it is by architecturally what are the architectural aspect in to it.

Then note down the principle walling material. So, is it a rubble stone masonry or is it a dry stone masonry or is it a rammed earth walls. So, we need to talk about the walling material. Note down any reliably detailed feature. Are you talking about any particular built feature, are you talking about dormer window, are you talking about lintel right.

So, not only that reliable detailed feature which we are talking about not only about the lintel, but some age, some date might have been written on the lintel. So; obviously, it was written on lintel let us say 1857. So, it is talking about the age of the building right. So, that reliable information has to be captured. And, the salient features according to the code. So, we have to document about all these architectural features, what are the special features in it. Add a photograph and diagrammatic sketches and note down initials and date of survey.

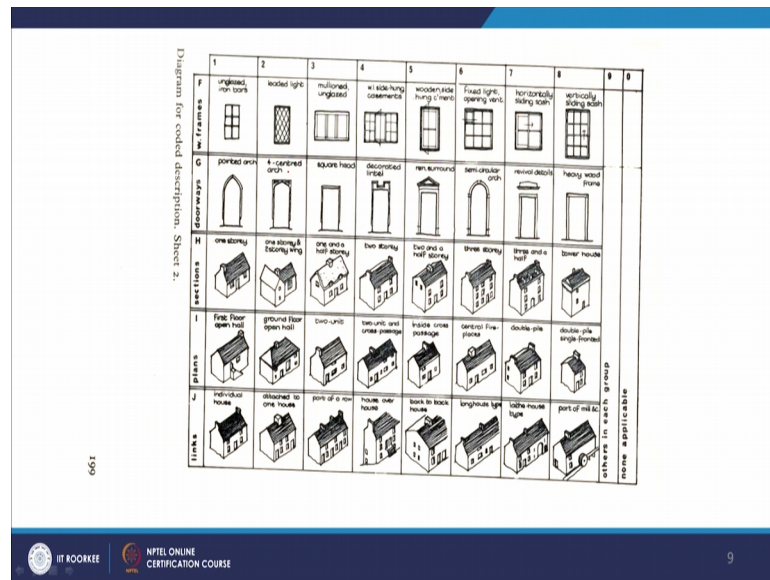
Because it is going to be a documentary record, someone who is going to refer day after tomorrow I mean after few days or few years it; obviously, adds to that particular date of reference. So, what we need to do is we need to have a kind of coding sort of thing.

(Refer Slide Time: 17:57)



So, you have the what you can see here is A B C D E F. So, you have E windows and walling and the technique weathering technique, roof shape, materials. Here 1 2 3 4 5 6 7 8. So, you have the stone, brick, flint, cobble like that. So, that variety of options which we have a coded sheet right.

(Refer Slide Time: 18:24)



So, once if you have this kind of template with you and then similarly we have for window frames, door waves, sections, plans and the links, the chimneys and all other things. So, you have these variety of types. So, once you have the kind of second of stencil sort of thing you are getting a template of what all options could be possible within it. And, this could be even developed by initially studying some few examples and then you make a template of it. And, then what you do is you can develop a small recorded record card which could be a very 8.5 you know inches by 12 inches of small card.

(Refer Slide Time: 18:51)

A completed record card. The coded description shows the house to have brick walling (A2), with a mixture of other materials (B2), a gabled roof (C3), of thick slate (D3), to have tall windows (E6), with vertically sliding sashes (F8), a doorway with a renaissance type surround (G5), be two-storey (H4), to have the two unit and cross-passage plan (J4) and to have a barn attached, laithe-house fashion (K7).

197

And, then what you can see is a location and the county which is a Cumberland and the address low Moor house and the map reference which is with the code and it is like that you have the surveyor and the date like that you have. And, here if you see the same template so, now there are few ticks here. So, which talks about, the coded description shows the house to have a brick walling which is A2, with a mixture of other materials which is B2, a gabled roof which is C3 and a thick slate.

So, and then to have tall windows and then we have vertically sliding sashes and we have a doorway with a renaissance type surround and be two storey H 4 and we have two unit in cross passage plan and to have a barn attached. So, basically this is talking about with the overall profile of this house.

