

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

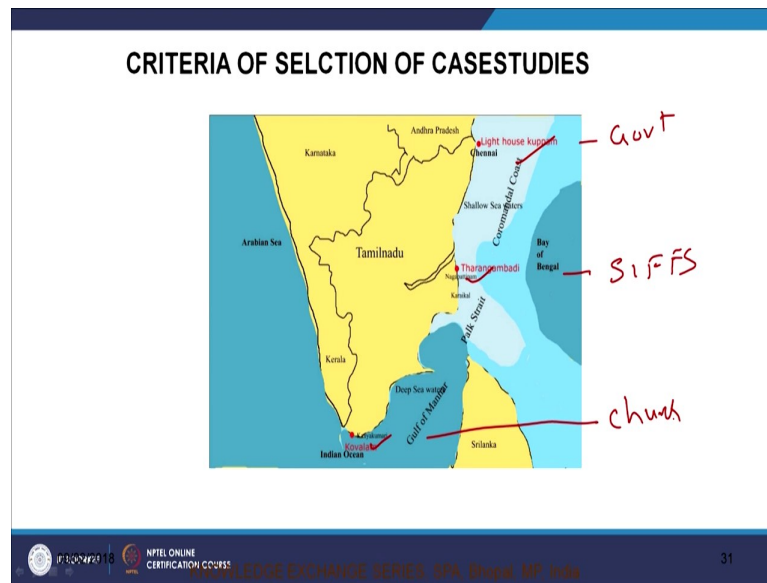
Lecture – 17
Understanding Post Tsunami Response (Tamilnadu)

Welcome to the course: Culturally Responsive Built Environments and today we will be continuing with the part of culture and disasters and especially with the study of case of Tsunami Reconstruction in Tamil Nadu, southern India. In fact, I am titling this as ‘Understanding Post Tsunami Response’. So, this is again a part of my study which I have conducted during 2006 to 2010 and again, I visited this place again in 2014. So, it is a kind of understanding how I actually made and how I have interpreted it.

So, in my previous lecture of the part one of the series, where we have discussed about an interdisciplinary framework, how to understand the culture; the role of culture in the post disaster recovery process and at the same time, how it is in relation with its vulnerability situation. So, for that, I developed a component of the central component which talks about the built environment in layers; starting from the geological space to the building component. Whereas, how the structures of cultural that create cultural identity, how they influence the space, and then how we can measure these spaces, how we can actually qualify these spaces through the urban design principles of responsive environments, especially with the principles of and the qualitative indices of responsive environment have been discussed.

But, because being studied in a disaster context, I am looking at both the pre disaster influences, and the post disaster impacts, and how people responded to it and applying with a situational analysis.

(Refer Slide Time: 02:27)



So, what I did was I travelled along with the east coast of Tamil Nadu, we call it as ECR road, the east coast road and visited a number of villages, taken the statistics from the TNRC (Tamil Nadu Resource Centre or the Tsunami Resource Centre) and considered the visited most the least affected areas and the average affected areas and as well as the highly affected areas. And within that, I have visited many villages of which are both relocated component and the in situ component.

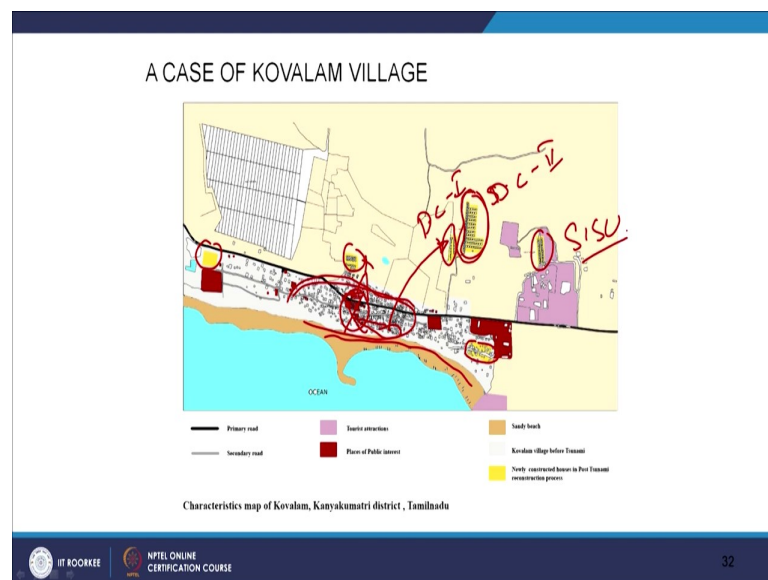
So, with this process, I have understood that the sea, nature of the sea is also very different because from the Coromandel coast; till the Coromandel coast; it is mostly of a shallow waters and from the Palk Strait onwards the nature of water is changing and the depth when we to go to Gulf of Mannar; it is much more of a deeper water. So, it has an implication of what is shallow and what is deeper; so, it has a direct implication of there and fishing economy.

And then I also noticed that there has been the kind of population which are existing in the fisherman societies is mostly the Northern side, most of the Hindu dominant societies are there. And in the Nagapattinam and Karaikal area, we will find most of the Muslim, mixed population and whereas, in the down south, when I keep moving down near Nagercoil, and so you will find most of the Roman Catholic communities. So, one side we have the cultural geography is very different and the kind of societies which are located are different.

I am also looking at from the development point of it and I have selected 3 villages; one is the lighthouse Kuppam, which is in Dalit Island of a group of 11 villages together. Here, in the middle part of the Tharangambadi, which is the fishermen communities and which is Hindu, Muslim and the Danish people also live there. And in the south, we have the Kovalam which is on southern tip of Tamil Nadu which is near 5 kilometres from Kanyakumari; this is completely a Roman Catholic. So, development input here, the Government and the State Government, the SIFTS: a fisherman NGO and here the church.

So, I would like to see how actually this; how different inputs have influenced and how different procedures have influenced and how people responded to this.

