

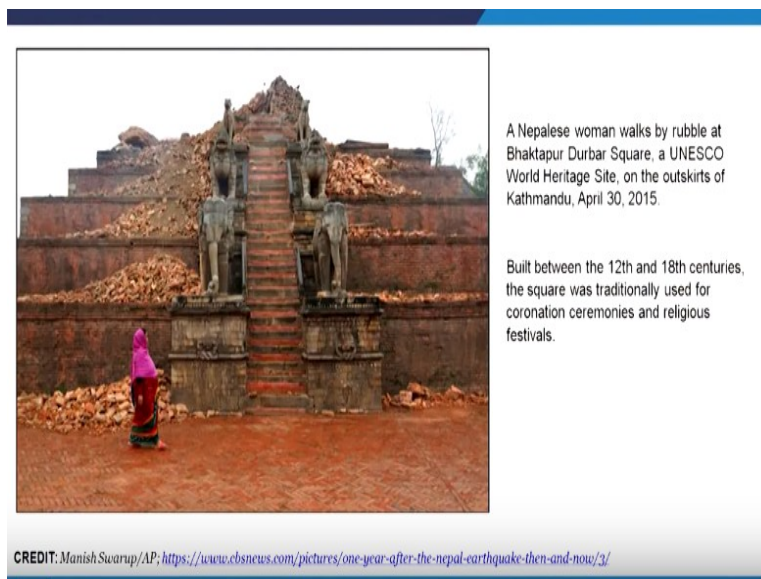
Disaster Recovery And Build Back Better
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Lecture – 05
Architecture at Risk

Welcome to the course, Disaster Recovery and Build Back better. My name is Ram Sateesh, I am a faculty from department of architecture and planning, Indian Institute of Technology Roorkee. Today, we are going to talk about architecture at risk, so today we are going to discuss about the theoretical component along with the implications, the practical implications with various variety of examples and how architecture as a domain it contemplates with the theory. And especially in the post-disaster recovery practice.

Whenever a disaster happens, we encounter a huge loss not only to the lives of people but to their properties, to the civic buildings, to the religious buildings, to the cultural heritage of the communities.

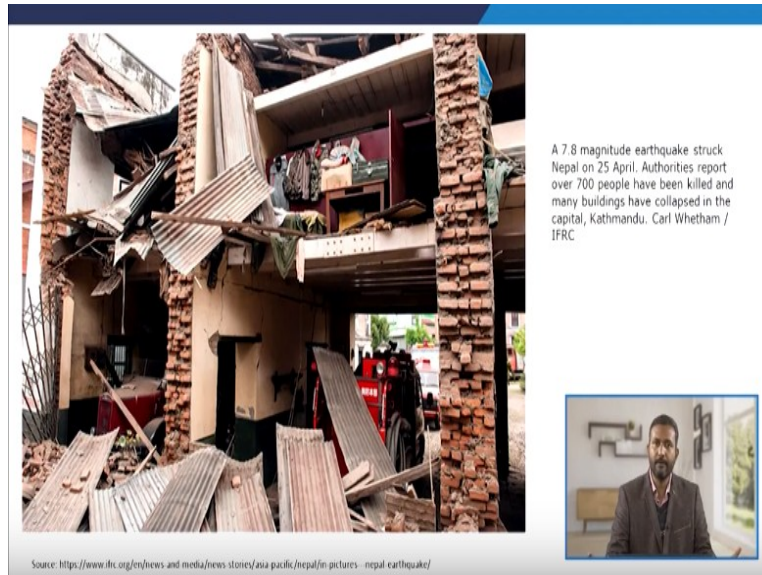
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For instance, in this photograph what you are seeing is the Durbar square in the Nepal, the recent Nepal earthquake. And many of the historic buildings which are under the UNESCO heritage have been demolished. Now a lot of efforts have been taken up in the reconstruction of these historic buildings. This place is known as Bhaktapur which is listed under the UNESCO world heritage site in Kathmandu.

It goes back to the 12th and 18th centuries where this particular square was traditionally used for the coronation ceremonies and the religious festivals and many of the residential buildings got damaged.

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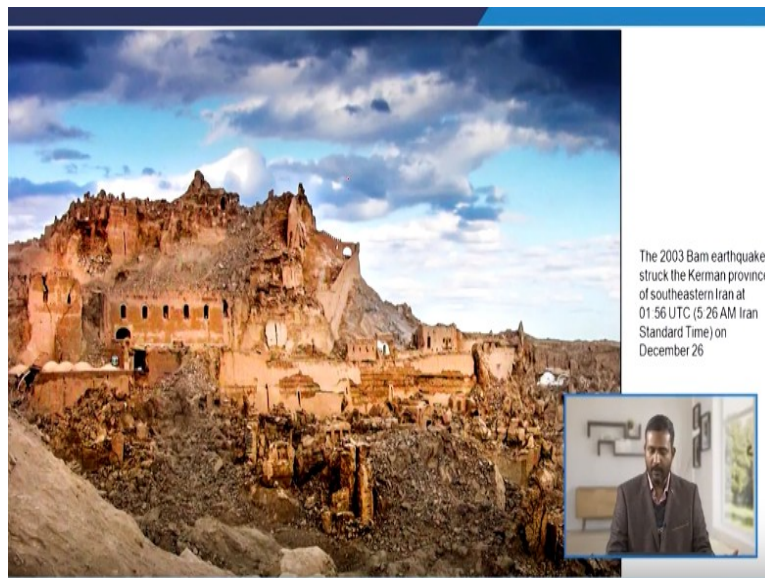
So there was obviously a need of reconstruction not only from the shelter point of it but also to rebuild the lost heritage. Similarly in 2003, Bam earthquake in Iran what you can see here is, before and after the earthquake.

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What you can see here is a huge demolitions happened you can see the rubble masonry, I mean the whole rubble fallen on the historical site. And it took almost more than a decade to rebuild the whole process you know the each and every monument is worth or each and every building of its whether it is a merchants owner I mean merchants house or it is any civic building or it is any fort.

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So it needs a very longer time to actually understand its historical significance, understand its materiality and then reflect back with its historic integrity and within its historic context. This is one of the biggest challenge when an architects work in a cultural settings, especially in the post-disaster recover. Like here you can see a list of properties.

