Lecture – 28
Tsunami Reconstruction in Tamilnadu Part – 2 (Findings)

Welcome to the course disaster recovery and build back better. My name is Ram Sateesh I am assistant professor in Department of Architecture and planning IIT Roorkee. This is a continuation lecture of tsunami reconstruction in Tamil Nadu part two. This is about the findings. In the previous lecture, we talked about the method and approach which I have developed.

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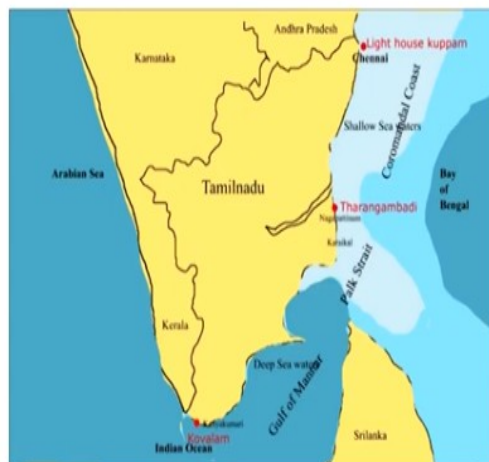
As I said to you in the last lecture, I have selected three case studies which is three villages one is a Kovalam in the South near Kanyakumari, the Tharangambadi which is near Karaikal and Nagapattinam. And the lighthouse Kuppam which is a Dalit village island and this is where I have conducted some kind of ethnographic methods. I used to stay there as a fisherman and I was to interact with various communities

I used to travel to them in the sea for fishing and I used to observe the daily activities so this is how I did.

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A CASE OF KOVALAM VILLAGE
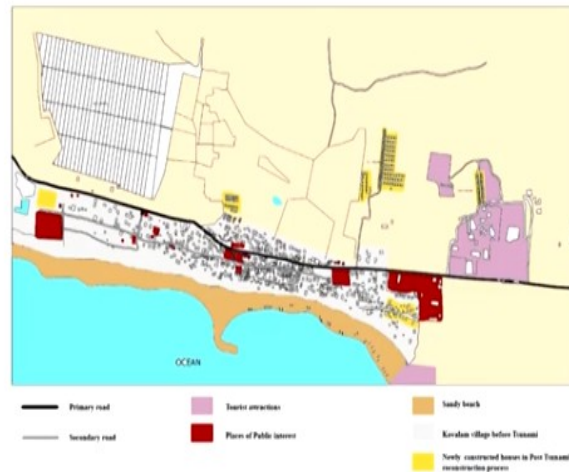
Characteristics map of Kovalam, Kanyakumatri district , Tamilnadu

The first challenge in that time of research we are talking about 2005-2006 where the Google Earth was just in the beginning stages and I was not getting any Maps, so I have to digitize these maps whatever the Google Earth have to give me and some physical observations. So, I have developed these maps especially. If you look at the Kovalam map and this is basically, the sea and then Indian Ocean and you have the salt mines here and this is the main heart of the village.

And this is the main village centre and then 88 houses were damaged during this Tsunami and immediately the government have done the assessment of these 88 houses. And they decided to find alternative position for them because of the CRZ regulations so they have took some land in the DC Nagar phase and SISU Nagar and they have identified this is a government land and have given about 88 houses.

So, after that, the church have realized that why not we take this as an opportunity to build a more special village and to also address the pre-disaster vulnerabilities. That is there the church have gathered the communities and they put some money forward and they bought some more land in different parcels and these two are Praxis Nagar which were later amended when the CRZ regulation has been further amended.

And they bought some more land and this is where communities have put some money in it. But here one thing you have to understand that they people who were having houses earlier but now

they have been given houses through a government support which is completely land is free and the house is free. So now, these people were on a lease for 10 years only then they will get the pattas and these people who bought the land with their own money.

So now, they have got the pattas from the beginning. Like the traditional houses which has a very rich character this is all joint families earlier, it was only a four hundred households village after the tsunami they taken the opportunity to make a spacious village and in the process of making a spacious village 400 have become thousand houses so which means joint families have broken into the nuclear family setups.