(Refer Slide Time: 04:53)



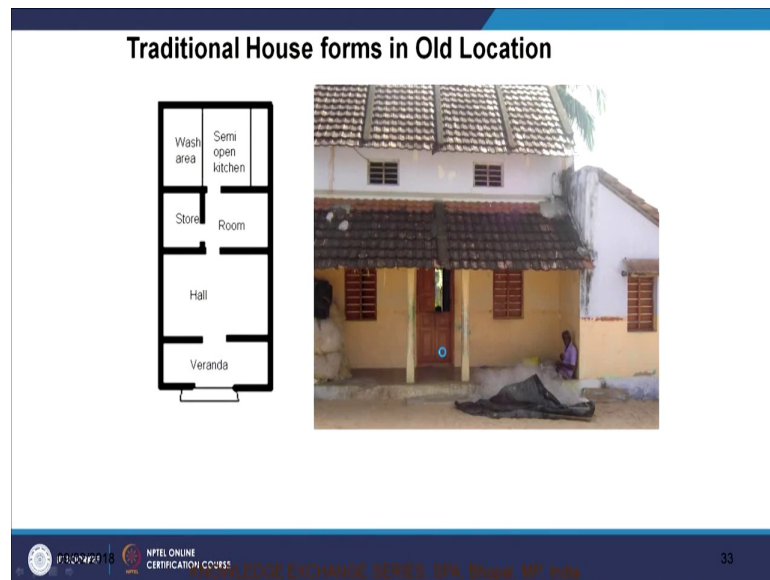
Then I will give you a start with the case of Kovalam and when I went there in fact, we could not even find any maps over there nothing, there is no map, nothing. So, we have actually digitized, I mean, at least I have digitized all the maps based on the, in that days Google Earth impressions. And then so you can see like this is the, this is the old village and you can see the centre of church, the centre of church right. So, this is the church, you have the harbor here I mean they have a small fishing harbor and what happened in the tsunami is what you see is a low place.

Youngsters should be taken as an agents of change, how we can make and address these indigenous vulnerabilities and how we can we know how we can expand this village and

we have indigenous problems of disputes with water, disputes of sanitary issues and you know joint family issues how; how why not we expand. So, with that mode, many communities come forward, they put some money forward and the Church have handled it to buy some land.

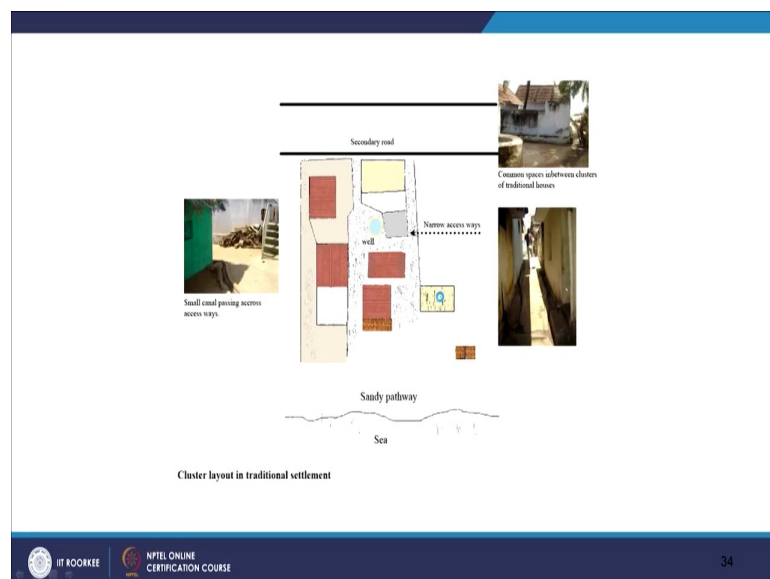
And so this is the land which is the DC Nagar II phase and DC Nagar I phase. And then they bought again land on the SISU Nagar which is; so, here the land is bought by the communities and the church, have facilitated through some support of NGOs and they constructed the houses. And why they has to move, what are the challenges in moving back because till that point, no one have realized about the essence of coastal regulation zone. So, most of the damaged houses were within that zone; so, they decided that why not we move back. So, the point when they are trying to move back is someone's agricultural land was there, someone's property was there, obviously, there certain negotiation on that has taken place for the acquisition of the appropriate land. So, later sometime again that there were some revision in the coastal regulation zone, where they looked at these 2 areas, which have came later which they are supporting for 200 within the 200 meters. So, they tried to allocate these clusters as well. So, here this is the structure of the Kovalam and how it has drastically changed. And socially there were 400 households before tsunami and demographically I mean of obviously by demographically there were 400 and they have been made into 1000 households after the tsunami, because each and every joint families started distributing themselves into a nuclear family.

(Refer Slide Time: 08:08)



So, here what you see is the kind of traditional forms of and where there is a joint family, there is very, you know, they have a veranda here and you know fisherman used to weave his nets in the afternoon and the kind of doors is a 4 panel door where they actually, the women they still at remain inside the house, but they can see the visitor and it sets a maintain some privacy between the visitor and the family member, you know. So, this is how the traditional houses look like and when the traditional clusters they have alley ways.

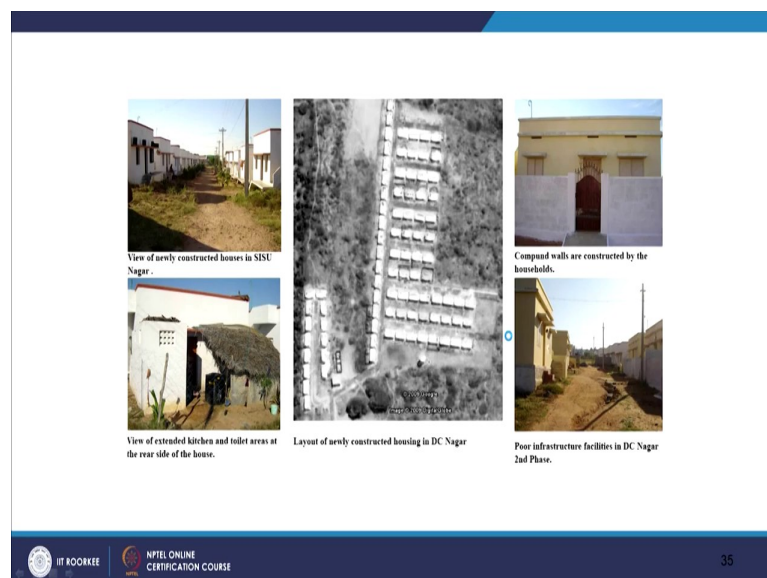
(Refer Slide Time: 08:41)



Very narrow alley ways and common wells where they use to come and share and in those days, you know all the families use to be very close to each other; the curry which you will make in this house is obviously you have a breakfast here you have a lunch somewhere else. You know it is all a very close knit family cultures and obviously, there are certain disputes which do happen in within these.