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Site Name	National Reg. No	Owner	Date of Reg.	Historical period	The area of core zone (Ha)
Bam Citadel (Arg-e Bam)	519	S.P	03/1966	Sassanid	73.16
Ansari Residence	1495	P.P	10/1977	Qajar	0.35
Naderi House	1496	P.P	10/1977	Qajar	0.567
Vakil Ensemble	1729	S.P	06/1987	Qajar	0.76
Ameri House	1835	S.P	02/1997	Zand	0.66
Kushk Rahimabad	2099	S.P	08/1998	Ilkhani	0.115
Vakil Mosque	3506	S.P	2001/03	17-18 Century	P. V. E
Hazrat-e Rasul Mosque	3508	S.P	03/2001	Islamic	0.3867
Shrine of Mirza Ebrahim	3509	S.P	03/2001	Safavid and Zand	0.0308
Bam old Bazaar	4602	P.P	01/2002	Safavid and Qajar	1.08
Soroush Zabolastani House	6136	P.P	08/2002	Pahlavi	0.1068
Ice-House (Yakhdan)	6759	S.P	12/2002	Safavid- Qajar	P. A. B
Stable	9565	S.P	08/2003	Ilkhani to Safavid	P. A. B
Qal'eh Dokhtar	9566	S.P	08/2003	Sassanid	3.71
Emad School	9567	S.P	08/2003	The late of Qajar	0.1785
Jewish Hose (West Sabat House)	9568	S.P	2003/08	Ilkhani to Qajar	P. A. B
Ahmadiyah School	9570	S.P	08/2003	First Pahlavi	0.09
Friday Mosque of Bam Citadel	9571	S.P	2003/08	Islamic to Qajar	P. A. B
Mirza Naem School	9572	S.P	2003/08	Qajar	P. A. B
Bam Old Hospital	9588	S.P	2003/08	First Pahlavi	1.9300
Hana sai	14309	P.P	03/2006	early of Pahlavi	0.4

Some of main Bam's national heritage damaged by earthquake

Jafar Rouhi
The Seismicity of Iran and Its Effect on Iranian Adobe Cultural Heritage: The Case Study of Bam City
December 2016
Conference: The 4th International Congress on Civil Engineering, Architecture & Urban Development, Tehran, Iran, 27-29 December 2016

P.A.B: Part of Arg-e Bam - P.V.E: Part of Vakil Ensemble -S.P: State Property -P.P: Private Property

Which are the state properties or the private properties and whether it is a citadel, whether it is a residential, whether it is a mosque, or religious buildings and which are listed under the national heritage have been damaged by this earthquake. And then the recent efforts by various organizations from the German NGOs came forward to reconstruction and there is a kind of collaboration between the Iran government and as well as the German parts.

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And that is how they started working on like a few examples where a merchants house has been rebuilt by the clay brickwork and they also use a kind of the fiber-reinforcements and looking at the alternative materials which can sustain the earthquake in future as well. So how they are

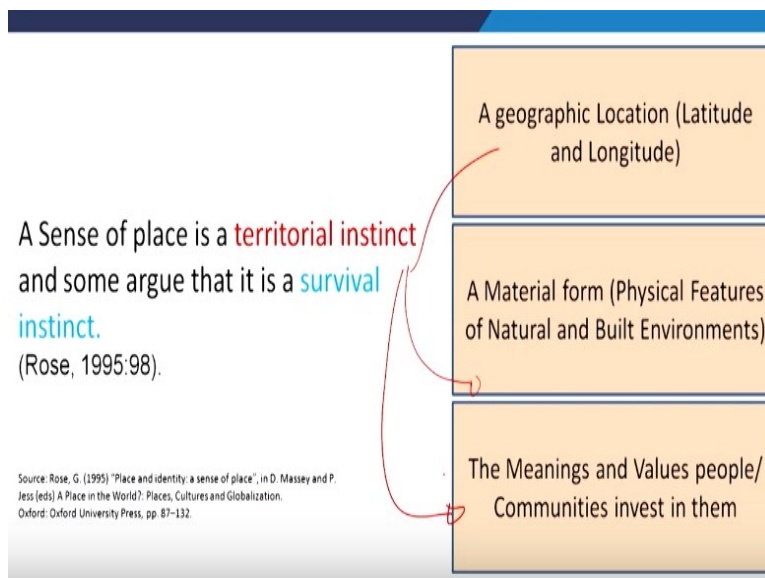
actually rebuilding these walls and also the archer, walls these are because you need to regain the same form you know what kind of alternative materials one has to procure first of all.

And the skilled labour, how we can train them and conservation it is not just only the preservation or the reconstruction or the restoration process. We can call it as a kind of conservation project which is a bigger umbrella of all these components which can go into restoration, the reconstruction aspects and that is where we deal with the authenticity of the product you know what this particular heritage structure belongs to.

And how it has an outstanding value so how we can actually reflect that back when we are doing such kind of conservation works. So these are some of the challenges apart from our regular shelter and housing programs which we deal with normally in the disaster-affected areas. We also deal with the identity the place and identity issue the space and place. Let us talk a little bit of the in parallel I would like to discuss about the concepts of place and its identity.

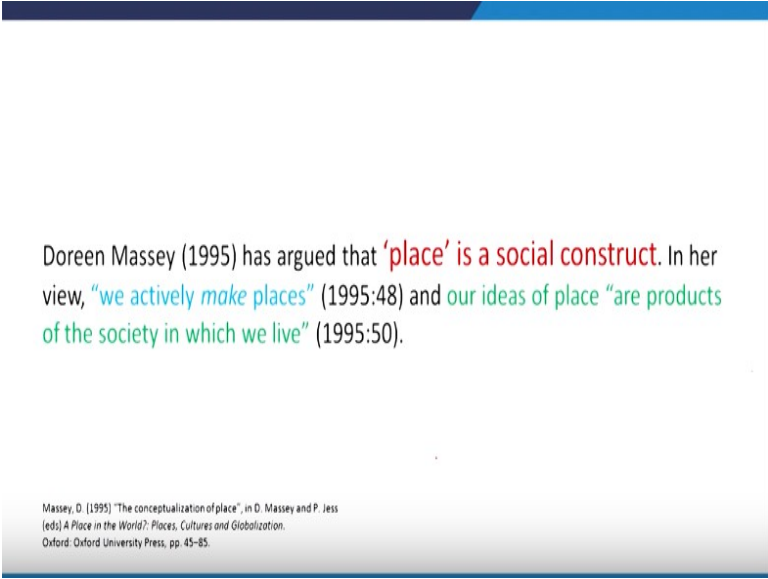
When we talk about place many of the theories geographers, anthropologist, sociologists they argue as place is a territorial instinct, it is a boundary which where a person feels safe comfortable delivered. It is also a kind of survival instinct.