So father and mother started living in the whole city old town areas and old village areas and the brothers and sisters they all scattered in whatever the land feasibility and the lottery allotments they got. So, if you look at the traditional housing setups.

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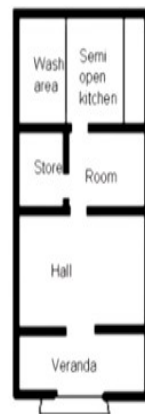
You can see the traditional elements of the architecture where they have some certain storages of net and they perform the net weaving practices. They are drying of the fish and also the traditional elements which have the more privacy symbols it could act both as a window and door and it is climatically on the coastal side it is very efficient to give comfortable stay in the house and even the clusters.

Were very narrow, very organic development happened in that particular villages and of course there was also some problems before the disaster issues, with some neighbours issues, with some water issues or the service issues. There are also some issues at the same time there is a very close-knit families. In the recovery process, in the reconstruction stage when they identified this new land.

So, including the government and the NGOs who have worked on it, they actually proposed a kind of grid iron patterns.

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View of newly constructed houses in SISU Nagar.

Compound walls are constructed by the households.

View of extended kitchen and toilet areas at the rear side of the house.

Layout of newly constructed housing in DC Nagar

Poor infrastructure facilities in DC Nagar 2nd Phase.

And a very linear networks and here they have taken a lottery approaches. Here, when they have taken a lottery approaches no one knows who is your neighbour and where you are going. So that has actually broken certain neighbourhood you know linkages and gradually people started in making the compound walls and initially in the first two stages, two years they were not having proper water supply and gradually things have developed.

And some people they started expanding the kitchens in the backyard because you know, fishermans they cook fish and they want the kitchen to be outside. So, in despite of having a kitchen inside but still, they prefer to have it outside as well. So, these patterns have what kind of created some impacts in the society like for instance first thing is before the tsunami everything was near MDR.

Diagram showing the economic connectivity (Pre Tsunami)
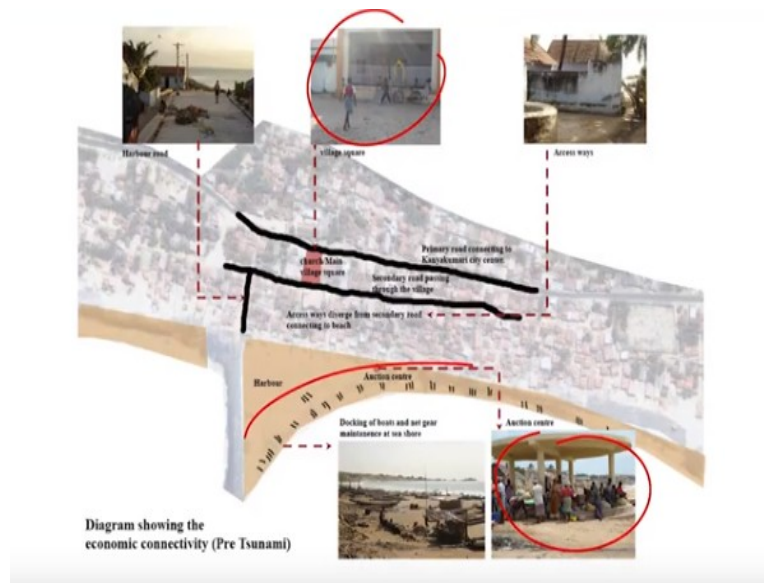
We have the harbour here, you have the auction place here, you have the village square here everything is near to the city. But now, after the tsunami they have to relocate to two kilometres which is almost taking a person has to walk almost 2 kilometres and you say you and me are walking with a laptop or a small with one kilometre or two kilometres but they are walking with a fish gear, net, diesel, the collected fish, any other equipments.

And it is not like they are going morning 9:00 to 5:00 is an office. Sometimes, depending on the fish catch, they travel at morning four o clock they come at morning eight again they might go at 11:00 and they might come back at 2:00 they might go to evening 5:00. So, it depends completely on the kind of fish catch they get. So, every time walking two kilometres and coming back is a very difficult task for them.

