

Disaster Recovery and Build Back Better
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Lecture – 27
Tsunami Reconstruction in Tamilnadu - Part- 1 (Approach)

Welcome to the course, Disaster recovery and build back better. My name is Ram Sateesh, I am an Assistant Professor Department of Architecture and Planning, IIT Roorkee. Today, I am going to discuss about Tsunami Reconstruction in Tamil Nadu in two parts. I have divided this lecture in two parts because it is my own research, which I have conducted during my Doctoral studies and the first part which talks about the methodological approach.

And what are the various approaches, how I framed it and what kind of framework I worked on things like that. And in the second part, I will be actually discussing about the case studies and my observations and findings about what kind of understanding I got it through the case study approach. So let's start with the part one.

Before talking about this Tsunami Reconstruction Tamil Nadu, I would like to give you an overview of how my journey in the disaster field have started.

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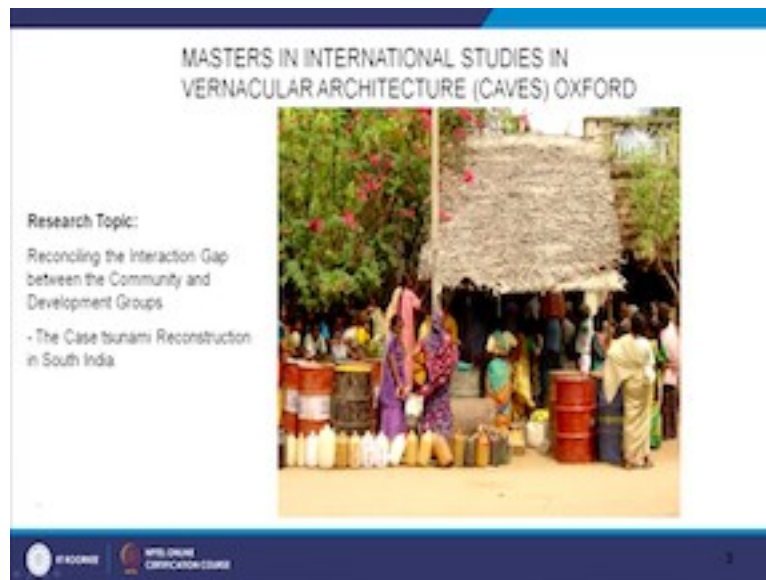
These two photographs are one of the important photographs of my life. In fact, where my whole journey of my life has taken a different turn, the right hand side photograph which you are seeing, which is the reconstructed houses in the Latur Earthquake recovery in the Marathwada region and 1993 posts 1993 and on the left hand side you can see many of the Geodesic Domes constructed in Gujarat Earthquake recovery.

When I saw this photograph of the Latur Earthquake recovery and after some time I visited these particular sites and even today, many of these housings products they are still vacant not many people have occupied these houses. The first question in my mind rose on that day, why these houses were not occupied despite of having a very good technical input but is RCC structures Geodesic Domes.

But what made the communities not to occupy and this question have rooted in my mind. I started working on the reasons behind these kind of unoccupancy, then, later on I worked on my thesis and then I realized when I went to Gujarat I realized how the communities are worried about the cultural dimension and especially, why they are not happy with certain prefab inputs and though it is concrete structures, why still people would not happy.

How they were looking after their family and the livelihood aspect. So, it opened a different dimension in my mind and I started looking at understanding the traditional Architecture, traditional environments and with that, I worked in Auroville for some time and that has given me an eye-opener for me to understand how the architects works with the communities.

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And through that, I went to master to do my Masters in Oxford Brookes on International Studies in Vernacular Architecture. So, that was the time of 2004 and Tsunami have hit the Tamilnadu and immediately after the Tsunami, I did my thesis on the rehabilitation part of fishing villages in Tamil Nadu and then I worked on the reconciling the interaction gap between the community and the development groups.

