

Disaster Recovery and Build Back Better
Prof. Ram Sateesh Pasupuleti
Department of Architecture and Planning
Indian Institute of Technology-Roorkee

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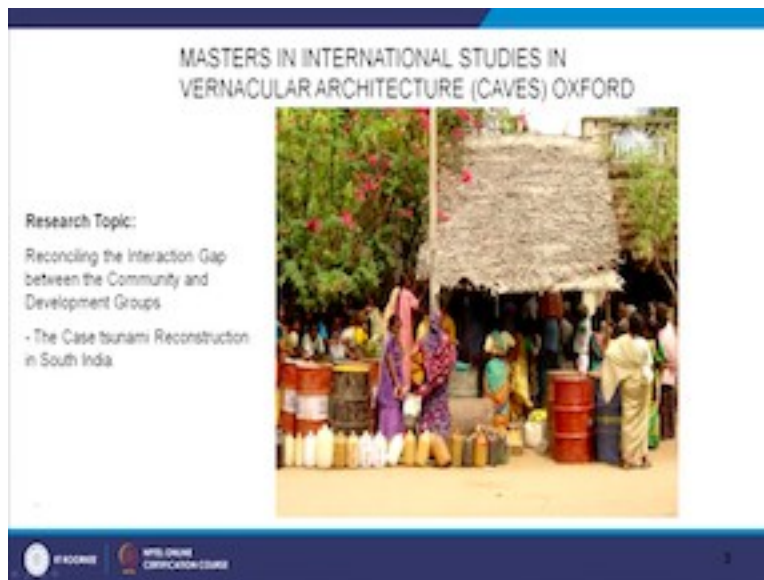
These two photographs are one of the important photographs of my life. In fact, where my whole journey of my life has taken a different turn, the right hand side photograph which you are seeing, which is the reconstructed houses in the Latur Earthquake recovery in the Marathwada region and 1993 posts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

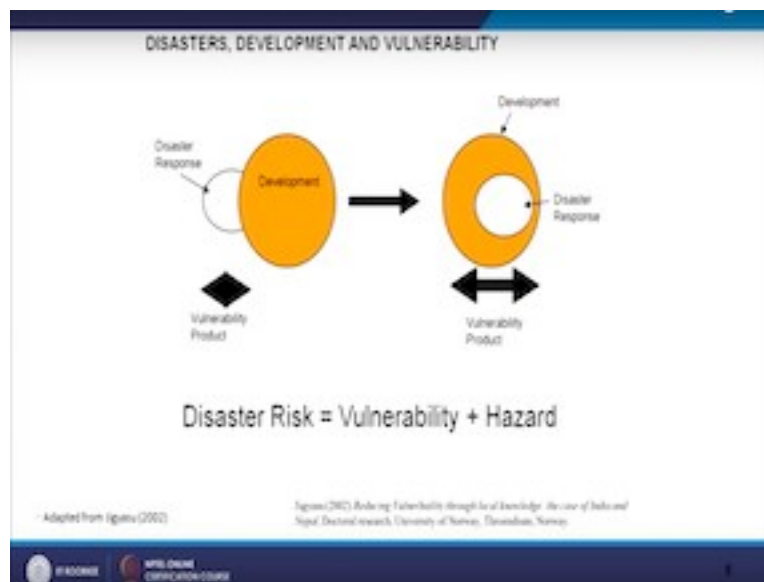
When the disaster strikes different NGOs comes forward for a helping hand and they work on you know, different funding mechanisms and it could be a relief stage, it could be a rehabilitation stage or it could be in a long run it will take up to the recovery and reconstruction stages. So

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.