So, this is a one way of because once you have a template; so, then if you are talking about document in the series of houses in that locality; obviously, this kind of template will be definitely useful. But, then it will not talk about much more in the details of the windows, details of the there the spaces, that is why the next step comes with the intense survey. Intensive survey it has two components: one is the measuring and one the second one is the drafting. So, you are collecting the meat in the first level and the second one is you are polishing the meat. So, in the first level you need number 1 the personnel.

(Refer Slide Time: 20:41)

INTENSIVE SURVEY

A. MEASURING

1. Personnel ✓
2. Equipment
3. Procedure
 - a. Prepare sketch plans, sections, and elevations.
 - b. Prepare larger scale details in plan, section, elevation, using the sketch plans as a key and with cross referencing. ✓
 - c. Locate the building by triangulation from some base line, e.g. the front fence.
 - d. Proceed from room to room, take plan dimensions, including diagonals, and rough openings, eg. Window jamb to jamb, ignoring window frames.
 - e. Take sectional dimensions using staircases to give overall heights, floor to ceiling heights for separate rooms, roof space for accessible roof construction, and angle of roof slope.
 - f. Take dimensions of each elevation in turn. These should be related to a horizontal datum line (e.g. top of plinth) not the varying ground line.
 - g. Take dimensions of selected details.
 - h. Take photographs of elevations and details; composite photograph may be useful on a cramped site.
4. Taking and noting dimensions
5. Assembling the survey notes.

IIT ROORKEE NITEL ONLINE CERTIFICATION COURSE 11

So, 2 to 3 people at least 1 who will hold on your tape and who will assist you and the surveying process right, 2 to 3 1 will be noting down all the recordings in an accurate way. The second you need all kinds of the equipments drawing board playing tables or any kind of laser equipment modern time, we have the laser equipments. And, now a days much more advanced in a kind of you know the digital equipments have come, even they can study the based on the much available and they can even talk about the time of it you know various technological equipments are there. So, depends on the nature of the field work which your doing and depends on the target of the outcome when need to think about the equipment right.

Like for instance now we are purchasing a 3D scanner of it so; obviously, things have become much more easy, but you see the kind of input which we have to give is time taking process once the input is ready then it can develop its own. So, the procedure what the prepare sketch plans and sections and elevations right. So, first initially we develop small plans and sections with all the dimensions in it and then because when we are doing and we are normally developing a notes, but when we come back we have develop the larger scale details in plans section elevation. And as a key with cross reference because in a small notes we do a smaller part sometimes we fix it they will put the tape and we might do panoramic kind of understanding of these measurements, but then when we come back we need to actually at least before leaving the site we need to develop that kind of large scale details.

Locate the building by triangulation from some baseline example the front fence sometimes you know this is very important aspect, when architect Benny kuriakose was actually doing the habitat microm exercise in Tharangambadi and Chinnam Gudi where the disaster have completely take washed away all the houses. So, there was no reference point of to getting the actuals. So, then they try to identify some small boundaries of the stones which were still evident or sometimes roadways sometimes a lamppost or something. So, that this is reference points you know where one can actually take the draw the plan and then they can even cross check with the diagonal variations and things like that

Precede from room to room take plan dimensions including diagonals and rough openings example window jamb to jamb ignoring window frames. So, we need to go it is not like one room you do here one room somewhere here one then it is very difficult for you to mix together because, we need to go step by step process you start with one end and go to the other end and way that way you can correctly cross check diagonally also and you can cross check overall length wise also. So, in that way thing some time that will be a little human errors 5, 6 mm 10 mm will be difference, but still it will give you some accuracy take sectional dimensions using staircases to give overall heights floor to ceiling heights for separate rooms roof space for accessible roof construction and angle of roof slope.

So, even the staircases will help you just by looking at the number of staircase and just measuring one riser you can always get and at the same time floor to floor, floor to roof, what are the details we are getting and take dimensions of each elevation in turn there should be related to horizontal datum line example top of plane not the variant drawn line so. In fact, you have because the ground line keeps varying. So, that is where we have to take the consideration of the plinth level and then give a kind of reference to it take dimensions of selected details. So, if it is a window vessels there is an ornamented aspects in to. So, take dimensions of those then the take photographs of elevations and details and composite photograph may be use on a cramped site.