So, this is one of the understanding I had encountered in the rehabilitation stage, later on when I was working as design technician in Benfield advanced timber technologies (BATT) in Caldicot, our company have got a project on Kashmir earthquake rehabilitation in the Pakistan occupied Kashmir which United Nations World Tourism Organisation have proposed to build some houses, a prefab houses using timber frame houses.

As a part of their tourism development and as well as the affected areas. So, there I was working in the flood pack approaches where I was designing the houses getting them made and where I was sending them, to shipping them to the Kashmir part of Kashmir and then shipping flat pack up using the flat pack approaches like we delivered the IKEA furniture. So that is what I was doing and there I realize a villain role in myself.

And because that is where I don't know who are the beneficiaries, I don't know what is a site, I don't know what is the contours over there. I don't know what is a climate, so it is only just I was doing I realized that you know that's where there is a gap between what the client wants?

What the industry is supplying and what the beneficiaries are looking about. So, this is where I developed my proposal of Ph. D research and in the very early days of my Doctoral research which I got funded from the same University of Westminster London, my initial theories were in the basic terminology you know. Because we use many words very loosely in day-to-day sense like for instance the development.

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When we say development, how can we define the development, so in my research what I looked at the development aspect my context is on one side the usual development process, which is before the disaster also the Municipalities or the Panchayat keep taking care of their communities and their roads, water supplies, services everything, health sector. So that is the usual development process and then the second part is the disaster.

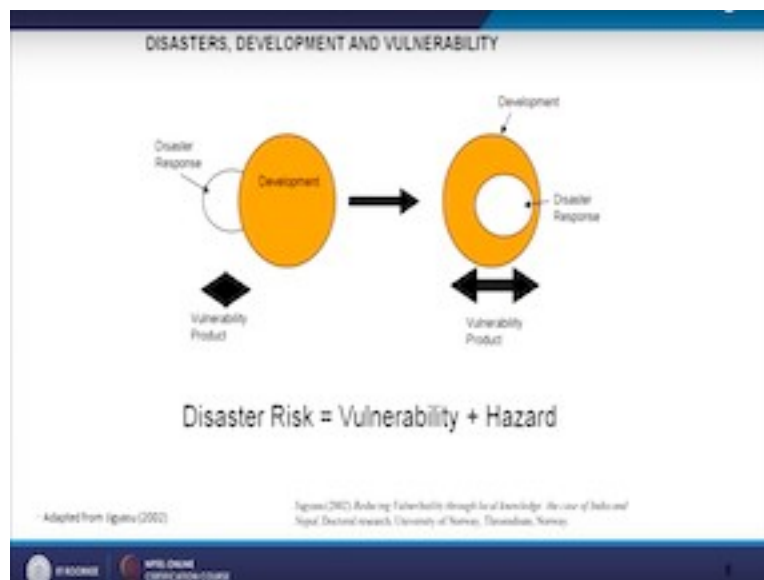
When the disaster strikes different NGOs comes forward for a helping hand and they work on you know, different funding mechanisms and it could be a relief stage, it could be a rehabilitation stage or it could be in a long run it will take up to the recovery and reconstruction stages. So

here, the actors are very different and they are very much the temporal in nature the development is temporary in nature.

In a long run, once the relief stage is done and the rehabilitation stage where they are put in temporary housing for some time and long run they look for the visible land feasibility and appropriate NGO co-ordinations, appropriate financial visibilities and that is where the post-disaster development process works on, which you could be a two-year, three-year long-run process, and before going I like to brief about the technical aspects behind it.

First, I started looking at hazard and disaster, its a very fundamental difference it is hazard is simply a natural phenomenon it could be a flood, it could be a cyclone or you know, it could be earthquake, it could be a landslide but then what makes hazard a disaster, so here, one has to understand in Japan you are getting 9 Richter scale.