So, those are all there, but then in the new location what you can see is a kind of row housing or at least a kind of in a linear patterns and this is what you can see from the DC Nagar new layouts.

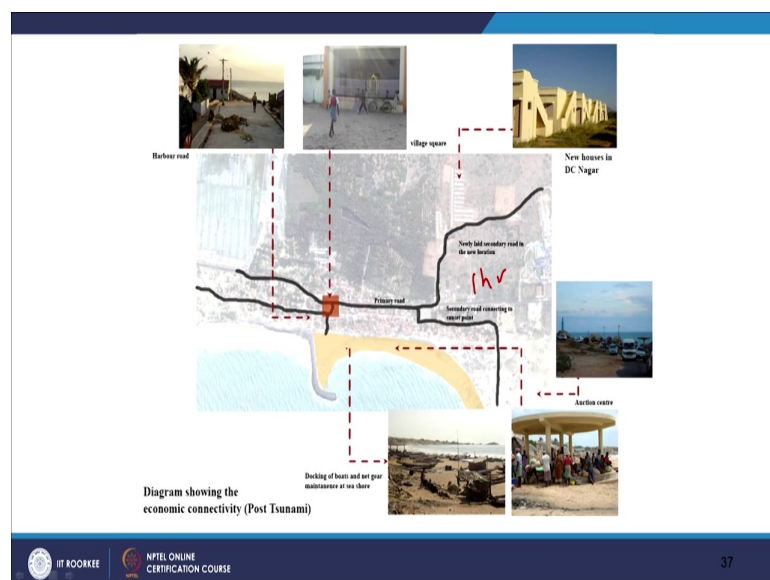
(Refer Slide Time: 09:11)



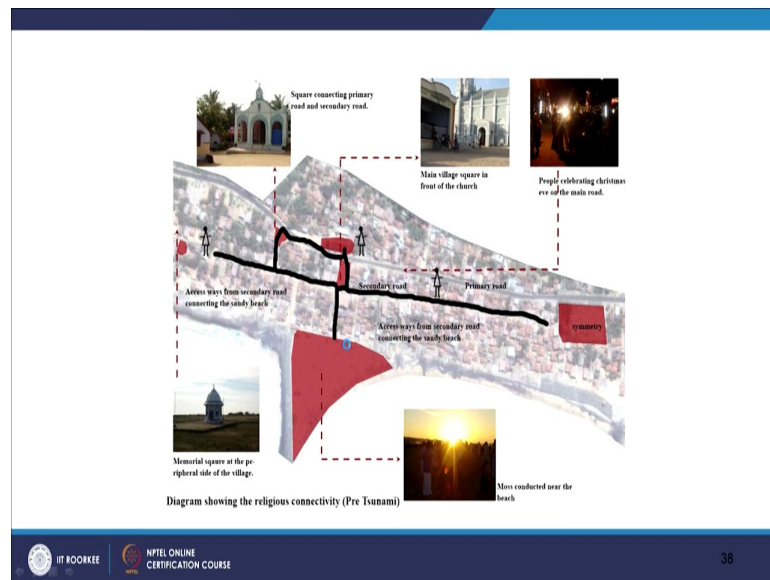
So, here the allocation is made by the lottery method. So, they have taken the chit number 52, you get a house; number 32. So, until that point no one knows that which house they are getting and that is how the neighbors have been distributed in different corners, the family members have distributed in different corners, the mother and father remained in the old village, and the elder son goes to some other cluster, the younger son goes to some other cluster. And this has added a lot of, took some time for the families to adjust with the new setting because they have to; earlier they were all dependent with each other; they are all interdependent, I can say. Because someone earning low income, but still they are mutually supporting each other, for any family occasions they were actually close and they buy for everyone you know. They put the money together and they that is how, but now being in a nuclear family they have to pay their electricity bills,

they have to pay their water bills and they have to buy, they have to celebrate every festivals within their home network. So; obviously, it was a difficult transition. And people started building compound walls by themselves and the kitchens, which were given for fisherman communities, in the small kitchen inside a 3 cents land and it was not sufficient. So, they started expanding with the kitchens and this is how you can see all uniform and standardized housing models. And we trying to look at a kind of have, did participated as a fisherman, I used to go like a fisherman to the sea and started taking then narrative. So, overall histories and documenting all their, how they were before tsunami and how they were now. And this whole process you can see that earlier everything was near and dear, the church was near, the elderly people used to go and worship. And whereas now it is far away it took almost an l hour to just travel around.

(Refer Slide Time: 11:08)

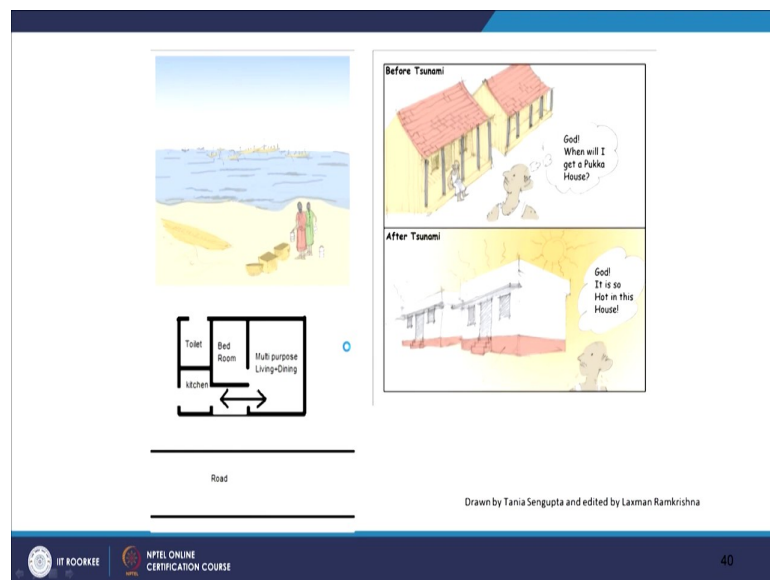


(Refer Slide Time: 11:17)



And with this processes what is happening similarly all the religious connectivity and everything was near and dear, but now after the tsunami it is everything is far away.