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Which is normally referred with a geographical location by the Latitude and longitude, and it also reflects through its material form and which is a physical features, whether is a hill architecture, whether it is the coastal architecture, whether it is through its natural settings and the built environments. More importantly, the place is associated with the meanings and the values that the people or the communities invest in them so this is where the identity comes in.

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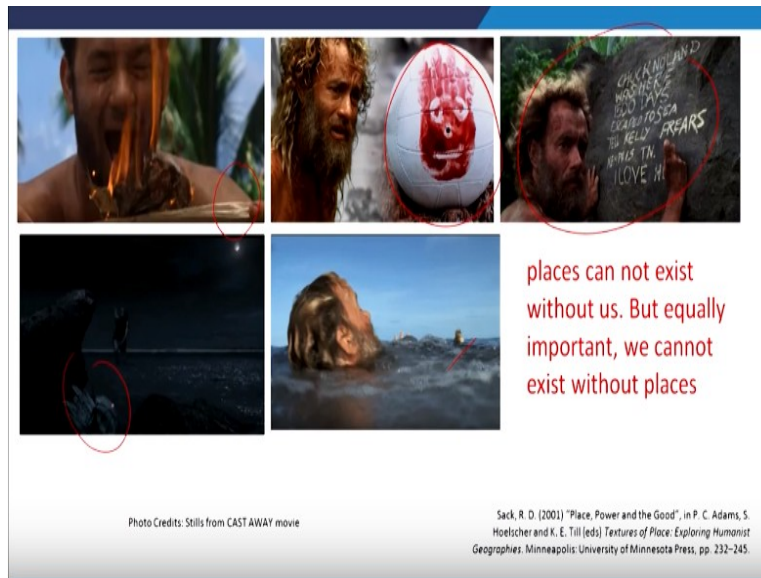
Doreen Massey (1995) has argued that 'place' is a social construct. In her view, "we actively make places" (1995:48) and our ideas of place "are products of the society in which we live" (1995:50).

Massey, D. (1995) "The conceptualization of place", in D. Massey and P. Jess (eds) *A Place in the World? Places, Cultures and Globalization*. Oxford: Oxford University Press, pp. 45-85.

So many geographers talk about place is a social construct, Doreen Massey talks about it is a social construct, and we actively make places and our ideas of place are products of the society in which we live. A small example for the students to understand I hope many of you have seen the movie of *Cast Away*, where Tom Hanks played a role of a Korea person and he met with an accident in the flight while in the Korea flight.

And he is a lonely survivor he finds himself in an island which an untouched island no one ever been to that island and the whole story is all about how he lives in that place for 4 years.

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A civilized person look at the excitement which he had of when he actually makes fire for himself. So he becomes a hunter, he becomes his home, he makes his own place, he makes his own habits for the past 4 years he develops his own sense of place. One day he gets a small food packet delivery from the shore which actually float from the shore probably it could have been from the same accident and then he finds a small football and he names it as Wilson.

And Wilson becomes a company for him throughout his stay in that island. Here he talks about, he cares about Wilson, he talks about Wilson, he talks with Wilson, he shares his pain, anger everything with him. So here whatever it is not just only for the food or the shelter it is how a man makes a sense of belonging with other individual though it is not a living being but he still makes some attachment.

He lives here for 4 years and then one day he gets angry and he throws out that Wilson out. Then after 4 years he will again find his way back to home. That night when he throws Wilson out in his anger he again goes back and searches for Wilson so with both love and emotions you know play in a sequence and when he was travelling back to the mainlands in a small boat a huge hurricane comes and finally he loses his Wilson.

So here what I want to say here is, a man is attached with a lot of emotions, its values, 4 years that ball has given him a sense of being. That is where Sack talks about places cannot exist

without us, but equally important we cannot exist without places. Like some of the post-disaster experience which where my journey have started. There is Latur earthquake on the right-hand side recovery and the Gujarat earthquake geodesic domes.

The post-disaster context is always seen a very immediate need for both the beneficiaries and the providers. The providers for them it is a great need because they have to give a helping hand for the people who lost their houses for them there is an immediate requirement that they need to shelter their families for that kind of pressurized situation, people tend to accept whatever they get for free or whatever they get that is how it ended in Latur.

Even today many houses are still empty more than 20 years now but still many houses you find they are abandoned, it is now this situation opens as a dialogue of what kind of a housing demand we have. Now despite of having so many housing solutions but why people are able to reject it? what is something beyond a house beyond the building it is far beyond the question is far beyond it.

So that is where people may have rejected for their livelihood needs the proximity or their cattle needs with their social needs there are many other aspects there many other forces which make the people to take these choices. When I was traveling during my masters time immediately after the tsunami, I was travelling in Tamil Nadu. I was looking at how various agencies are working once I visited the place where I worked earlier in Auroville.

I was interacting with various architects and that is where the Auroville building centre is proposing up some housing options.

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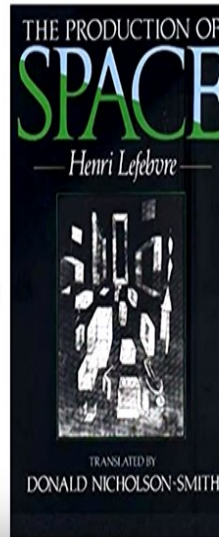
So what you are seeing is a few photographs of the building models which the architects have demonstrated that these are the solutions which they may review. Having worked there, I also have an understanding what those architects have previously worked I can see that there is some kind of imitations which people trying to imitate from their previous projects may be the architect have worked on a similar project which is the real project.

So as a terracotta roofing structure may have simplified this as a module and proposing it as a kind of universal solution to develop a village or to develop a cluster whatever it might. So here one can see as an architect as a professional try to take an imitations from what already he has done. Now, for instance, there is another setting of this kind of a raised house so there are some different understanding how maybe the flood water can go beneath something like that.