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In San Francisco, you are getting eight Richter scale but still, you are not losing lives over there but in India countries like India or Pakistan or Sri Lanka even a 7.5 scale is creating a huge impact. So, it is not just a natural phenomenon which is making an impact it is the vulnerability, which is the people's vulnerability, the society, the community, who are unable to face, that who cope up with that particular hazard and its impact.

So that is where the hazard plus vulnerability is going to disaster risk. In fact, Rohit Jigyasu's, when I referred with that Rohit Jigyasu's work, I am mean that is an again and eye-opener for my study where, he have given me a direction that a lot of literature from Blaikie's work, Canon and Ian Davis work and how these vulnerability disaster and hazard have been worked out. So for instance, what you can see here is in the disaster of response immediately after a disaster.

The development used to follow, right and then supposedly, the vulnerability factor should be very less but in reality, the disaster response is within the development aspect, that is where you see the vulnerability factor is more, it is within our existing system.

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It is where the Lewis calls it is not just a cycle he calls it is a bicycle. Well bicycle, when the front wheel rotates to the development not necessarily the vulnerability is reduced, it may turn in the other direction too, because there are other factors which are the push and pull factors to it. Similarly, as I defined to as a development, the pre-disaster development, during disaster and the post-disaster. In vulnerability also, I have classified into pre-disaster vulnerabilities which are because,

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This is a photograph which I have taken in the early stage of Tsunami recovery in the relief stage where they have an existing water resources issues, you have, people used to gather, to get water from the small municipal taps and around the corners and they have service issues so, there are already an existing vulnerable situations it could be they are prone to the hazards. They are prone to the daily life activities.

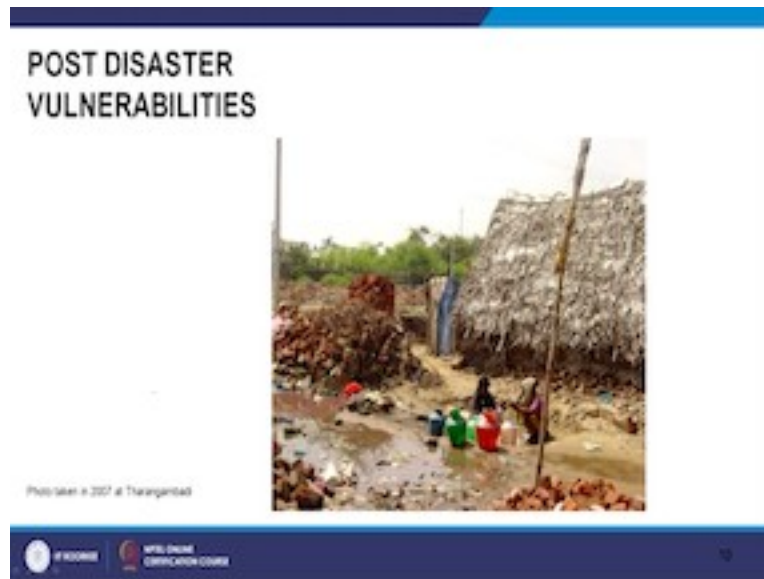
But whereas, the vulnerabilities as a result of disaster that is where even loss of human life and property damage.

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And, infrastructural damage.

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Whereas, in post-disaster vulnerability this is the photograph of the same place after 2007 which is after almost two years, two and half year and still people, still struggling for these basic services. So that is where, we talk about these post-disaster. So sometimes, the vulnerability gets increased or decreased as a result of the recovery process, so that is where it takes into a different form, then I started looking at how one can assess the vulnerability.