(Refer Slide Time: 11:27)



So, here the some of the emotional attachments which people had because it is not like, unlike normal person, they are not going with a briefcase and going to the sea, but they are going with a rod, fish rod, net, diesel and they come with a catch and they come. So, the woman was very much supportive, the women helps in man and taking the food, what you see in the left hand side does, the woman is waiting for the man because they

can see from their houses: my boat is coming and the man is coming and they will wait for; because they come with lot of hunger. They might go to the sea at morning 4'o clock, they might come back at 7 or 8 or 9 sometimes; so, they take the foods. So, their whole daily activities based on, the depends on the available of fish catch.

And similarly now in the present condition, the women are not going because; now that is where they are finding some weakening of bonds. And when the people were interviewed that what kind of house you like to have, so that is where they talk about I want a kutchha; I mean pucca house, now I am living in a kutchha house,so, I want pucca house that is what exactly they have given, but now it is not suiting to their climatic needs because it is very hot; that is kind of response they gave.

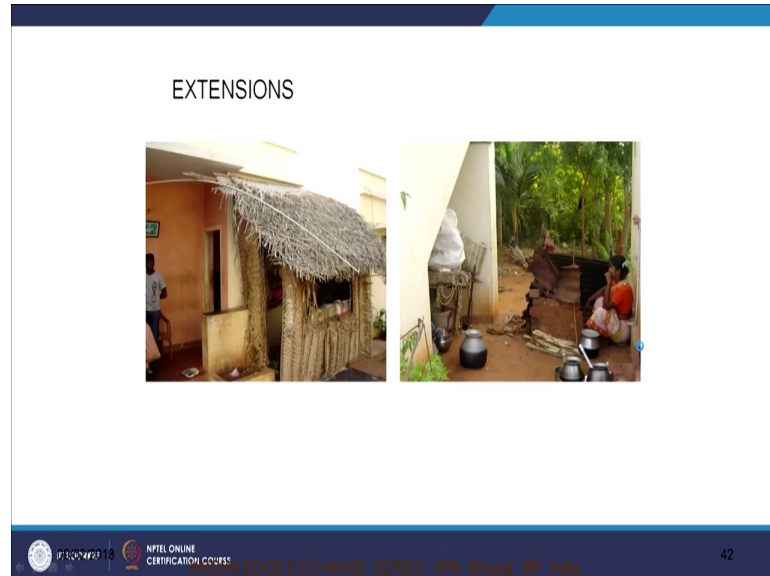
(Refer Slide Time: 12:46)



And not only that, there is a little difference in the again of tenure or a ownership because some people who owned a house before tsunami; now they have got a house, given the farm a government land by the government, constructed by the government where they do not have any ownership for next 10 years. So, but where are the people who say who are not having house, but they still secure some money to buy a new land, now they were got a tenure or a patta from to have to own their house. So, the difference is sometimes the owner became kind of in a temporary role and a temporary person became a permanent role. So this kind of change in the ownership have concurred; in some cases and some cases it was its more or less same, but what someone wants to sell

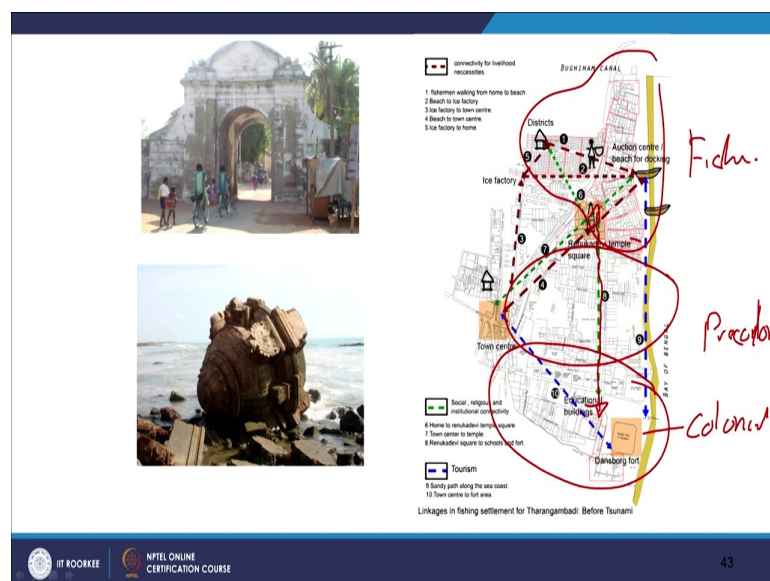
their house for a daughter's wedding or anything, obviously, this ownership makes a big difference.

(Refer Slide Time: 13:40)



And a person's who husband lost their husbands in the tsunami and how they actually can survive their livelihood, so, women started expanding small shops which the architect have not considered these big change in the dynamics in the family structures after the tsunami.

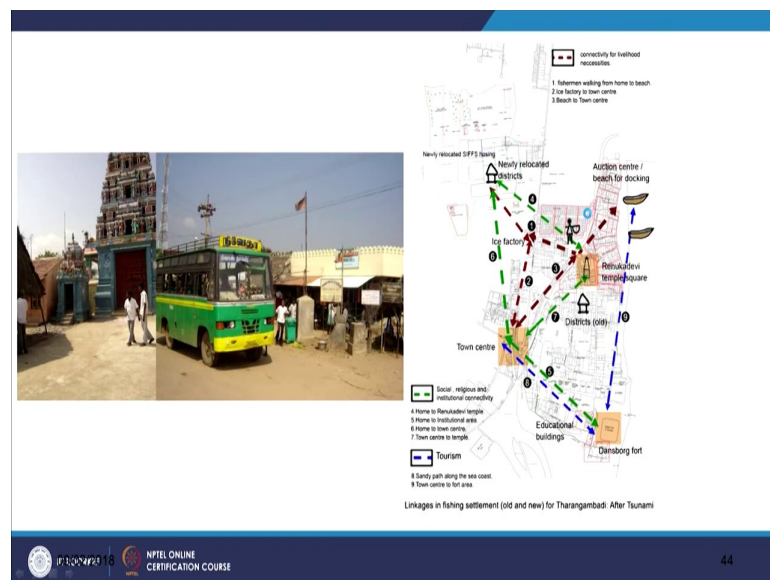
(Refer Slide Time: 14:00)



So, the second case which we talk about is the Tamil Tharangambadi and where we can see this is the whole layout of Tharangambadi. This is the Danish and this is the colonial side of it and this is the pre colonial which is a Muslim pre colonial and this whole thing is the fisherman.