For every, the church is in the centre, the village church, the parish church and even for the elder people to go and conduct their prayers in the church it has become a very difficult thing or to attend any village councils meeting it has become very difficult thing. Even to celebrate any festivals.

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Diagram showing the religious connectivity (Pre Tsunami)
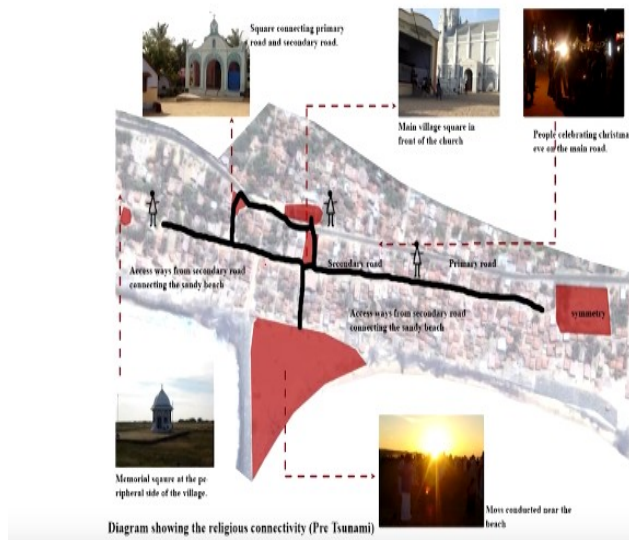
Like, you can see the Christmas was one of the important festival live in every street it is becoming a celebration and in the new clusters you can see that not much is happening and in fact, the church is also making its efforts how we can conduct the open masses in the sea-shore and things like that.

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Diagram showing the religious connectivity (Post Tsunami)
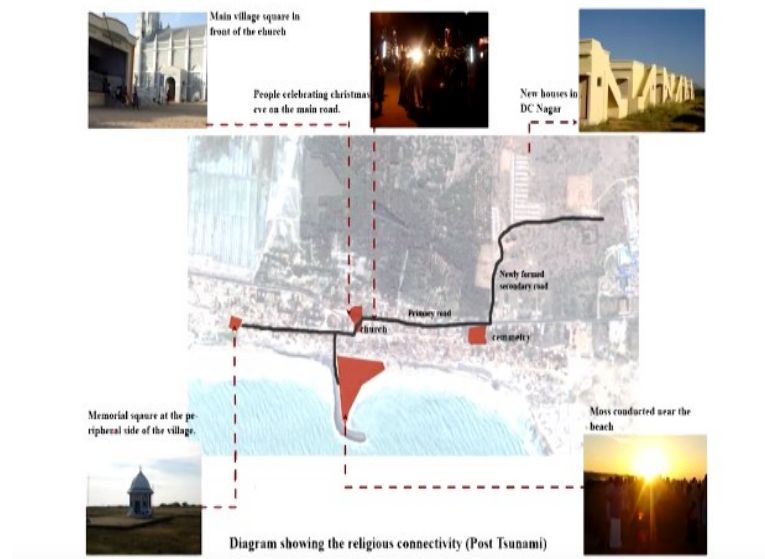
So, now in the new situation, not particular celebrations have gradually diminished. Because the access to the religious places and the political meetings not only that in our personal level. Earlier, husband when he goes for fishing the woman used to see the boat, oh! my husband is coming and wait for the husband with food. Because he will be starving but now he can only, she cannot see whether the husband is coming at what time is coming.

So obviously, when the person comes back he will not say that no one is there with him you know, to give him food. So obviously, when a person returns as I you know, comes back from the shore and to the shore and he is hungry and obviously, it has created certain impacts in the family relationships. Maybe when he goes house he says that you know, my bonds got weakened the family network and bonds gradually got diminished.

When the NGOs have started consulting what type of house do you want they said yes we want a brick and concrete house.