When we talk about vulnerability there are, I will introduce you to four different types of vulnerability analysis, the first one is techno-centric analysis

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Various paradigms in Assessing Vulnerability

Techno-centric analysis - considers physical vulnerability of buildings through technical inspection of faults and weaknesses, which cause these buildings to behave poorly, if they are hit by a natural hazard

Target Group analysis - focuses on the vulnerability of social (target) groups, and is concerned with the causes of this social vulnerability

Situational Analysis - it focuses just not on what kind of group a person or family belongs to, but the nature of their daily life, their actual situation (including the way it may have changed recently or may be changing)

Community Based Analysis - in this case communities and groups appropriate the concept of vulnerability to inquire into their own exposure to damage and risks

The paradigm is used in the research

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Earlier, when a disaster happens whether it is a flood or earthquake, the engineer's team use to visit these site and they also identify where the cracks coming where the joints where the reinforcement defects. So, which means they are looking at the physical vulnerability of the buildings through a technical inspection of falls and weaknesses and what are the reasons behind these. Later on, in after 80s where Frederick Connie and had brought the relation.

Between the disasters and the development where this it has also become a focus of the sociologists and anthropologists, they often observed that every time a disaster happens, it is affecting mostly a particular target group. So, it focuses on the vulnerability of a social group and is concerned with the causes of the social vulnerability. The third aspect, which is a situational analysis, it focuses just on what kind of group a person or a family belongs to.

But the nature of the daily life and how their actual situation changes or which may have changed very recently, it could be through the development input, it could be by the vulnerability as a result of the unexpected different forms of vulnerability, so how a situation is changing every day. The last aspect is a community-based analysis here, the communities and the groups appropriate the concept of vulnerability to inquire their own expose to damage and loss.

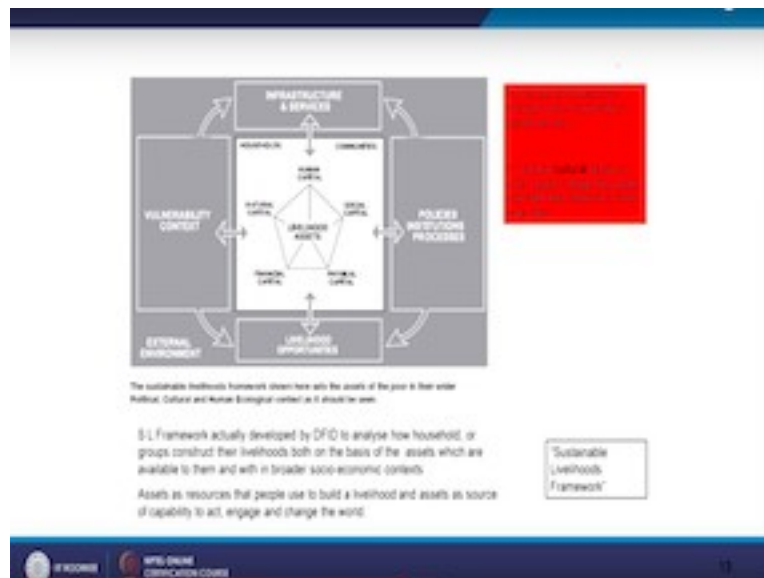
These were the most of the NGOs plays an important role, so they tried to make the communities aware of their own problems and the issues. So, you are trying to engage the community to find the appropriate solutions by a participatory approaches. This is where most of NGOs work. But in my research, I looked because I am not a group, I am not an NGO, but I am looking at everyday what is happening every day, how things are changing every day.

And I am a lonely researcher, working at the situation so that is where, I looked at a situational analysis. There are various models of the pressure and release model.

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is also the underlying factors and how they actually the dynamic pressures which are actually creating with the natural hazard phenomenon.