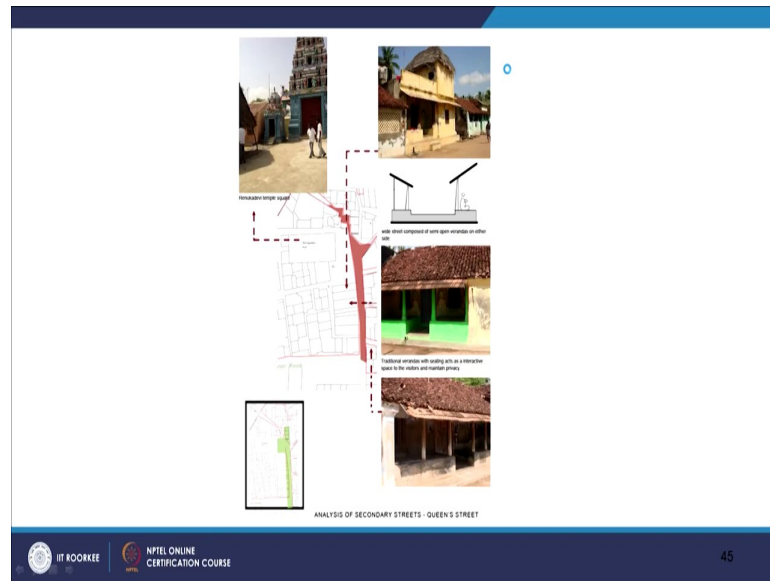
So, the kind of network this as you can see the colonial gateways and you have the Masilamaninatha temple which was destroyed in the tsunami. And this is how the 3 kind of communities live together and one of the important note, you can see is that they this is one of the road Prince's street which connects the fisherman community to the colonial community.

(Refer Slide Time: 14:46)



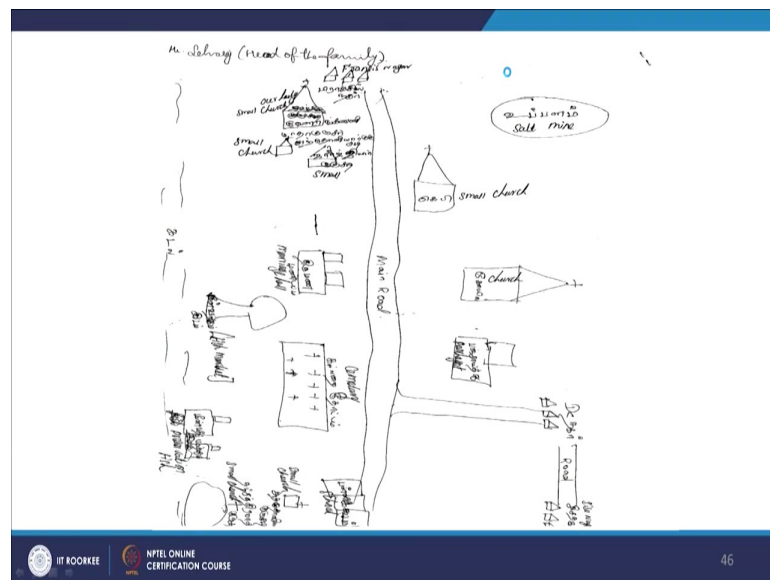
And there is how they travel to what happened, they travel to the town centre and they travel to the ice factory, they go to the harbor, they go to the school, but in the new condition then the new location relocation; so, this part of it has been relocated to the path, a new cluster. But now when we started of course, Benny Kuriakose have done extremely hard work on engaging all the people into it and developing variety of models to them and at least, he tried to make sure that the same set of neighbors are in the same in a similar location.

(Refer Slide Time: 15:27)



Then what I did was, I started assessing street level analysis of how the in a more of a narrative approach, how different sections of the street, how their fronts and backs are mutually communicating.

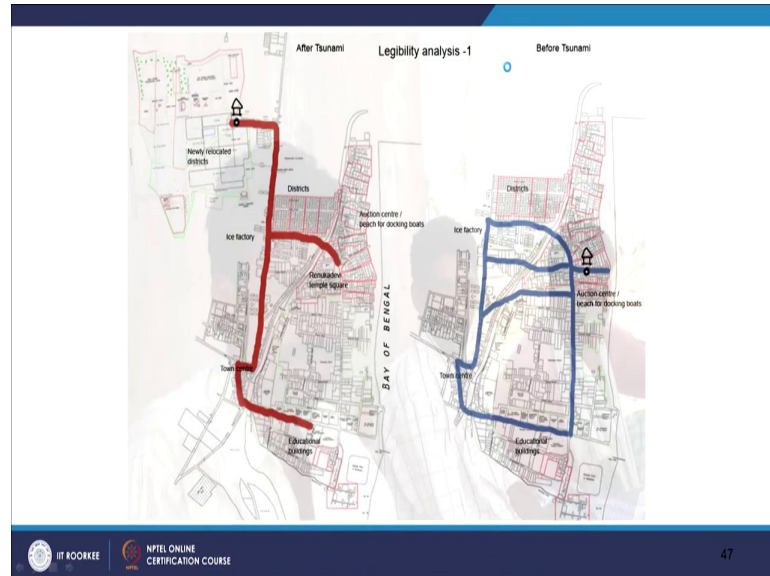
(Refer Slide Time: 15:41)



And also we collected some of the mental maps where how they imagine places you know some people have drawn, but where as in some cases, I could not get when I gave a pencil to them theirs hand started shivering.

So, in this process what I did was; I gave another technique, I used different technique where I give a printed map of the before tsunami and after tsunami.

(Refer Slide Time: 16:03)



And there I asked them this is I give use to give a hint of this is a land mark of Renuka Devi temple; then they say my house is here, and then I go to school, my children go to school like this and I go to harbor, and then I go to the ice factory and then I go to the town centre. So, this is a kind of movement is able to recognize is the legible image of his town or the village panchayat.

But then in a new location he is saying this is my house and my children goes to school like this. So, why this map is so important, why I am showing it is because in my many of my interviews where the pre colonial people; they started selling their houses and they living back. And then I, when I taking interviews from the elderly people that is why we are missing our friends; we are now one is no one around, so, we are feeling bored and then we might leave.