So different ideas but here you can see the veranda concept which is this traditionally you can find today in Tamil Nadu as well.

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Henry Lefebvre (1991: 26) quotes, "Space is a social product." we offer theoretical assemblages and tactics in which power, architecture, and their associated agencies, alter and potentially dissolve the centrality of space in the depoliticized arena of post disaster recovery.



So, when we talk about the theoretical understanding of the place and space, one of the important understanding one has to look at the Henry Lefebvre works the production of space. He says the space is a social product, and it offers a theoretical assemblages and tactics in which power, architecture, and also their associated agencies alter and potentially dissolve the centrality of space in the depoliticized arena of post-disaster recovery.

How different forces can actually alter and transform the space and it can also tend to shift its meanings.

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'Conceived space' as the space conceptualized by scientists, also known as 'representations of space'. These representations are abstract as they are rooted in the principles, beliefs and visions held by practitioners, decision-makers and others who are in a position to impose their personal notion of 'order' on the concrete world and so create a practical impact on space within social and political practice (Lefebvre, 1991, p. 41).

Conceived space is thus based on knowledge and science in combination with ideology (Lefebvre, 1991, p. 233).

Lefebvre defined 'perceived space' as the space of 'spatial practice'. He defined it as the space where movement and interaction take place, where networks develop and materialize. Thus, it includes both daily routines on an individual level and networks as the result of collective movements.

Thirdly, 'lived space' is discussed by Lefebvre as the unconscious, non-verbal direct relation of humans to space. Also known as 'representational space', it is directly lived through associated images and symbols (Lefebvre, 1991, p. 39). Thus rooted in the imagination, it is essentially subjective, a passive experience wherein the outer physical space resonates with the inner imagination.

(PDF) The Role of Architecture in Producing Urban Qualities for Sustainability: Implications for the Future of Architectural Education. Available from: https://www.researchgate.net/publication/315696248_The_Role_of_Architecture_in_Producing_Urban_Qualities_for_Sustainability_Implications_for_the_Future_of_Architectural_Education [accessed Feb 26 2019].

So that is where I can just briefly talk about what Lefebvre talks about. Lefebvre talks about 3 aspects, one is conceived space, lived space, perceived space. Conceived space which actually talks about the intellect and here it is also a space that has been conceptualized or conceived by planners, scientist which talks about the representations of the space, and these are based on certain visions on certain principles developed by decision-makers. That is where we called conceived space is thus a knowledge and science in combination with an ideology.

And, perceived space; the second form which he talks about the space of spatial practice where the movement and the interaction takes place, and the networks develop and materialize, this is where the daily routines and the individual level, as well as the networks, keep building on it is not only at an individual but also at the collective orders.

So the lived space which is an unconscious and nonverbal direct relations of humans to space which is also a form of representational space. It is lived through various associations through schemata through also measures through various symbolic aspects and this kind of understanding where we have the intellect which conceives this, the instincts which develops this networks and then the intuitions, how it is understood through various images and the symbolic aspects.

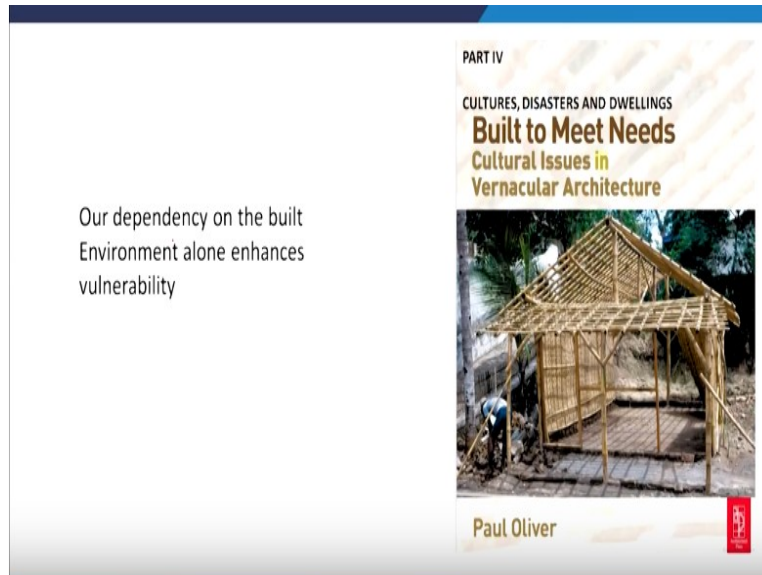
This whole lecture is developed based on one of the important article by Camillo Boano and William Hunter who actually developed an article 'architecture at risk' the ambivalent nature of the post-disaster recovery. So I am going to describe about a brief aspects which described from a theoretical perspective along with various understanding of what I have understood about that project with various examples.

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Post-disaster Spatial Practice Assemblages

Post-disaster spatial practice assemblages; there is a strong need that architecture as a theory has to contemplate on the transformation nature of the shelter practices, the built environment especially in the post-disaster recovery because it talks about both as a short term the medium and long term adaptive practices.

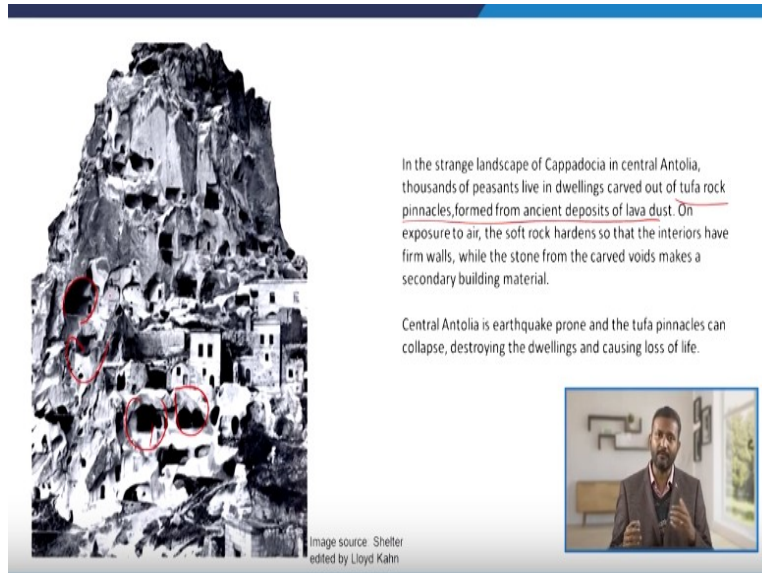
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One of another contribution which I would like to refer is Paul Oliver's contribution on 'built to meet needs' where in part 4, he talks about the culture, disasters, and dwellings in disaster contexts what happens. Ideally our dependency on the built environment itself enhances vulnerability because we depend more on the built environment, we depend more on the shelters, earlier when man was a nomad when man was hiding in caves.