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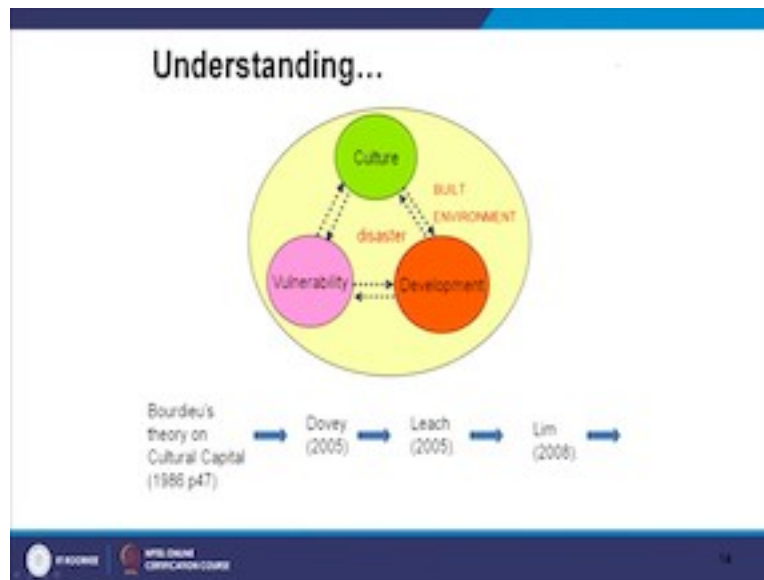


There is also sustainable livelihoods framework which talks about the asset framework where it is a different model in 1997, which they have developed how the individuals or a groups access the resources which are basically an assets to organize their livelihoods and how the capacities make them able to act engage and change the world. Apart from this, Tony Lloyd Jones and Carole Rakodi.

Also propose that there is also the futures like how the infrastructure and development has an impact in those access to these assets and the vulnerability context. As well as the livelihood opportunities and also the policies and the institutions, how these actually make the individual or the groups to act upon. But here, the thing is it is not just for the economic necessity where households or groups act upon.

But it is with the cultural factors which people manage the results and make their livelihood choices to act upon. That is where my argument started building up. So till now, there are main lot of research works on cultural and the relation between built environment and there is also a lot of literature vulnerability and the development.

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There is also work, literature from Frederick Cuny onwards like you consider disasters and the development but I try to look all these components that relation with culture vulnerability and development. I am looking from my ontological perspective, the built environment perspective and especially, in a disaster context, so that is where I started reviewing a variety of literature starting from Bourdieu's cultural capital.

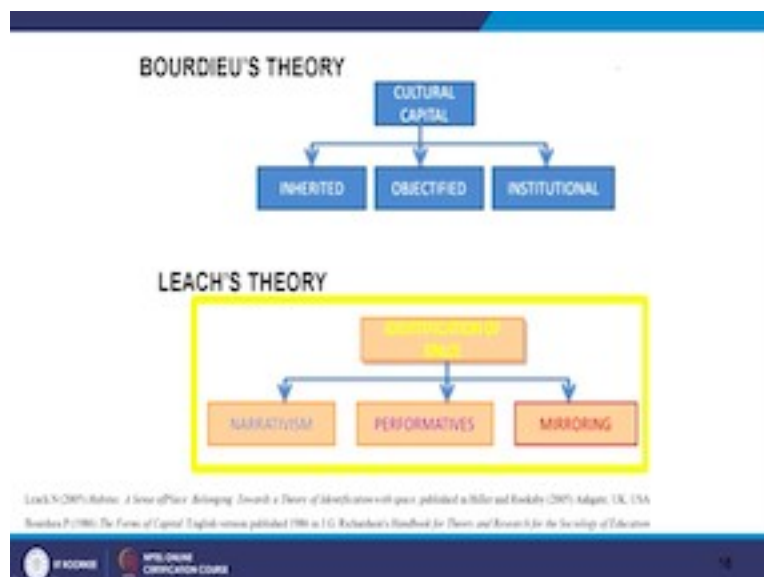
Kim Dovey's work on framing places, Neil Leach work and Regina Lim's work. So, this is where when I started revealing a lot of literature on what is culture and that is where I try to adopt certain literatures and made a framework in my research, in order to understand the role of culture, in the disaster development process. So, I have adopted Lim's model of cultural environment.