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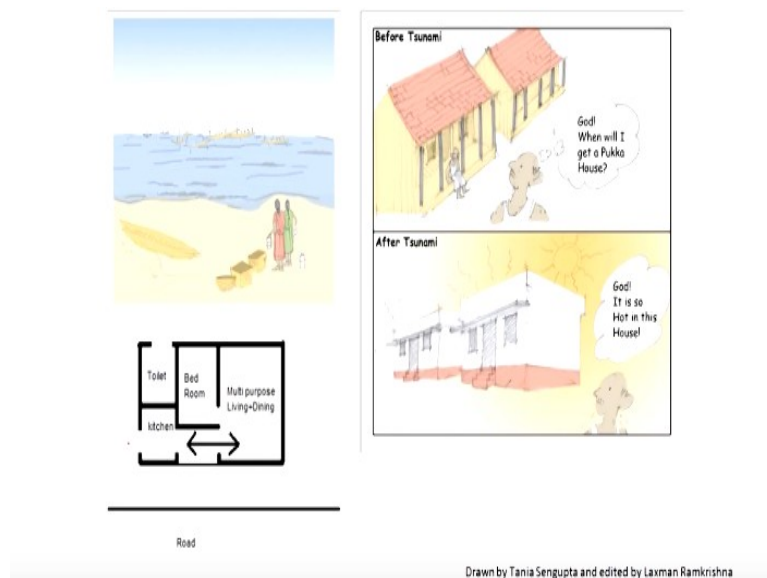
Because most of the influence happens from the nearby urban areas. That is what exactly the NGOs have given but now, they are realizing that a community it is better have a old house because it is much more you know, thermally it is more comfortable and here, sun is very hot. Also the orientation of the kitchens now, they have to carry the food from the kitchen to the outside and in their cultures, they don't want the food to be seen.

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Land Tenure / Ownership

As I said to you that the people who had a house, earlier and which was damaged during tsunami and now, these people which who got in the government land and built by the government for the next ten years they don't get any Patta. But now, the other people who were not having a house but now they could able to put some money and they got a new house so they got the patta. So, it means it created little differences between the having the tenure.

And the ownership part of the land and the house because if they want to sell this house now these people cannot sell but these people can sell. So, that means that has created some sense of ownness also talks about the maintenance aspect. So, the dynamics of the family networks have very dependent on family to family for some small families of where husband died and he is the only support but despite of having a new house but there is no livelihood facility.
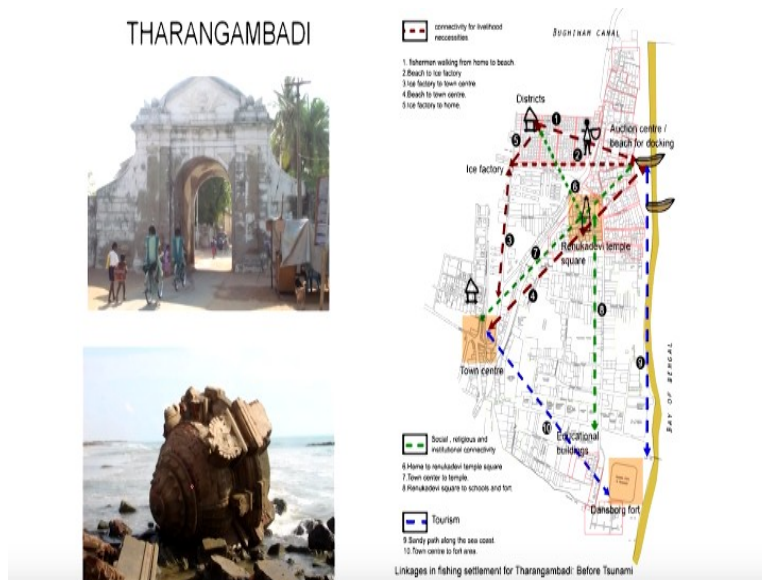
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EXTENSIONS

So, where the woman have started expanding their house front as a small shop to run the family expenses. Similarly, the kitchens were extended.