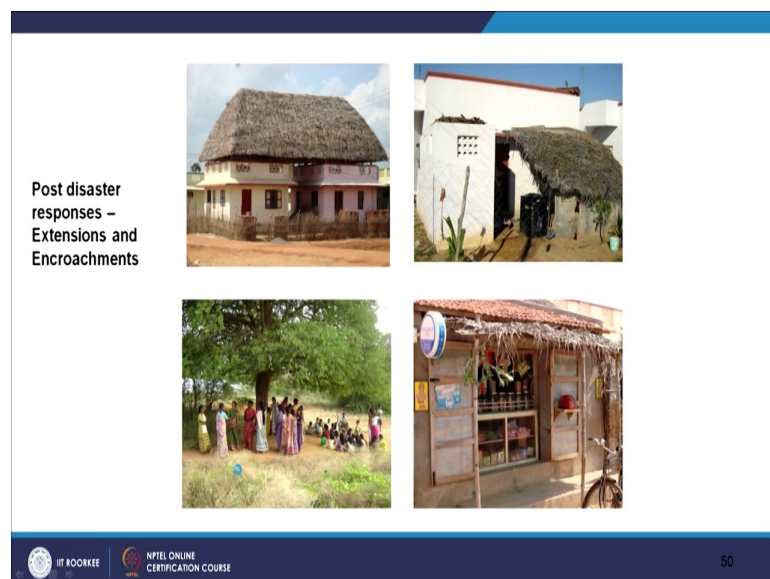
Then I could not understand why have they leave? Because they are all in the same village they did not go anywhere they are not far away, they were nearby. So, then this is one thing where they used to walk in the Prince's street which is connecting all the communities, but now the children is walking from the periphery of it. So, in that way that whole walking pattern have changed and it brought from disconnect between these communities.

(Refer Slide Time: 17:35)



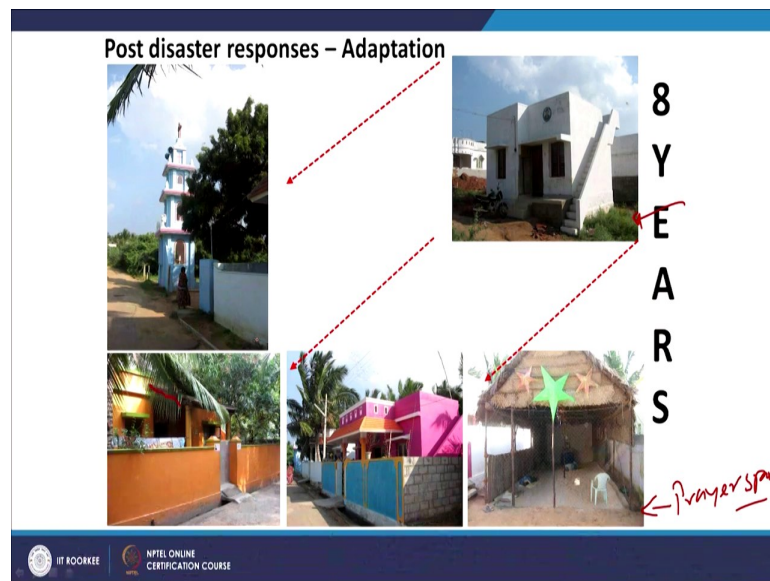
So, certain tools, these kind of mental map tools will also help in understanding why there was some indifference started occurring. And in lighthouse Kuppam, there was no roadways; so, I used to travel every by boat and there is a group of island; it is a group of 11 villages and there is lighthouse Kuppam is one of the important village. And so in that time here, we did connect, kind of it was in a starting phase. So, I could not able to, in that time, I could not see the response component of it, but at least I have taken some interviews of in a focus group.

(Refer Slide Time: 17:57)



As a result of it briefly to see what the responses all what you can see is this house; where you can see that in this lottery system or in a kind of mutual agreement; fortunately these 2 brothers got a house adjacent to each other. So, then they started building the above a single attached roof you know it represent one family. And similarly they do not have any kind of neighborhood public places; so people started encroaching the nearby spaces. And a story of a woman who lost husband and left over the 3 children she started making a house front in the form of a small shop and a small kitchens.

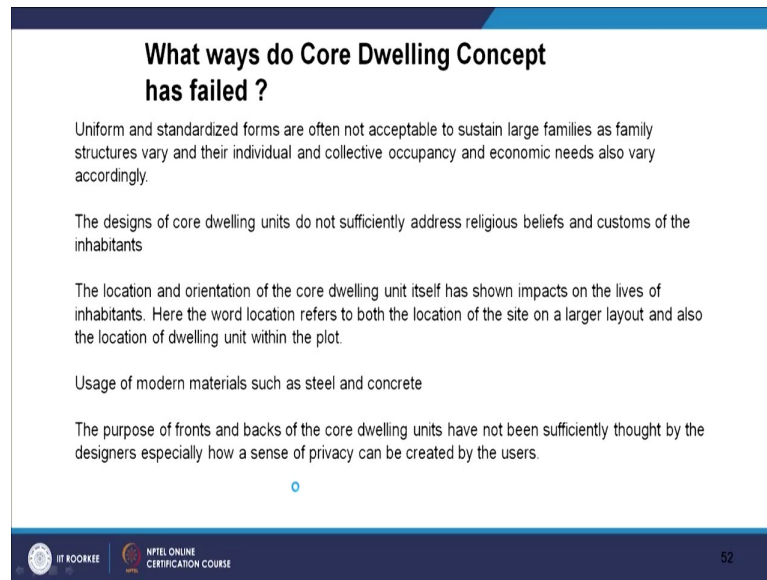
(Refer Slide Time: 18:41)



Now, thought just personalization is always a natural response to these deficiencies within the culturally response built environments. And that is how people act upon it and how they act upon is how they what they know before and how; so now after 8 years, I have again visited. So, this was the co dwelling concept which the government or the agencies have promoted. So that, obviously, government might have some thinking that they might expand, but if you look at the kind of responses. So, wherever there is a small empty space; they build a small prayer spaces; for the elder people they put small sand, put the net and they use to at go and sit there in the afternoon times. And you can see, they build a compound I mean what is this house and see the how they have a kind of front porch with a tiled porch. And because the church is far away in Kovalam; so they started building a small bell tower in a similar passion of the same Parish church which was there in the village and that will use the kind of bright colors which they use. So, basically even the kind of in 10 years, 8 years you can see huge vegetation that they have

vegetables; so this is the kind of response. So, if one has to understand about the positive subsequent response; I will not say just the immediate part of it, if one looks at a very transition part how they actually accommodated.