So, now the fourth aspect is taking and noting dimensions assembling the survey nodes. So, these assembling the survey see parallelly I would like to show what our students exercises we did like we took them to Chanderi.

(Refer Slide Time: 24:55)



The rural part of Chanderi with the whole construction is full of only the stone and we what we did was we divided into big groups and each group have taken up one village, one small village and each group have actually measured the drawings. And, then within the each group we have divided into subgroups 2-3 people and then each person has to document a few houses there.

So, that is where they did and with that what happens is especially well documenting in a cultural setting is one will have to interact with the people because just to the villages may not allow you they not trust you. So, you need to have a comfortable developer comfortable trust and then only they will allow you to measure their houses in many at cases they have allowed, but very few cases which they agreed to rigid not to allow inside especially some of the conservative families. So, that kind of trust has to be develop and people used to measure all the details and then this is where the drawing part of it.

(Refer Slide Time: 25:59)

B. DRAWING

1. Personnel : draw when his/her memory is fresh.
2. Equipment
3. Procedure:
 - a. Choose a scale for each part of drawing, appropriate to the subject and possibility of reproduction. (eg. Site plans/Plans(1:100) Elevations(1:50) and details of windows(1:25 or 1:10)).
 - b. Set out the various sheets using overall dimensions as a guide. It is customary to arrange a site plan with north at the top, the floor plans with the main entrance facing the bottom of the sheet and the main elevation above the ground floor plan.
 - c. Set out in pencil each part of drawing using the compasses to establish triangulation. Running dimensions will be helpful in using the scale. If several parts of the drawing are worked up simultaneously mistakes can be found and corrected without too much of effort.
 - d. When the whole work of the work has been completed in pencil it should be inked in, using various thicknesses for lines of varying importance.
 - e. Lettering should then be added.
 - f. Finally each sheet should be given a title, date, north points should be provided for the plans and written and drawn scales in both imperial and metric measure included.

IIT ROORKEE NITEL ONLINE CERTIFICATION COURSE 13

Number 1, the personal aspect is always important because the moment you finish your field work you cannot wait for 1 month or 2 month and then you drop later because, you will forget things because that is a gift what god has given the you can easily forget things the better thing is, if you are finish it off at least a rough diagram has to be made the immediately once you come to the lodge or a hotel or anywhere you have to frame with your in a fresh memory and the second thing is whatever you are drawing see sometimes it is a shared work.

One person makes a measurement, but someone else have to draft it make sure your drawing is clear. So, that the other person can easily understand your drawing and able to develop it and then equipment for drawing again you need of course, in the modern times people hardly with the drawing board, but now you we need to use of the drawing boards and the t squares and the erasers. So, make sure when you are developing this kind of you take some precautionary measures into it procedure. So, is it a random sketch we are making because we need to define the scale a legible scale.

So, normally an which is appropriate to the subject are we talking about site plan of a village then it has to go maybe 500 or 1000, also it depends on the scale of the village and how it can fit in the sheet drawing sheet of A0 or A1. So, and the second aspect of fixing the scale is how we can reproduce it when you are drawing a plan of the scale then how we can draw elevations into it and how we can make a views into it you know they

are all comes how we can reproduce. So, site plans normally they are prefer to have 1 is to 100, but elevations because being of aesthetic nature we develop in 1 is to 50 and the details sometimes the nature depends on the nature 1 is to 25 or 1 is to 10 that is a normal which we have also students to do.

Set out the various sheets using overall dimensions as a guide and it is customary to arrange a site plan with north see the indication of north at the top on the floor plans with the main entrance facing the bottom of the sheet on the main elevation above the ground floor. So, this is some of the modalities how we present the drawings set out in pencil each part of the drawing using the compasses to establish triangulation running dimensions will be helpful in using the scale because, you know we can actually see how it goes if several parts of the drawings are worked up simultaneously mistakes can be found and corrected without too much. Because, when we are clubbing different patches of work then; obviously, we have to can able to see that you know; however, dimensions are going around how they are not matching.