That time the vulnerability component has a different meaning, but today our dependency of life I mean our life dependence is more to do with the built environment. For instance, in Cappadocia an example in the Central Anatolia.


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Where lot of peasants live and you can see these tufa rock pinnacles which are actually formed from the ancient deposits of the lava dust, and because of the exposure to the air and these soft rock hardens so that the interiors have firm walls. So people started dwelling to their all small dwellings and people started living in those houses and as you know the fault line passes through turkey and it has been one of the earthquake-prone area.

And these pinnacles often collapse destroying the dwellings and you can see many of those have the Cavusin which is a Greek village which has actually been demolished.

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Cavusin village (Old Greek town)

Cavusin is 4 km away from Goreme-Avanos road. Basically houses surround a mountain like massive rock. It is all messed up as a result of the erosion of the rocks over time and earthquakes.





Image source: <http://www.freelancetravelturkey.com/tr/turkiye/11/cappadocia/cavusin-village---old-greek-town-.html>

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Cavusin Cave Village

Image source: <https://www.wiflyforfood.net/2016/01/26/cappadocia-highlights-red-tour-with-bridge-of-the-world/>

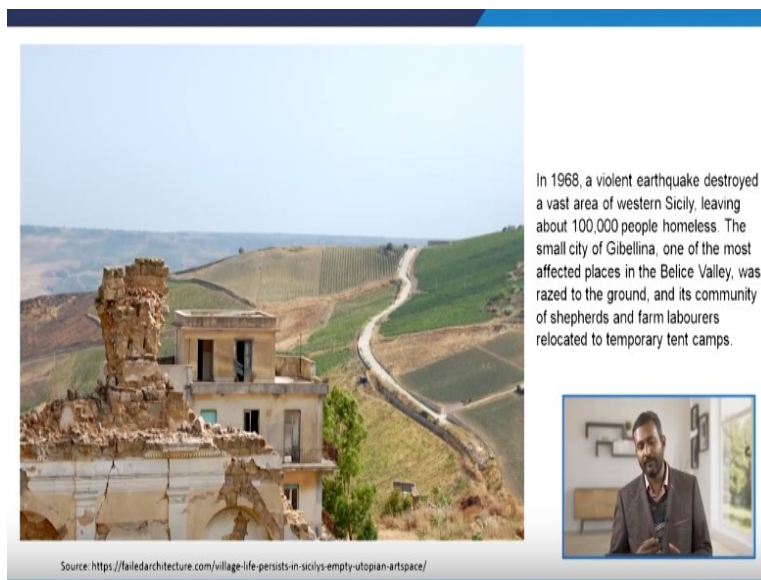
And despite of these people given an opportunity to go back and settled somewhere else, they came back and they settled because of various other reasons because tourism is one of the important component, people come so that is where their livelihood is based on.

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The materiality of houses and problematic of spaces

So there are other associated reasons, the materiality of houses and problematic of spaces another example I would like to say

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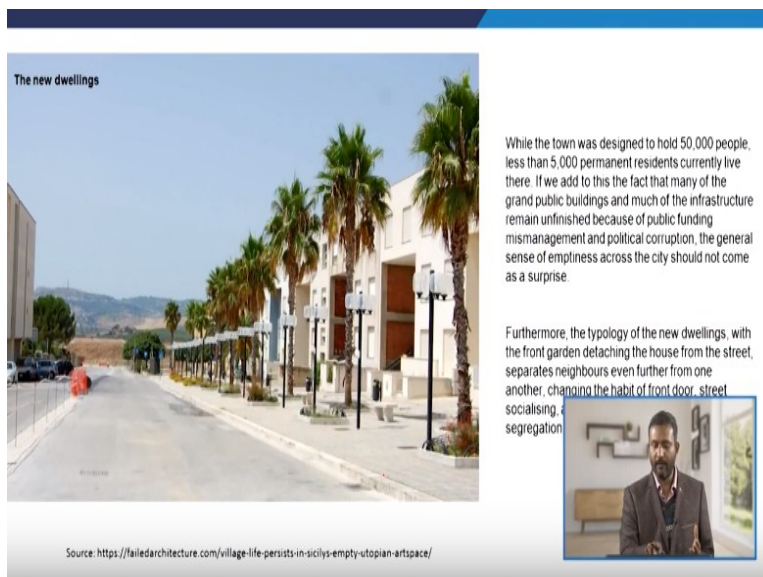
This is in Gibellina in Sicily when 1968 a violent earthquake have destroyed almost 1 lakh people became homeless.

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And this is where the Mayor Corra have talked about looking at cultural renaissance through the urban reconstruction of Gibellina earlier it was only a 5000 habitants, but now they projected it for 50,000 people.

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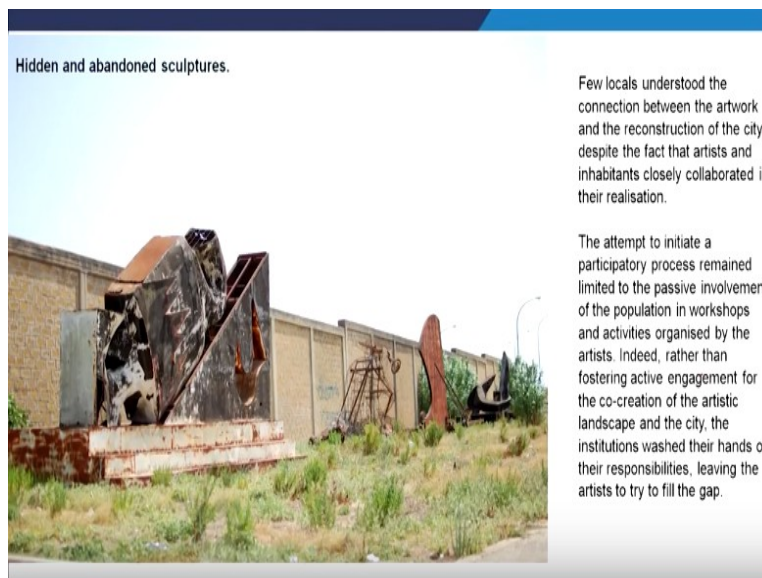


So if you look at a huge squares the monumental aspect of architecture and today what you are seeing in these pictures is no one is present, so the vastness of the project is so huge. The housing where you can see earlier it was more of an informal way of interactions with the neighbours. But because of we have the front garden which is detaching the house from the street.

