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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



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

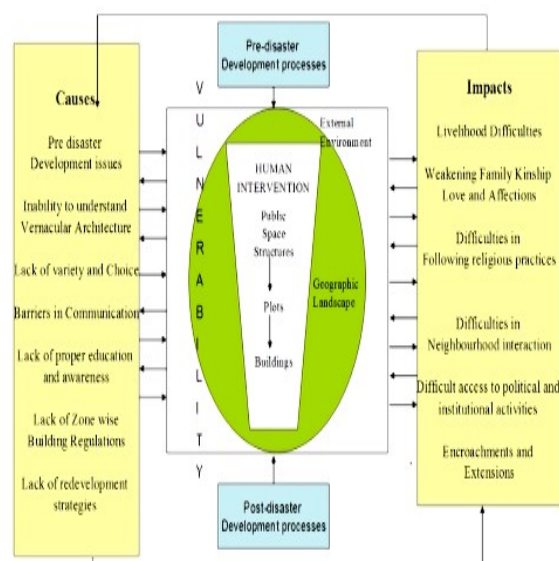
Also, there are some general development issues. These pre and post-disaster approaches they vary with from place to place, culture to culture based on the cultural setup. In church, they set up it acts differently in a government base set up it act differently, in a NGO base set up it acts differently. 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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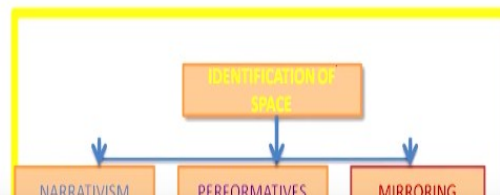
Urban Design Concepts can operate at both levels:

-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, segregated or appropriated)



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

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Pazupuleti (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.

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