(Refer Slide Time: 20:13)



What ways do Core Dwelling Concept has failed ?

- Uniform and standardized forms are often not acceptable to sustain large families as family structures vary and their individual and collective occupancy and economic needs also vary accordingly.
- The designs of core dwelling units do not sufficiently address religious beliefs and customs of the inhabitants
- The location and orientation of the core dwelling unit itself has shown impacts on the lives of inhabitants. Here the word location refers to both the location of the site on a larger layout and also the location of dwelling unit within the plot.
- Usage of modern materials such as steel and concrete
- The purpose of fronts and backs of the core dwelling units have not been sufficiently thought by the designers especially how a sense of privacy can be created by the users.

52

And what made them to accommodate is an important aspect and how do the co dwelling concept actually failed? And this is where we talk about these uniform and standardized forms of a not acceptable because it they also vary from family to family. Just imagine in case if the same lady who lost her husband in next to her in laws; at least should have a mutual support system. Her in laws are in some other cluster her she is in different cluster. She does not have any mutual support system. So, the moment we are going on a uniform and standardize model, at least within that same area, one has to think about how it could be tailored for that suit have needs and how the allocation process also could be of help.

And it also design of co dwelling units, do not sufficiently address religious and belief custom. I think there was been evidence in our previous lectures as showed you; the toilets which were given as a toilets, they have converted as pooja rooms because of the vastu conditions. And how their orientations: the building orientations because of kitchen is on one side and the living room is in another side, balcony here so; obviously, a person has to take a food from facing the road and get into the living room and one which they feel it difficult in the cultural norms. And also the uses of modern materials and steel and

concrete; how actually the rusting happens in a coastal climate and how this purpose of fronts and backs have not been well thought.

And obviously, in a general development issues, what we can look at it is, basically one has to look at the pre and the post disaster development approaches because you know, they vary you ,very much according to the geographical setup and the cultural setup. So, it is difficult to address, but you know we have to understand one thing is the development is always a culture specific. And the building and planning guidelines does not sufficiently address the cultural needs of traditional settlements.

(Refer Slide Time: 22:06)

General Development Issues identified

Pre and post disaster development approaches vary according to geographic place and its cultural set up. However, it is identified that there is a difficulty to address different concepts and needs of different stakeholder groups with a common methodological approach. Therefore it is understood that development is culture specific.

Building design and Planning guidelines does not sufficiently address the cultural needs of traditional settlements.

The relevance of neighbourhood concept is not well addressed in the reconstruction process.

Inability to access local knowledge resources and existing pre disaster development issues.

Barriers in Communicating Needs and wants

Changes in land use and ownership / tenure

NPTEL ONLINE CERTIFICATION COURSE
SPECIAL COURSE EXCHANGE SERIES: SPA, Bengal AP, India

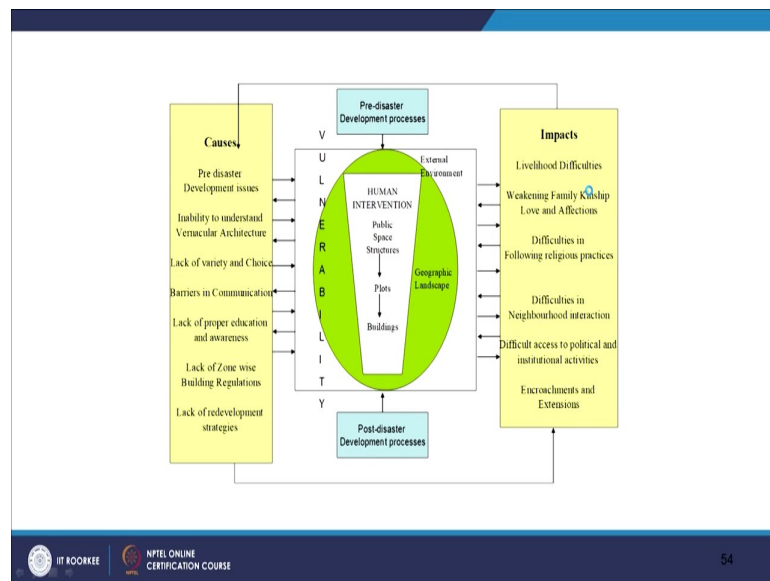
53

So, it is not just only because fisherman families, the way their life style is conducted is very different; so, I think that is where one has to think about it.

And again, when we are talking about the cluster level planning when the neighborhood concept, how they can play, how they can meet, how they can talk; so this how the religious gathering could be conducted, so all these things; so this is where we will call inability to access local knowledge, though Benny Kuriakose have actually addressed for its first of its kind in this region where he talked about 2000 designs for 2000 houses, so, an individual interaction which took a long time and to tap this local knowledge; one has one needs certain time and one needs certain documentation and one need certain enablation into the new thinking.

And barriers in communicating needs and wants; what they had before and what they wanted and what they needed, there was a communication gap. And this is where we refer to Catalina Gandelsonas' work of communication for the development and also the changes in land use and the ownership tenure.

(Refer Slide Time: 23:31)



So, finally, I summarized in the kind of this whole impacts on one side on the causes on one side and what we just discussed before.