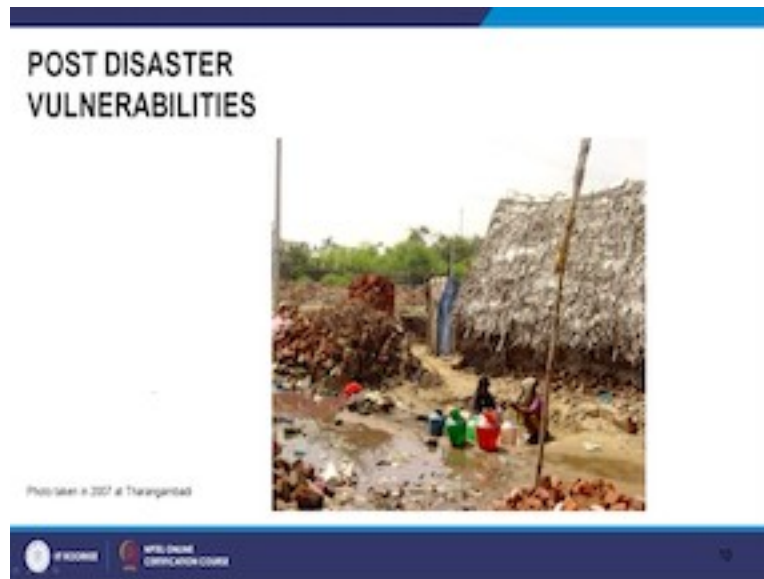
But whereas, the vulnerabilities as a result of disaster that is where even loss of human life and property damage.

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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 this 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.

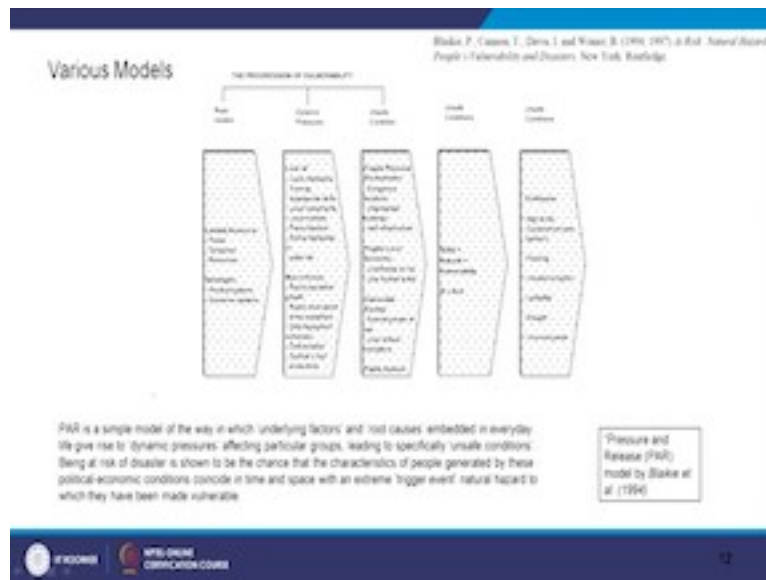
Between the disasters and the development where this it has also become a focus of the sociologists and anthropologists, they often observed that every time a disaster happens, it is affecting mostly a particular target group. So, it focuses on the vulnerability of a social group and is concerned with 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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Proposed by Blaikie and it says how the vulnerability progresses we have the root causes it is called the PAR model, it talks about the underlying factors, it could be the limited access to power structures, resources, so you have the gold reserves, it doesn't mean you are rich nation. Ghana have the gold reserves the South American countries have good resource but they are not very rich.

A Singapore which doesn't have anything which is still capable of dealing with it. So which means we are talking here about the capacities, how one is able to access to the power and the access and maybe a certain group is not having an access, maybe in countries like Saudi where gender have a limited access to certain aspects. So that is where you are talking about the underlying factors.

And there is a dynamic pressures, which is talking about the market, the local institutions, the press freedom and which are again the macro level of forces, the rapid urbanizations which are everyday changing factors. In fact, the unsafe conditions which often result in the dangerous locations because of the rapid urbanization people tend to migrate and form ghettos and slums.

Or they tend to stay near volcanic places or they tend to fear live near the flood-prone areas, so that is how the poverty is also one of the underlying factor. And then that is where we talk about the $R = H + V$ and that often results into the unsafe conditions. So, this is basically, there