And it actually separates the neighbours, so there is the social interactions for weekend and the scale of parking because the kind of vastness they are projected it also has to implicate with the maintenance of the project. And these particular squares the artistic they also brought some artists, various artists this has become almost like a huge competition there is a big platform where a many creative people were invited.

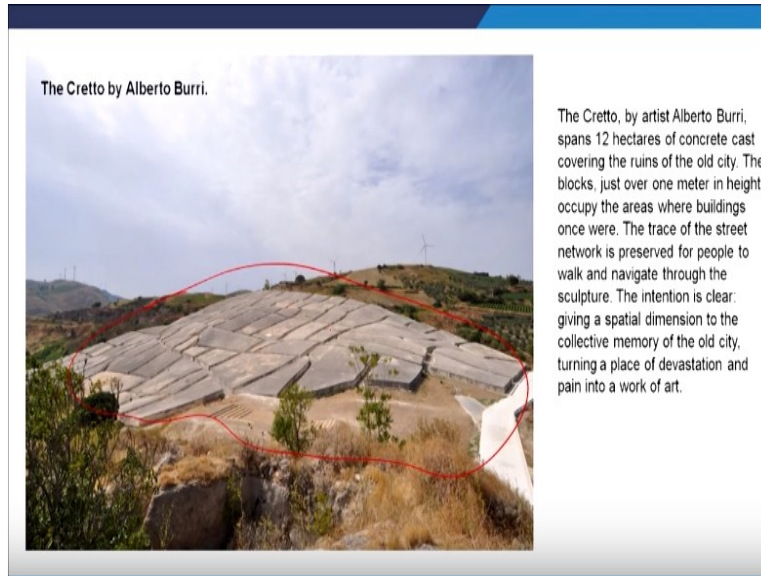
And they asked to design this particular place, and many artists came, and they started working on that, and these are all some exercises where to pull the community together, and they can practice, and they can develop a kind of participatory approaches.

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But today what you are able to see is, because of various other funding issues today many of these artifacts are completely half-finished or just lying abandoned.

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Now what you can see is not many people out there and their economic regeneration, the maintenance aspects there are many other issues came later on. This is a the previously affected site this is a monument which the Alberto Burri have developed The Cretto in 12 hectares what they did was he made the whole skeleton of the village the settlement as it is and he made as concrete mounds where it talks about a one-meter height.

And so that it becomes a memory a collective memory. So he is trying to give a spatial dimension to the collective memory of the old city turning a place of devastation and pain into a work of art.

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Unmistakably, what the Cretto and Gibellina Nuova have in common is silence: the first is a city forever captured under a shroud of cement, 'archaeology of archaeology' as a reminder of the past; the second is a cemetery of houses, squares, monuments and unfinished infrastructure.

But what we can see similar is both the Cretto and Gibellina Nuova has one common thing which is silence, the first is a city forever captured under a shroud of cement. The Cretto is captured which is archaeology of archaeology as a reminder of the past; and the second is a cemetery of houses, squares, monuments, and unfinished infrastructure. So that is one example.

When we talk about the philosophical aspect of place, where especially we talk about the perceived space, and the lived space where certain sense of emotional attachments place on the daily where the habitat and habits interact with each other. So the habit and habitat that is where Kim Dovey also talks about habitats.

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Second birth /
Bourdieu (1990:68) states that when we are forced (or may choose) enter another field than the one in which we are 'at home'. This involves learning a new set of rules, a process that is slow and painful and which we experience...(cited in John Friedmann 2005).



Ikea refugee shelters being put to use.
Photograph: Courtesy of Ikea
Image Source: <https://www.theguardian.com/sustainable-business/2014/jul/30/refugee-shelters-new-designs-ikea-fema-military-haiti-jordan-syria-iraq>
John Friedmann (2005) *Placemaking as project: 'Habitus and Migration in Transnational cities*, in Hillier and Rooksby (2005) *Habitus: A Sense of Place*, published in Ashgate, UK, USA

He reflects about second birth Bourdieu talks about second birth these are some of the refugee homes which were created by the Ikea. People from Syria or Afghanistan they were forcibly given these kinds of prefab elements to use, it could be a tent cities, it could be camps, it could be many other forms where because they are forced to enter into a different field, so that is where they have to learn a different practice, different set of rules, different process.

How they were living in Africa and how they were living in Syria how they were living in Afghanistan is very much different in what they have set up in Turkey or what they have set up in Belgium. So that is where it takes time to adapt to the way they have to accustom with the new field and new game rules.

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The relationship between home and homelessness is more complex than the simple presence or absence of home and the physical adequacy of the shelter.

The relationship between home and homelessness is more complex than the simple presence or absence of home and the physical adequacy of the shelter. So it is not just a part of the building there is more meanings to it.

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Inherent Complexity as practice and discipline

Another aspect, inherent complexity as practice and discipline. **(Refer Slide Time: 24:08)**

There is never just one cultural context for the providing of shelter following a disaster -there are always at least two.
They are just distinct:

- the haves and have-nots,
- the powerful and the powerless,
- the relief organizations and the victims of disaster.

There was never just one cultural context for providing shelter following a disaster. It is always 2 they are just distinct one is the haves and the other one have-nots, the powerful and the powerless, the relief organizations and the victims, so there is the 2 dialects of the process, one is a giver one is a taker, one is a intender one is the victim.

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Allen Barton's (1969) perceives disasters as part of the larger category of 'collective stress situations' which occur when many members of a social system fail to receive expected conditions of life from that system'.

During the relief operation, the traditional, local systems of organization are likely to be rejected in favour of the systems familiar to and exercised by the relief culture.

A victim culture is made aware of the failure of local, traditional, indigenous systems to either anticipate the disaster or be able to cope with it when it happens.