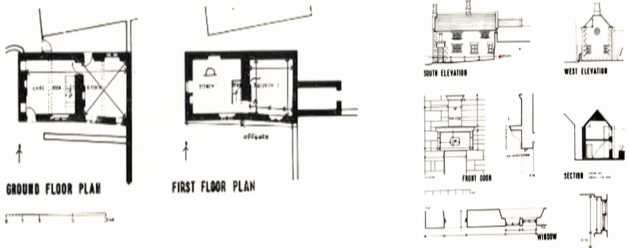
And once we had the first thing is the pencil part of it and then it has to be inked when we are doing the inking we have to do with various thicknesses when we are assuming tottering for basically when you cut the plan. Obviously, you have to see that whenever the section of the wall is cutted down that should be thicker and then the windows that lesser important thickness and then if you see that the floor patterns or anything that is much more least. So, that the depth you are going the least important highlighting part of it.

So, then lettering should be added; obviously, we have to detail out what is what sometimes use the local language into it that is much more useful for the local persons. Finally, each sheet should be given a title date north points should be provided for the plans and written and drawn scales in both imperial and metric measures.

(Refer Slide Time: 29:52)

4. Draughtsmanship

- The drawings are intended to communicate information.
- Records of fact and items of interpretation should be separated. Ideally one set of drawings should be hatched to indicate assumed periods of construction, but the two sets are often combined.



A typical measured drawing of a vernacular building with superimposed, examples of the way measurements are taken: diagonals and around a room, from a datum, running dimensions of a detail, etc.

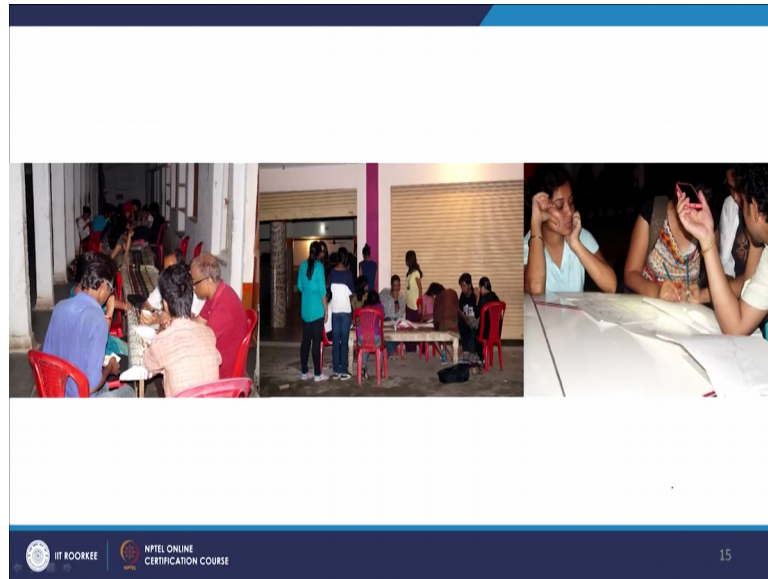
IIT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE

14

So, some of the draughtsmanship; so, because why we are doing a draughting because it has to communicate the information it has to communicate the levels it has to communicate the technicality of it has to communicate the volumes into it everything similarly records of fact, you know fact in the items of interpretation should be separated for instance ideally one set of drawings should be hatched to indicate assumed periods of construction, but the two sets are often combined.

So, some of the examples from Brunswick work is like to see the ground floor plan how it is diagonally checked and right and what are the various south elevations and what is a datum line is taken into consideration right. So, the sections and every section should have a heights of it now what we did was some of the our experiences. So, even though we do from morning to evening the collection of data, but then we bring them to the hotels on find a open space.

(Refer Slide Time: 30:48)



And then there itself we ask the all the people into form into two groups and then they basically, put up their work and compile it in a fair it up. They basically have to fair it up in the site itself because, if there is anything missing the next day they are going to the site they should able to get that information that is very much needed