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Linkages in fishing settlement for Tharangambadi: Before Tsunami

In the second case of Tharangambadi, it is the three clusters one is the Danish colony, and the Muslims, the pre-colonial houses and the fishermen society, let's say and this is a Renuka Devi temple square and this is basically, the tourism circuit goes on to this because of the Dansburg fort here and the town centre. So, this is the highway and it goes like this and this is a Masilamani nadhar temple which caused damage during the tsunami.
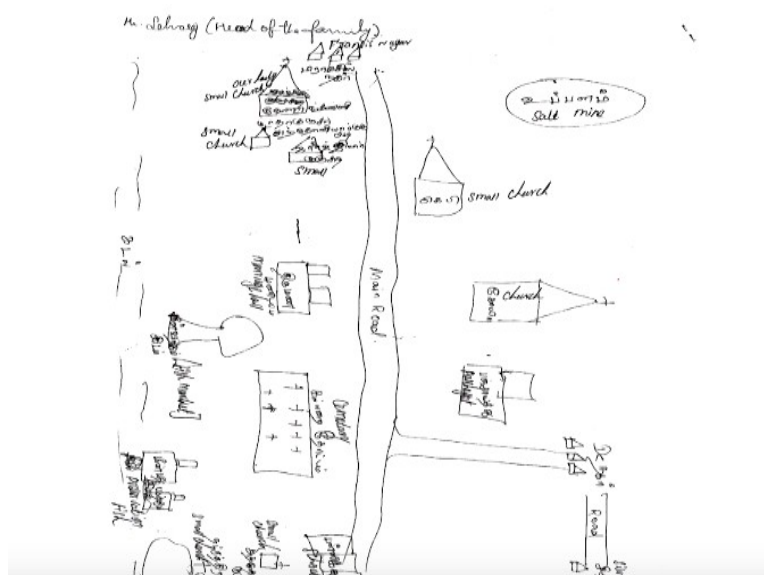
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Linkages in fishing settlement (old and new) for Tharangambadi. After Tsunami
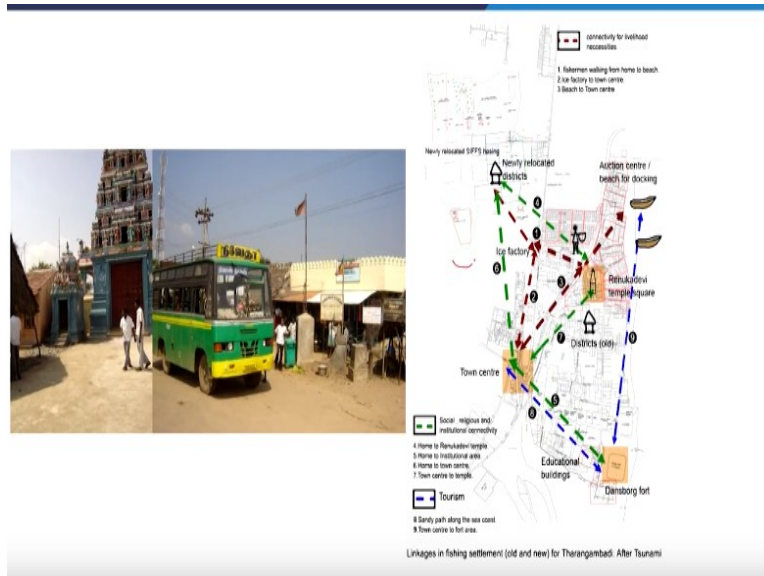
And if we look at the network after the tsunami, many Kuriakose architect and as well as the SIFFS Agency has worked on this relocation of this fishermen houses they identified this land and they tried to work out the housing when a more of a participatory approach. So, they tried to even make some efforts of put the same neighbours in the same cluster and I have documented the various typologies of streets.
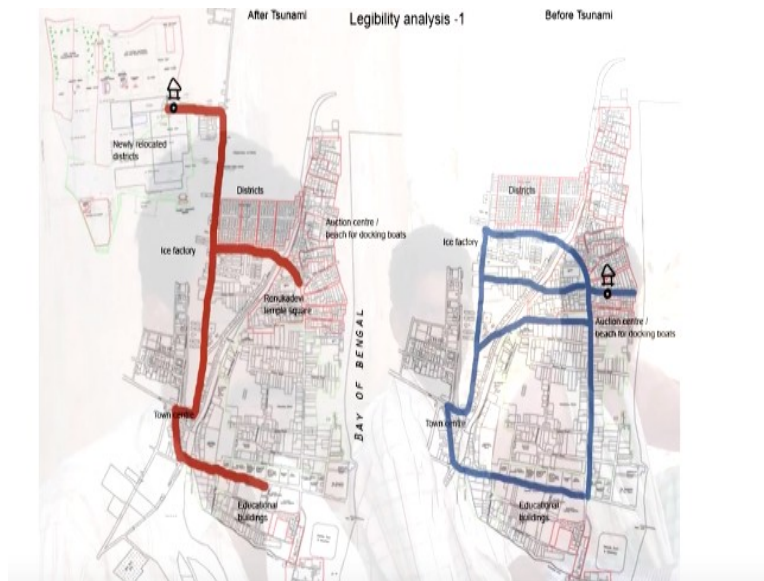
Various types of connectivity patterns within the settlement and that the building details and everything. Also, taken the mental maps.