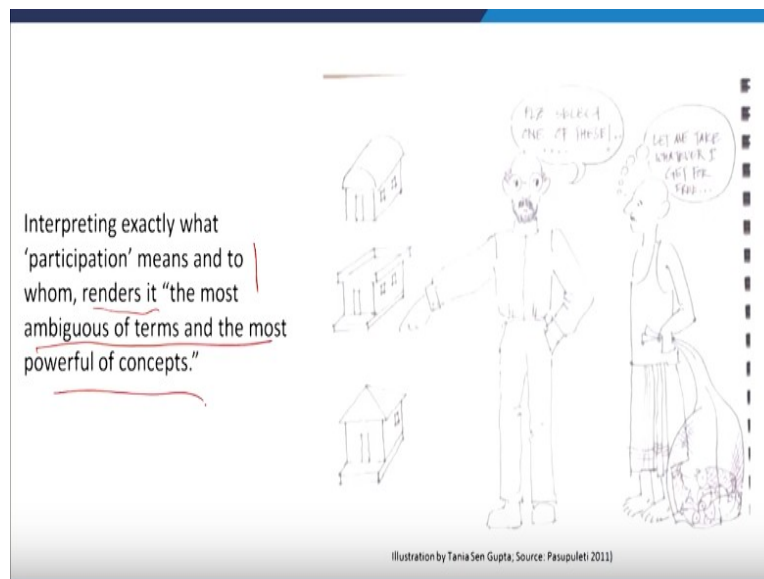
Allen Barton's perceived disaster as a part of larger category of collective stress situations which occur when many members of a social system failed to receive expected conditions of life from that system. And more importantly especially the relief operation, the traditional and local systems of organization are likely to be rejected in favour of systems familiar to and exercised by the relief culture.

So whenever the relief organizations whether it is a world vision whether it is Oxfam whether it is any other Christian aid or red cross any other organization coming to these affected areas, they do not even consider what is a local system. So they simply believe that it is traditional in the local systems are does not work. A victim culture is made aware of the failure of local, traditional, indigenous system to either anticipate the disaster.

Or be able to cope up when it happens. So many attempts were made to make the victims realize that their traditional models are the reasons for these failures that is one thing one has to seriously think about it. You are coming from some other place, but then without understanding a lack of understanding we actually educate them that their system is not is absolutely a failure.

And we talk about the participatory methods. In many of the cases we can see that we did the models and we can say please select one of that we are giving you a choice.

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And then the poor man thinks about let me take whatever I get for free. His situation is different before disaster and after disaster. The dynamics of the situation, the situational aspect changes from time to time. When they talk about participation, one has to interpret exactly what participation means and to whom it renders and the most ambiguous terms and the most powerful of concepts. So we need to be clear on that participation aspect.

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In such instance, it is often driven by the top-down "implementation push of result-driven solutions and is characterized by limited variety of interventions, a fragmentation of donors and agencies and the political imperatives of managing forcibly displaced populations.

These models often driven by the top-down implementation push of a result given solutions they often expect a result whether it is a dwelling, whether it is a habitat, whether it is a cluster, and is characterized by limited a variety of interventions so because the project mode. So they are try to look at a limited variety of interventions and a fragmentation of donors and agencies and political imperatives managing forcibly disabled populations.

It is not just one agency dealing with everything it is one agency dealing with shelter another dealing with surveys another dealing with their livelihood so different fragmented agencies come forward to help one beneficiary community in different angles. So there is always a dialogue there is a gap which occurs within this.

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The Control Paradigm

Another aspect is a control paradigm,

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The aid industry culture where organizations struggle against the resistance of conservative supporters unwilling to invest in anything different from what they have funded before, where regulators are reluctant to approve anything they may lose control over.

The aid industry culture where organizations struggle against the resistance of conservative supporters unwilling to invest in anything different from what they have funded before where regulators are reluctant to approve anything they may lose control over. So even the aid agencies they might have develop certain trial and error process they might have tested certain models, and they want to implement these things whether it is Japan, whether it is China, whether it is India, whether it is Sri Lanka, whether it is Bangladesh. You are doing with a paper waste structure I mean if the structure is made of paper waste if it is worked out there then they might try to impose this here as well. So they mostly think of invest in what they have already tested

what they have already funded before and similarly the approving authorities they also have a challenge in approving some new things.

Because, how this could be tested how this has to be validated.

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Technocracy and participatory rhetoric;

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Shifting paradigms in housing construction in India: From 'vulnerable' self-built housing to 'safe' contractor-driven housing

The diagram shows three scaling strategies for housing construction:

- Addition:** One household at a time. Represented by a single house icon and a vertical column of 10 small house icons.
- Multiplication:** From one household to a hundred. Represented by a single house icon and a 10x10 grid of 100 small house icons.
- Replication:** From one cluster to many clusters. Represented by a single cluster of 10 small house icons and a 10x10 grid of 100 such clusters.

Figure 6.3 Strategies for scaling up: Addition, multiplication and replication

Three photographs on the right side of the slide illustrate the concepts:

- The top photo shows a group of people sitting around a table in a community meeting.
- The middle photo shows a group of people sitting around a table in a community meeting.
- The bottom photo shows a group of people standing and talking in a community meeting.

Disseminating systems

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We are living in a generation where the architecture profession in the disaster context has moved from a singular vision to a shared vision. In the first version of build back better where Michael Lyons and other authors have demonstrated the various participatory approaches have been

successful and obviously they also bought the pros and cons of each approaches and bringing various case examples.

Like, most of them they are talking about putting people in the centre, like we can see in some of the examples where the south Indian fishermen federation societies, Benny Kuriakose. Where he have implemented a bottom-up approach of completion from the documentation to the design to the erection process and the one to one consultation process has been its a time taking process.

Where you know Bernstein and Sushma Iyengar, they talked about how the paradigms from the housing construction India have shifted from the vulnerable self-built housing to the safe contractor-driven and they also emphasize on the owner-driven prologue approaches. And also there are other aspects where that particular monograph discussed about the scaling up the owner-driven process in various addition.