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Which she calls it is a kind of matrix of religion, ecological environment, economy, family structure, kinship, gender roles, politics, cultural interaction. So, all these makes how they gives shape certain structure that create an identity.

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And similarly, I spoke about the Bourdieu's theory which talks about the cultural capital which is the inherited capital, the objectified capital and the institutional capital inherited which is basically, an inbuilt with what the qualities you achieve from your family and through your socialization process, but in objectified how you objectify in the form of art and how you can objectify through the architecture.

And its places and institutional is more to do with the academic credential that is where the difference of the popular cultures comes up. And Leach Theory talks about the identification of the space how one can narrate the space the performative which define the space and the repetitive performances which talks about the mirroring of the place. In the context of culture and in the modernization and the globalization.

One has to look at you know, it is not necessarily that we go back to the situation where it was, because people as developed and talks about people. Now cannot simply rely on local knowledge as tradition, religious precepts, habit observation of other practices to conduct their everyday lives. Because there are certain other factors also people tend to make their choices. So this is where a contradicting aspects one has to observe from the tradition.

And the contested aspects of traditional model. So in my research, we started looking at the culture how we can start defining the cultural research.

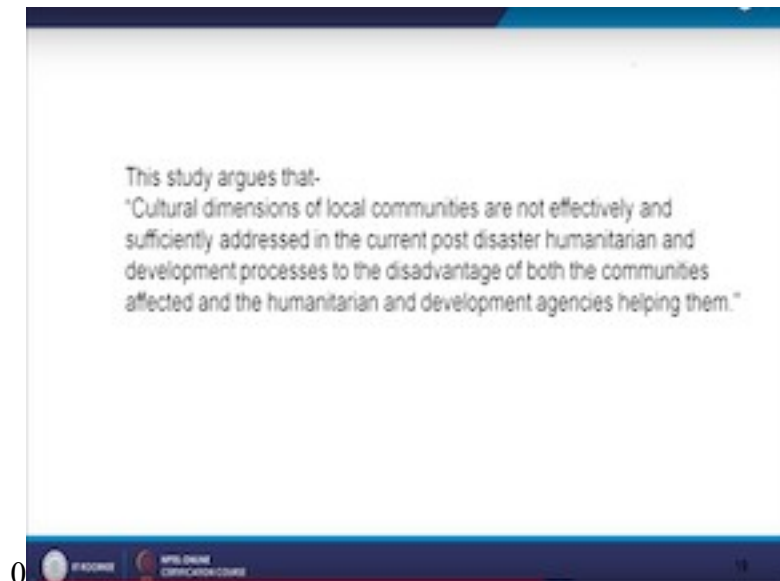
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Here, the culture is defined as the sum of total human experiences and accumulated indigenous knowledge within the space because, I am looking from the built environment perspective that communities rely on giving meanings to their lives and places delivered through which people habitually develop an approach to survive their everyday life, whether it is in a pre-disaster situation or a post disaster situation.

So, mainly my argument lies on how the cultural dimensions of the local communities are not effectively and sufficiently addressed in the current post-disaster for humanitarian and development process.

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To the disadvantage of both the communities affected and the humanitarian and development agencies helping them. So, that's where my research question talks about.

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How to understand the role of culture in the post disaster recovery process and its relation to the vulnerability, especially, in particular to the built environment of affected traditional settlements.

So, my methods have started understanding from two subject domains, one is talking about the change which is about this morphology which how the spatial character has changed before disaster and after disaster.

The second aspect when I am looking at the cultural dimension of it that is where I have to draw the methods from the cultural anthropology.

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So that is where it's synthesis from two different domains of work that is the cultural anthropology and the morphology especially in the disaster and development set up. So I have adopted Ian Bentley's work on the theory of responsive environments where he talks about certain qualitative indices how to measure a space. You know, when we talk about the morphology and when we talk about the spatial character.