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You know, Kovalam I have taken the mental maps of how people imagined and understand the places.

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But in Tarangambadi, it was not possible because when I gave some papers to draw their mental maps, they were bit hesitant to draw the hand started shivering then what I did was I have taken the maps developed by SIFFs one is before tsunami and the second one is after tsunami. This is newly relocation houses, I say this is Renuka Devi temple then oh! this is temple then this is my house then I asked them where are all used to go.

Then he says my house is like this I took my children to the school in the Christian this colonial area and then I go to the ice factory here, and then I go to the market and sell the fish I go to the harbour. So in that way, this is called a princess street but in relocated context, this is my house and then I said I give a landmark this is the school then I said oh! this is school then they said yeah this is how we travel to the school.

This is where travel to the harbour. In the interviews, many of the people even from the pre-colonial side they started saying we are not happy here because none much of my friends they are left and we are not, it's very boring here. So, they started selling their houses and they are going back to some nearby areas. I didn't realize what was really because still, the people are living in the same village what did why they are not interactive.

This map, have shown me why they are not because earlier, this is the only street which was connecting all the three communities. But now, they are walking on the periphery of the town and only to the school which means they are not walking from this. Which means the pedestrian movement have actually created certain communication gap and also it started weakening some social networks. And in the lighthouse coupon that was in the process during my study.
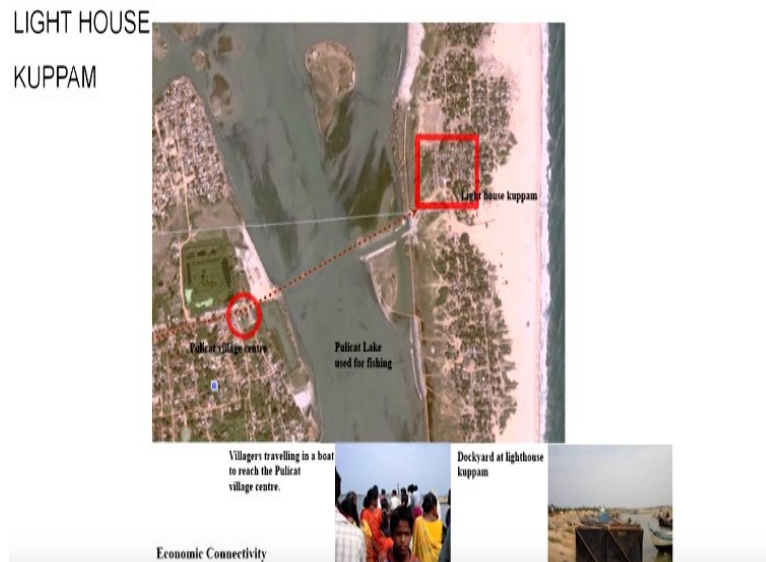
And it was Dalit 11 island 11 villages were settled in an island near the pullicat lake so I used to travel every day by boat from here to here and then I used to spend some time in a group, focus groups and things like that here, even though they were offered as a relocation option but they didn't opted for that. They just stayed, they wanted to stay there and they have gone for the brick and concrete houses so this is too early to comment.