(Refer Slide Time: 23:38)

This research discusses the reconstruction process in two different ways:

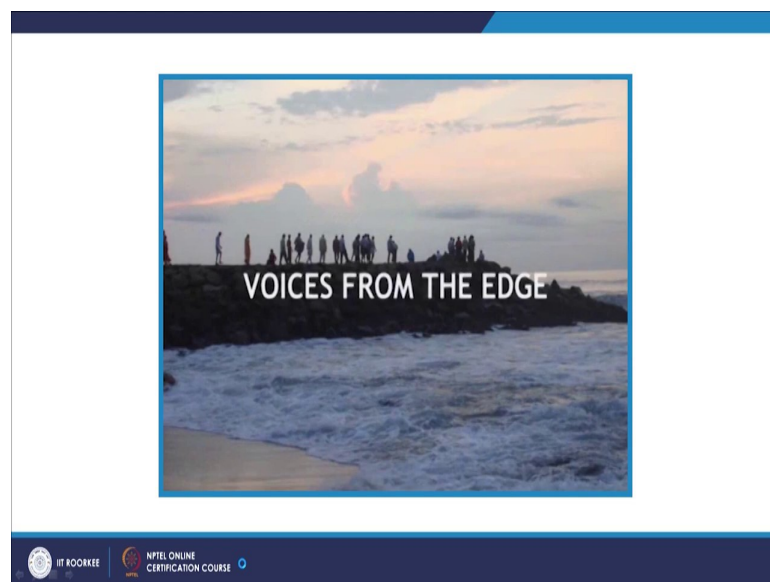
1. Instrumentally in a positivist way
 - Physical distances are increased, certain activities are no longer possible, the family suffers.
 - Development agencies operate at an instrumental level in their discussion of vulnerability. Here the frame of discussion is about governance, agencies and direct physical relations.
2. From the Perspective of Cultural Anthropology
 - Concept of Habitus (Bourdieu) is not determinist and as the way of life is inevitably altered, different responses. Such cataclysmic change can also lead to increased vulnerability. This perspective is addressed from positivism and draws on post structuralism. Which means looking at the world as a social construct that operates through a physical spatial field.

And this research basically discusses the reconstruction process in mainly two ways; one is in a positivist way, where the physical distances are increased and certain activities are no longer possible; so, people started facing all these difficulties and they started personalizing these spaces and whereas, development agencies operated an instrumental level in the discussion of vulnerability.

So, it is also about the discussion is about the governance agencies and the direct physical relationships. From the perspective of cultural anthropology, it is not the concept of habitas is not deterministic as the way of life is inevitably altered and different responses through the personalization process. So, such cataclysmic change can also lead to increased vulnerability because sometimes, if you do not see this kind of adoptive nature so, that can result even much bigger changes when a negative impacts. So, this perspective which is from positivism which cross from post structuralism.

So basically we are looking at a social construct that operates through physical spatial field; so, what I will do is; I will just show you a small film of how these responses came from this field study.

(Refer Slide Time: 24:58)



So, I think you have seen now the responses of it and so this is the very variety of responses; on one side people started liking it, in some other side, not disliking it because of various cultural reasons and their livelihood aspects and the change in the way their cultural set ups have. So, that is where we look at the urban design concepts:

(Refer Slide Time: 32:42)

Urban Design Concepts can operate at both levels:

- The layout can be viewed instrumentally and functionally in terms of the way it supports or not the issues of income and livelihood.
- And it can be interpreted as a socio-spatial construct that supports the following performances of social and cultural life
 - Family and Kinship
 - Religious and Political practices
 - Social and Neighbourhood Interaction

Here the methods of Urban design Appraisal help to tease out the spatial elements of these practices (eg.mental maps, identification of the way in which space is demarcated, segrregated or appropriated)

```
graph TD; A[IDENTIFICATION OF SPACE] --> B[NARRATIVISM]; A --> C[PERFORMATIVES]; A --> D[MIRRORING];
```

IIT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE | 56

How they can be operated both levels; one is the how the layout can be viewed instrumentally and functionally and in terms of the way it supports or not issues of income and livelihood. And then it can be interpreted as a socio spatial construct, how people started working on these performances.

So, I think this brings back to the Leach's ideas of how the narrativism, performatives and mirroring and it also directs various methods how we can investigate culture.

(Refer Slide Time: 33:18)

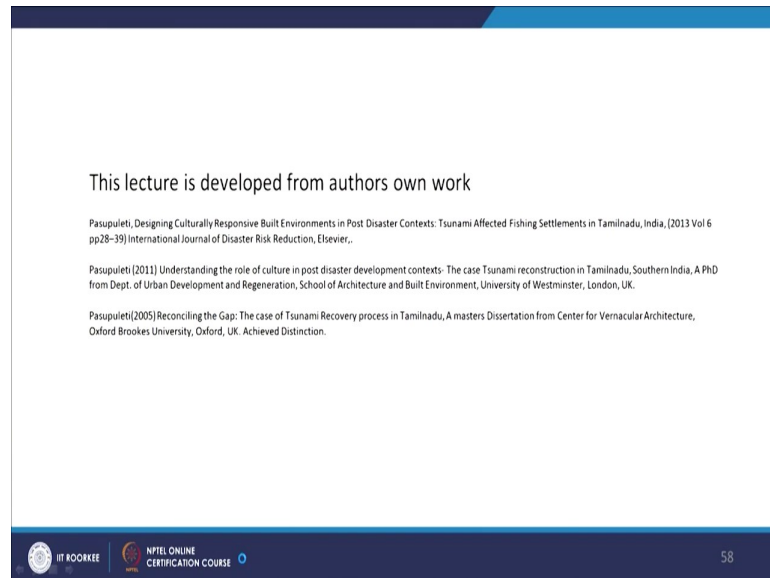
Recommendations to integrate cultural dimensions in post disaster development process

- Empowering Grass root level governance
- Appropriate Training and awareness for local governing bodies
- Film and Media communication methods should be encouraged
- Documentation of existing settlements and development issues in traditional settlements by spatial information technologies and digital technologies.
- Incorporating disaster management lessons in the curriculum of secondary schools and other schools that deal with built environment.
- Development of building and planning regulations with local

IIT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE | 57

So, the few recommendations which we made on empowering, how we can empower and how we can develop appropriate training and documentations as well.

(Refer Slide Time: 33:27)



This lecture is developed from authors own work

Pasupuleti, Designing Culturally Responsive Built Environments in Post Disaster Contexts: Tsunami Affected Fishing Settlements in Taminadu, India, (2013 Vol 6 pp28-39) International Journal of Disaster Risk Reduction, Elsevier,.

Pasupuleti (2011) Understanding the role of culture in post disaster development contexts- The case Tsunami reconstruction in Taminadu, Southern India, A PhD from Dept. of Urban Development and Regeneration, School of Architecture and Built Environment, University of Westminster, London, UK.

Pasupuleti(2005) Reconciling the Gap: The case of Tsunami Recovery process in Taminadu, A masters Dissertation from Center for Vernacular Architecture, Oxford Brookes University, Oxford, UK. Achieved Distinction.

IIT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE | 58

So, basically these are some of my references which are well sited and so.

Thank you very much.