One has to understand that how one can measure that change. What are the qualities we can so that is where the permeability, legibility, vitality, variety, robustness?

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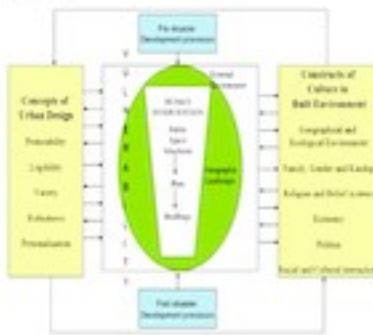


Visual appropriateness, personalization but then as we consider the space-time framework. We are not just looking at a settlement, we are also looking at the different layers of the built environment the mostly the underlying topography, the natural system which is an ecological landscape of it the public linkage system, the plots, the buildings, the components. Because these intermediate spaces you know, these are the various layers of the built environment.

Which changes in different time aspects like the geological, the underlying topography changes in a geological time, whereas, the natural system changes in an ecological time as the public space the changes in the millennia or the plots may be in a centuries like that we have looked at the change aspect in different layers of the built environment.

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Defining Conceptual Framework for Analysis



So, I developed this kind of framework of oneness, how the ecological environment and the geographical landscape is framing the built environment aspect especially, in the pre-disaster development and the post-disaster development and then you have the concepts of urban design especially, the theory of respond how we can check this spaces how it is changing in both the pre and post.

And then on one side the constructs of culture in the built environment like you have the Lim's model of geography and ecological environment, family, gender, religion, economy and how these actually interact with the space.

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CRITERIA OF SELECTION OF CASESTUDIES



My next question was how many case studies? One, two, three? So, what I did was I travelled around Tamilnadu, I have taken a lot of statistical information of the damage statistics what districts have been affected, what are the villages, what are the NGOs working on, what approaches they are doing whether they are doing Institute or a relocation and accordingly have visited about 17 villages along the stretch of Tamilnadu coast.

And then, while I was travelling one of the important finding in my pilot study was the geography is very different not only in land. But the sea also, until your path straight you have the shallow sea waters further down the Gulf of Mannar, you find the deep sea waters also the geography is more plain from the northern side and it's more hilly towards the southern side. Apart from geography, we also notice that community is also very different.

And especially, in the fishing communities. In the northern side of the fishing villages which I have visited they are mostly Hindu oriented. The Nagapattinam area, we can see a mix of Muslim, Hindu and also some of the Danish communities live there. In further South, you see more of the Roman Catholic communities live there. So in that way, I have selected three villages.

Lighthouse kuppam, Tharangambadi, Kovalam in all the three villages Kovalam is a Roman Catholic village, Tharangambadi is a mix like which is a Hindu, Muslim and Christian community lives there. Lighthouse Kuppam is a Dalit village, its a small island. Here, apart from these social-cultural settings, there is also development settings which makes a difference. In Lighthouse Kuppam, Tamil Nadu Government is involved in it in the recovery process.

In Tharangambadi the fishermen NGOs, South Indian fishermen federation societies they were involved in it, in Kovalam the traditional church the local Panchayat is involved. So, I am looking at how different development inputs also vary and how the outcome will be.

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QUALITATIVE APPROACH

It is particularly relevant because a qualitative interview aims to understand people's terms and judgements or decisions, and discover the complexities of their individual and collective perceptions and experiences.

METHODS ADOPTED

- Field Observation through direct and indirect participation
- Documentation and Recording
- Interviews (semi-structured interviews carried out with communities of interest, development agencies and government authorities)
- Mapping exercises
- Questionnaires

So, I was looking at the qualitative approach in fact, initially I started with questionnaires somehow, it didn't work out so that is why I strike out from the questionnaires and I see that as I am looking at the underlying dimension of the cultures you know, I have to adopt different methods like field observation which has both direct and indirect participation, a documentation recording and the interview.