Post disaster responses –
Extensions and

On but then, from the two findings which we could able to see a tremendous responses in those two-three years, people started building extensions and then encroachments. Fortunately, these two people got in a lottery method, they got two brothers got an adjacent house. So, what did it was they extended one single roof to represent the sense of belonging, people started in expanding the kitchens at the rear.

And they don't have public places lets they started encroaching the neighbourhood lands and they started conducting some children activities for socialization process. Woman, who lost their husbands in the tsunami, they started expanding as a shop having a small shop in front of the house, this is one of the important thing. Even, toilets were provided which were provided in the new houses they are converted as the worship areas which is puja rooms.

Okay, because according to Vastu, they believe that this should be here and they converted then they push the toilet outside. So in that way, even the building design level has not been well thought of what the community needs. So, I will show you a movie and this will actually talk about a few responses from the field. So, you will get an idea of how people have responded to these kind of post-disaster experiences.

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especially during marriages and cultural gatherings

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brations. Now, nuclear family situation had let to m

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So now, you have seen the video and you now can get an idea of how even a small aspect of family distance you know brotherhood, kinship, religion how these things matter and how people started adapting to the change, a cataclysmic change. I visited the same site again after eight years though, I finished my research I still visited these places how these things. Initially, they were given these house.

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Post disaster responses – Adaptation

8 YEARS

But now, the same houses have been modified in this main Kovalam, in the new housing clusters earlier, they were not having a church or some religious building in the close proximity. So, they started building a church bell tower to represent a public place and in the same pattern and the same colour. So here, the architectural style also reflected. They again brought back the traditional elements of the south Indian with the tile roof over that and with a small portico.

And the colours, the bright colours and for elderly people whatever the leftover spaces in between the buffer spaces, they covered with the net and they put the see shore sand with the small vernacular materials they started constructing some small prayer rooms. So in that way, people started adapting to the change. So, if one has to understand this change process, it is not just we can understand from one-year work or two-year work.

I mean, I can see here at least after eight years, when I visited I could see a tremendous change. So here, what we are concluding on the very fundamental why the core dwelling concept have failed.

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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.

The first thing is the uniform and standardized forms which are not acceptable many cases. Because, it is also based on the family networks, the family size, the family structures, the individual and collective needs vary, before disaster and after disaster a husband male he has been killed during a tsunami and then the wife and the children will be homeless and livelihood less.

So, what to do with it so that is where one has to look at the dynamic aspect of the family and his friendship and the network of it. Just imagine, of the lady in that video imagine if her in-laws was given a house next to her house she would have got little support to look after her kids when she was running the shop. So, in that way, these are a very micro level management issues one has to look at it.

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The design of the core dwelling aspects were not sufficiently address the religious beliefs and customs. You can see the example of the puja rooms, the religious buildings how they have modified those, including the location of the orientation and how it has an impact on the inhabitants. When we talk about location it talks both at a macro level layout as a settlement also the location of a dwelling is orientation within the block and the plot.

The usage of modern materials also had an impact on their thermal comforts and the long-run maintenance. Here, the urban design issues talks about the fronts and backs you know how it is not sufficiently thought by the designers and a sense of privacy.

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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

Also, there are some general development issues. These pre and post-disaster approaches they vary with from place to place, culture to culture based on the cultural setup. In church, they set up it acts differently in a government base set up it act differently, in a NGO base set up it acts differently. So, there is always a difficulty for all these development groups to address the cultural aspect.

So, there is one it's very difficult to establish a common methodological approach you because development is a culture-specific. Building design and planning guidelines does not sufficiently address the cultural needs of traditional settlements. Also, the neighbourhood concept is not well addressed because imagine 30 years we lived in a company of some of your neighbours and suddenly you are allocated somewhere.

So one has to understand that interaction that is where participatory approaches are very well encouraged and inability to access local knowledge because this is one perception to development they think that the foreign agencies whoever comes within that these people doesn't know anything one has to understand that they know many things one need to tap that resources.

Barriers, this is where causes the barriers in communicating the needs and wants either discussed with you those changes in the land use and the ownership and the tenure.