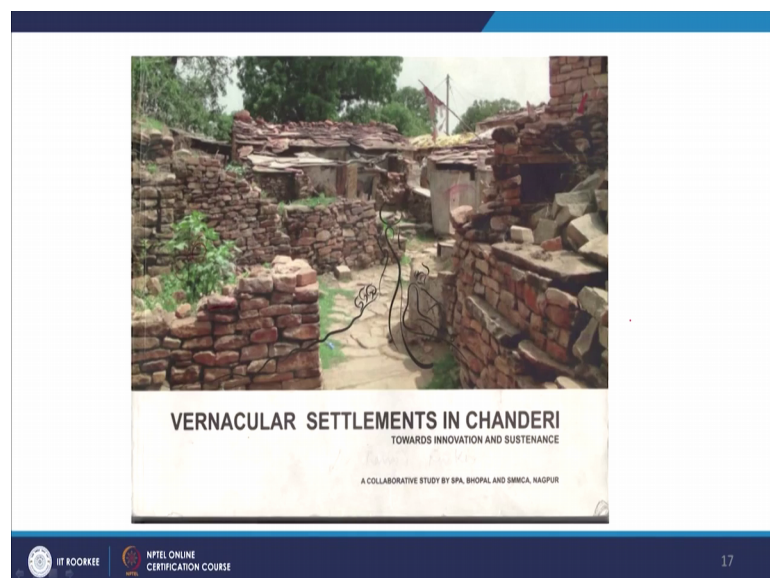
And then we took about the one month time to from the start of the field work to the end of the publishing about for I am talking about students of 35 people in a section like that in a 2 sections about. So, producing about 200 sheets of documentation of three villages; so, a good example is. So, what we do is first of all we have to managed a proper work management system because it has to run like a factory kind of thing because time is also an important part of an academic system. So, we need to identify. So, some people say the students say i am good in sketching I am good in an painting yes we do use your skills.

But still when do you learn the other skills because you are in a system of economic system where you are entitled to train get train with this particular skills. So, we need to give this opportunity for the other PU students who are lacking the drafting skills for lacking the painting skills to give an opportunity. So, that they train themselves and they build confidence with that. So, like that you can see students for staying data up and then they are also grouped up various based on the caste based on the occupations how the

group did up. So, why they are grouping up even if you want to study a detailed building; so, they can take a sample from here take a sample from here take a sample from here.

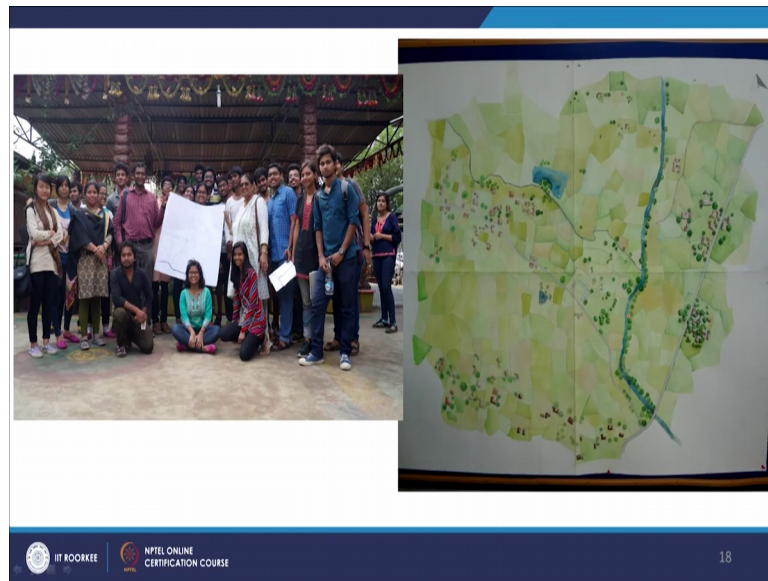
So, in that way if you are taking a sample by material yes you have a cloud criteria why you are selecting that sample by caste orientation then you are talking about the functionality of spaces why you are taking that sample. So, similarly what we did was we whatever the documentation they have done we translated of my team back in Bhopal well as working there. So, they translated and students for the authors the co authors of this particular chapters and vernacular settlement in Chanderi transfer in the monograph.