So it could be semi-structured interviews with the communities and development agencies and the government authorities. And also the mapping exercises in fact, this to tailor these methods it took me some time and there are many methods which I have used.

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And I have to tailor according to the context for example. when I approached the village directly in a car and going with, then people were afraid of they thought I was a Government servant and that only talk to me about problems they never talked to me about solutions or their how the things were doing I was getting a different data. So, what I did was sometimes they were not they were hesitant to give me data I went to the church I discussed with the father.

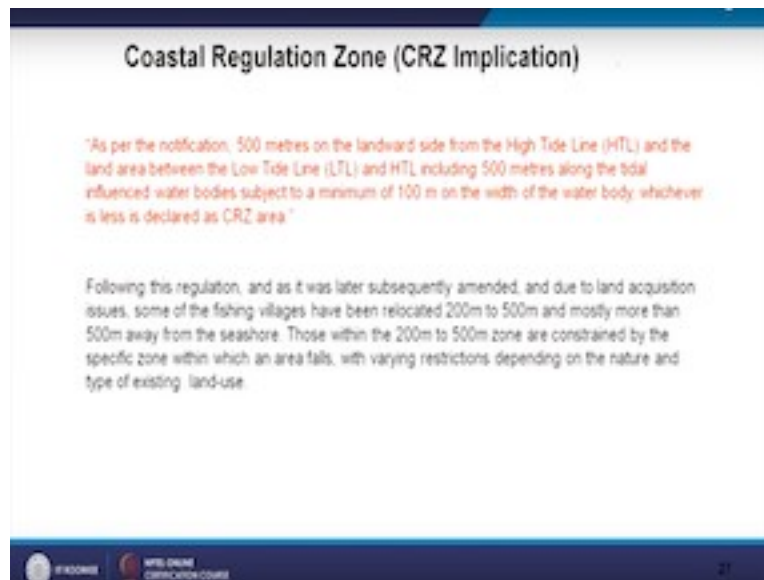
I said can you please allow me so then he introduced me in the mass that is where, then onwards every community, every household is inviting me and they have started giving the data and so which means the idea is to approach to not to do a research. You have to approach the local agency, whether it is a church, whether it is a panchayat or anything so to build a trust between the people whom you are connecting in the study.

Like I have to visit in the mosques, I have to take the group interviews and especially, with gender many of the women doesn't open up to me because I am a male person. So, I have to hire one lady who can speak Tamil and I could able to respond so and then they start speaking about their issues. So, which means is a communication techniques which I have learnt also, when I asked interviewers in the land the response is very different.

But when I travelled, I used to live as a fisherman for a few months and I used to travel to them, their Sea in the morning nine o clock, morning four o clock and then in the sea they used to open up a lot because they somehow, their belonging goes the essence of belonging is more to the sea and they used to open up many things you know, how they identified the settlement how they have the indigenous knowledge to understand the risk and all these things.

I have also adopted the mental map exercises. Initially, I have given them techniques of how to draw the maps. I mean how you can understand the places.

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Legible maps but then in some cases they were not even afraid even to draw and then I have adopted a different techniques which I will explain later. In Tamil Nadu what happened was there is a coastal regulation June which has a blip, which has been from 1993. And it has been revised 19 times till then and it was hardly implemented in a practical level. So, but after the Tsunami agencies have thought that we should seriously implement this.

And they have tried to move back all these fishing settlements. Like as per the 500 meters of the landward site they should not construct anything and later also they have actually proposed that you know, you have to they have amended this particular thing later on and then they allowed to some areas 200 to 500 meters you can still permit some constructions.

So it has been amended and this has implication has a serious implication on the land acquisition issues and going back and finding an alternative piece of land and the connectivity aspects. Which I will be discussing in the next lecture in the part 2 lecture and this lecture is developed my own work.



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This lecture is developed from authors own work

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So, these are some of the references you can refer. Thank you very much.