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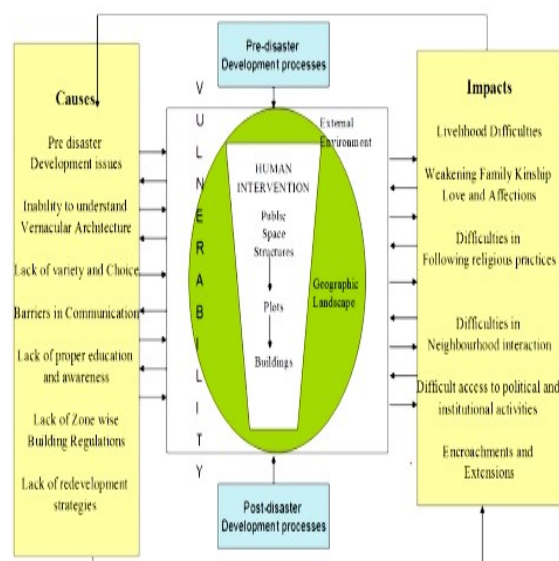
So this is a kind of brief diagram shows like saying that what are the impacts and what are the causes for these impacts and how they shape these built environments.

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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.

So this research have discussed the reconstruction process in two ways one is instrumentally in a positivist way, where the physical distances had increase. Certain activities are no longer possible and then the family and the community suffers. Whereas, the development agencies operate at an instrumental level mostly, temporal level in the discussion of the vulnerability. It is more to move with the governance, agencies from the direct physical relationships.

But the second perspective is discusses from the cultural anthropology. It talks about the concepts of habitus the relation between habit and the habitat which is not determinist and this whole process has anyways inevitably altered under different responses based on the different cultural backgrounds. So in many cases, we can observe that there is threat and such kind of cataclysmic changes have led to increase vulnerability. But when we look at the longer run adaptability in some cases we have seen a positive response.

So this whole observation grows from a positivist approach to the post-structuralism. So, which actually looks at the social construct that operates for a physical spatial field. And here the theory of responsive environments especially the Bentley's work.

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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, seggregated or appropriated)

IDENTIFICATION OF SPACE

NARRATIVISM   PERFORMATIVES   MIRRORING
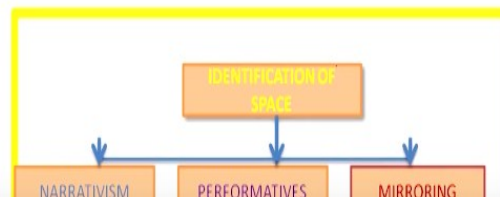
It actually worked to tease out the spatial elements and one is the layout is viewed both instrumentally and functionally whether support or not the issues of income and livelihood and it can also be interpreted as socio-spatial construct which supports different performatives related to social and cultural life. It could be family, religion, political, social and neighbourhood interactions. So that is where we bring back the theory also.

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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 and regional concerns.

So, gist of some of the recommendations which came out through these studies like how we can empower the glass root level governance this is where the participatory level approaches are more important and also the appropriate training and awareness of local governing bodies. How

we can train at the bottom level approaches also the film and media communication methods should be encouraged.

Because you know one need to showcase that what they have documented to the people this is where a film is one approach one can think of. Documentation of existing, because when I started my research I couldn't find in the map. Existing settlements, development issues and what kind of spatial transformation have happened. So here, now the technologies like GIS and many other new tools have come in the market.

So one has, can easily adopt and it has to be furthered informed to the communities. So you have to bring the science and society together. Incorporating the disaster management lessons in the curriculum of secondary schools and other schools that deal with the built environment. So, it's not just only during the time of disaster one has to look at it, long-run approach how the capacities could be enhanced.

Development of building and planning regulations with local and regional concerns, I hope you have now got an idea of the whole work. Of course, this was a very old work but later on, we will be discussing on my further work as well.

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This lecture is developed from authors own work

Pasupuleti, Designing Culturally Responsive Built Environments in Post Disaster Contexts: Tsunami Affected Fishing Settlements in Tamilnadu, 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 Tamilnadu, 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 Tamilnadu, A masters Dissertation from Center for Vernacular Architecture, Oxford Brookes University, Oxford, UK. Achieved Distinction.

And these are some of the references for your reference and thank you very much.