(Refer Slide Time: 33:00)



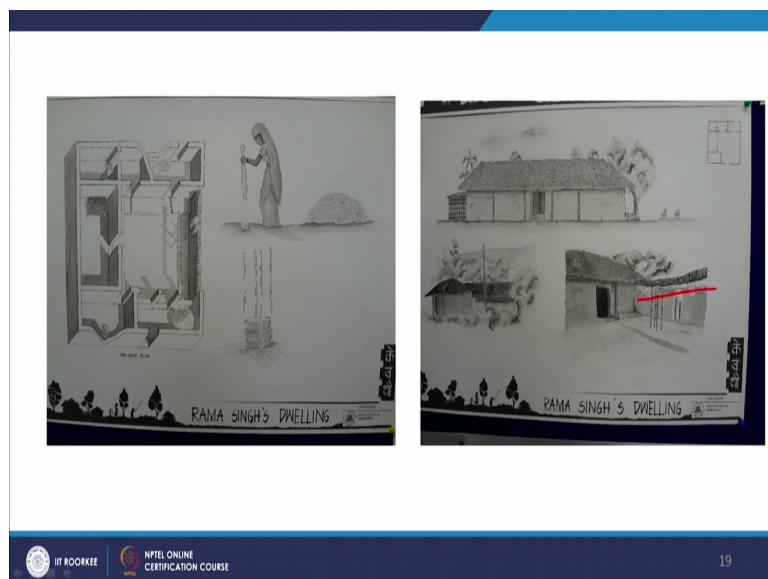
And then after that another studio again this is a village.

(Refer Slide Time: 33:06)



So, if you look at it in the site itself in the restaurant we made all the drawings mostly ready. So, once we come back to the classes then we organized the whole layout this is the Kiyonchi the whole setting of it, but to do this we need a reference of and even the GIS system in the geographical information systems also had helped us in locating the maps.

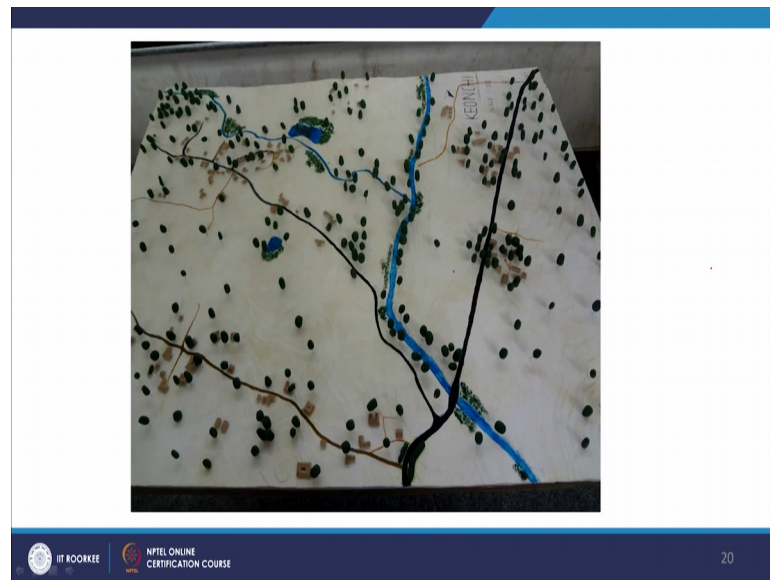
(Refer Slide Time: 33:32)



And then a what we did was instead of burdening the students with the whole idea, but what we did was to make a much more thorough study two people to document one

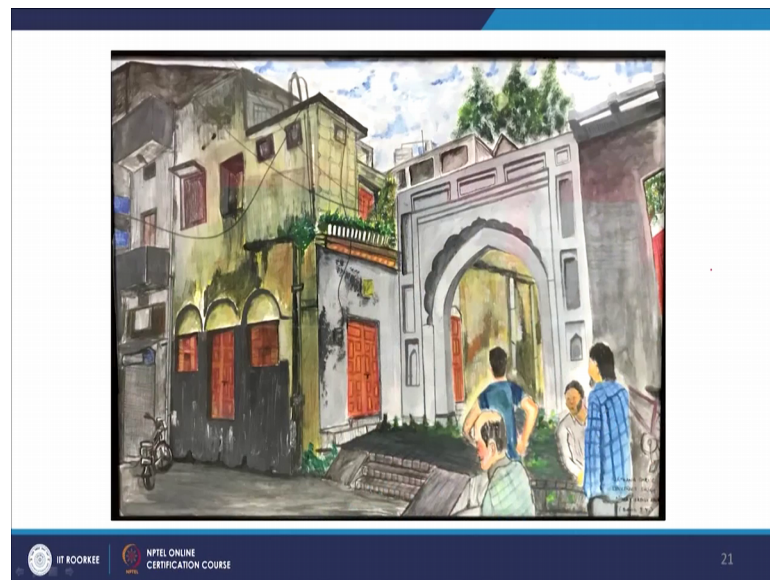
complete house and its transformation. So, like that the person who was working on this pannel the leaves in the plates which we make with leaves. So, his house is documented and how is constructed and how they survive. So, the whole story the narratives has been documented and similarly a model has been built out with the combined process.

(Refer Slide Time: 33:59)



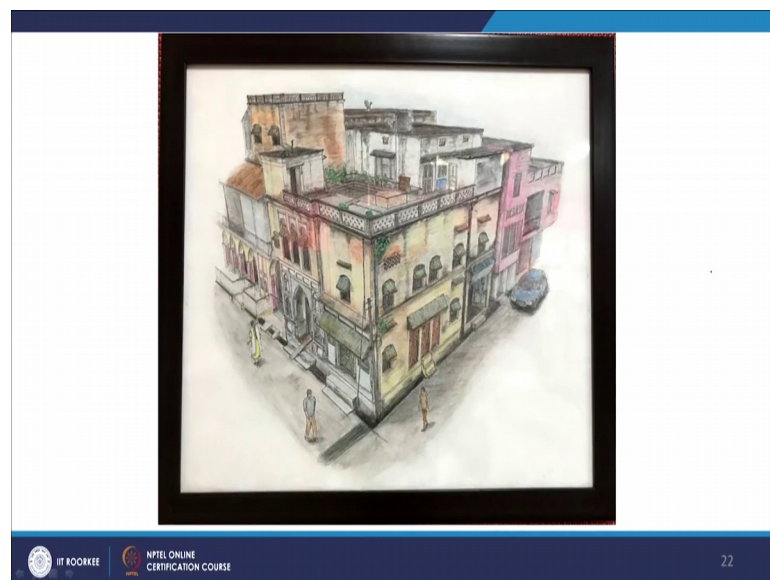
So, in that way this is how we develop, but when the third development as a teacher what I did was I thought yes in every stage you know they just drafting, but I am finding that there was a love missing, you know there is a kind of feeling that emotion is not coming within that. So, what I thought was I asked them to paint it do a small nice painting. So, each member of the group they started painting what the house they are documenting.

(Refer Slide Time: 34:35)



So, with that what happened was they started observing the details they started observing the scale they started observing the movements for a long time and look at the scale of it.

(Refer Slide Time: 34:46)



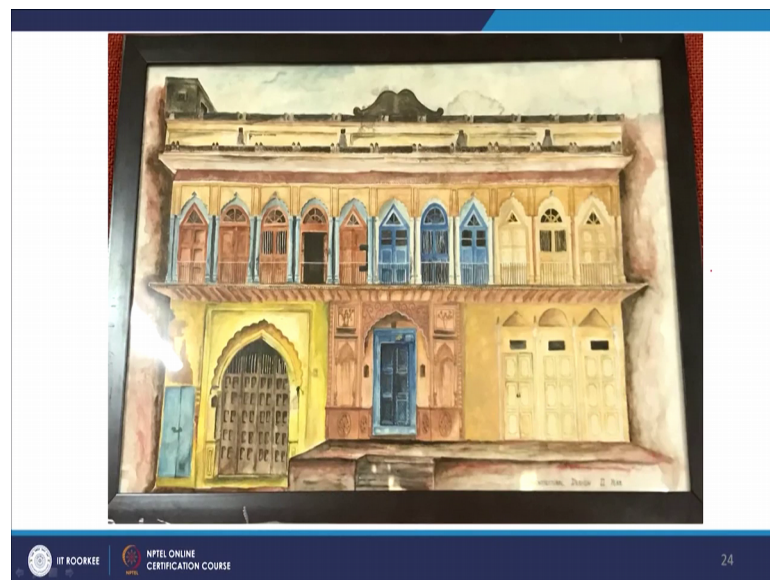
So, they this is a kind of hand drawn they understood the scale they started the movements they started details of it proportions.

(Refer Slide Time: 34:53)



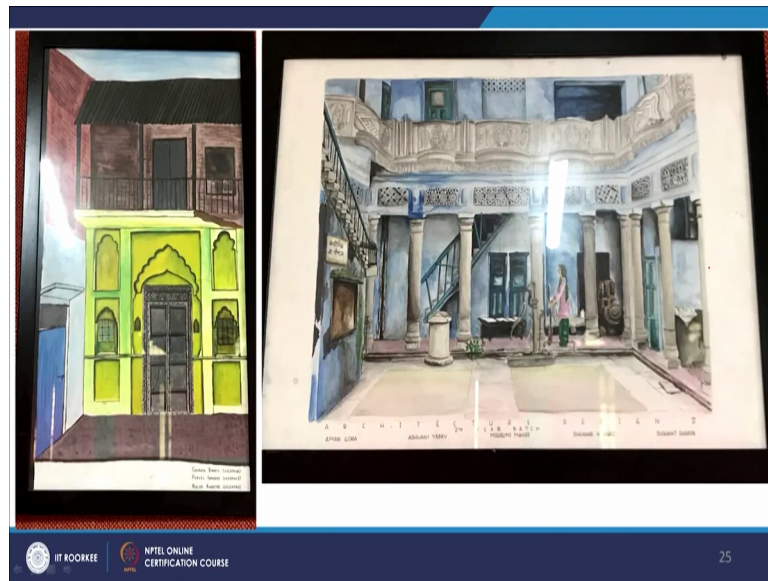
And this was the temple in a house in a dwelling there was a temple which we never noticed being in Roorkee. So, then he started talking about lifestyle of it. So, he spent a lot of time in observing that.

(Refer Slide Time: 35:10)



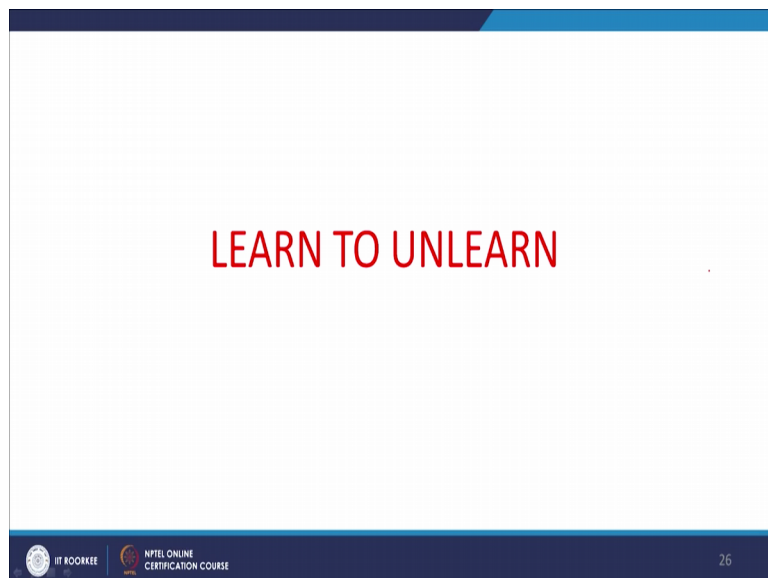
Then how these traditional houses you know how they are. So, it took a long time for the maybe three four days only to do a painting because a rough pencil work then painting work the trial and error process observation some go back sometime using a detailed go back and observe it and come back and then similarly.

(Refer Slide Time: 35:26)



You know these are all some of the intricate the courtyard how the courtyard functions. So, what happens is this had this method has approached first one thing is the moment your painting is ready first you fell in love with it because, then you own it. You know, then your documentation will be much more faster that is what at the end of the bottom line of the how to study vernacular architecture is first thing is you have to learn to unlearn.

(Refer Slide Time: 35:51)



What we imagine as an architect training in a regular architect training, if you want to learn vernacular architecture you need to unlearn certain things because the window size will be very small, the platform is very small, the human scale is very different the material scale is very different. So, you need to unlearn a few things and see how the community started starts living.

Thank you very much.