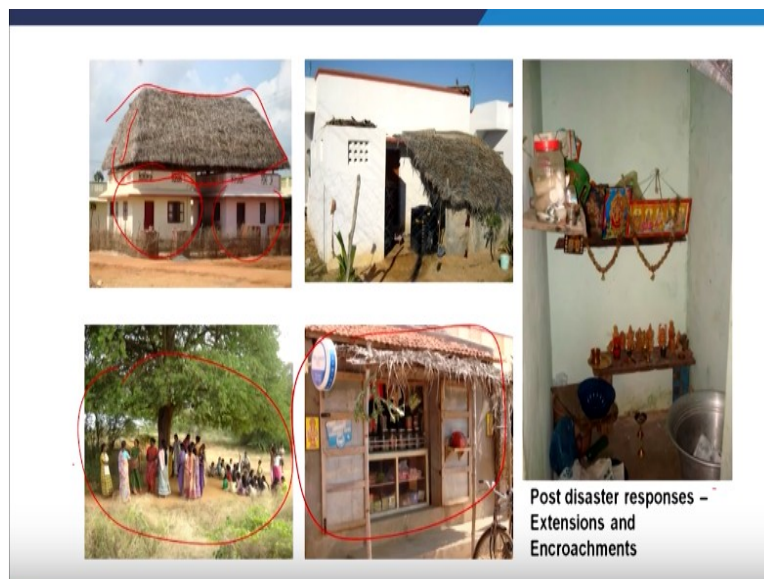
How one household at a time the multiplication from one household to a 100 and the replication from one cluster to many clusters. So this is where the different owner-driven and contractor-driven processes work. Especially in terms of the advancements of its built forms, and how they develop a schemata, or a model, and then how they can replicate it whether in a scale of a cluster whether in a scale of a settlement in that whole model. So that is how they are both pros and cons of each model.

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Also there are issues of land tenure and ownership, the people who are having houses before and but who have lost their houses in the disaster maybe when the aid agency support they may not give the tenure full tenure. But the people who are not having houses who have a little money but now they could able to afford the land and then they have a tenure so there is always the discrepancies occur in the tenure and the ownership aspect.

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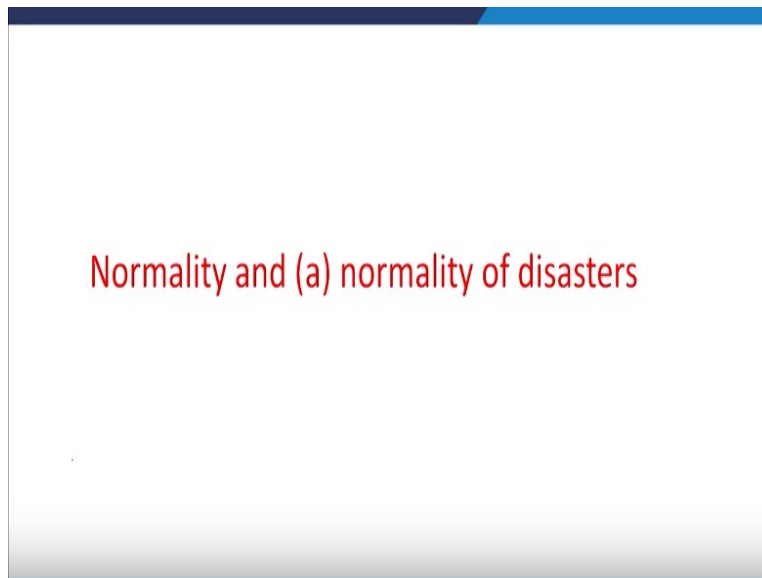


You can see the responses what the aid agencies have given, and what people have developed. There is always a personalization is a natural response to the cultural deficiencies whether it is a kitchen, whether it is a religious, what you can see is a toilet has been converted as a worship

place. So which means it is more to do with the religious aspects, two brothers have extended one single roof to represent a family belonging, so there is a family.

A lady who lost her husband in the tsunami, she actually does not have any livelihood support. So then she developed a house, there were no place for people to play around so they have started encroaching the public places nearby. So there are many dimensions of how this place is conquered and how this place is modified.

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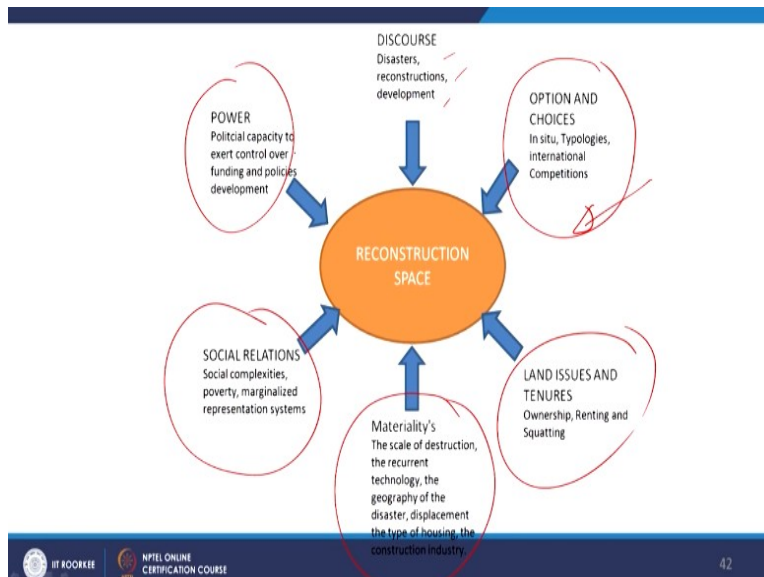
Normality and a normality of disasters: relief agencies normally they rarely pay attention to the way in which housing is delivered.

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Relief agencies rarely pay attention to the way in which housing is delivered, often assuming that developing countries have no experience in low-cost social housing schemes, no finance mechanisms, nor do they sometimes possess a profoundly rich and established informal sector.

Often assuming that developing countries have no experience in low-cost social housing schemes, no finance mechanisms, nor they do sometimes possess a profoundly rich and established informal sector. So this is a kind of belief system that when the relief agencies, aid agencies come to the developing countries, they think that these people does not have an experience how the self-built programs work how their participatory mechanisms work that is the blind belief.

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So if you look at the schematic understanding of what we have discussed that Boano and William Hunter have come framed in a nice conceptual diagram where there is a reconstruction

phase, how it is programmed with different forces. One is a discourse, where the disasters the reconstructions and the usual development process work on.

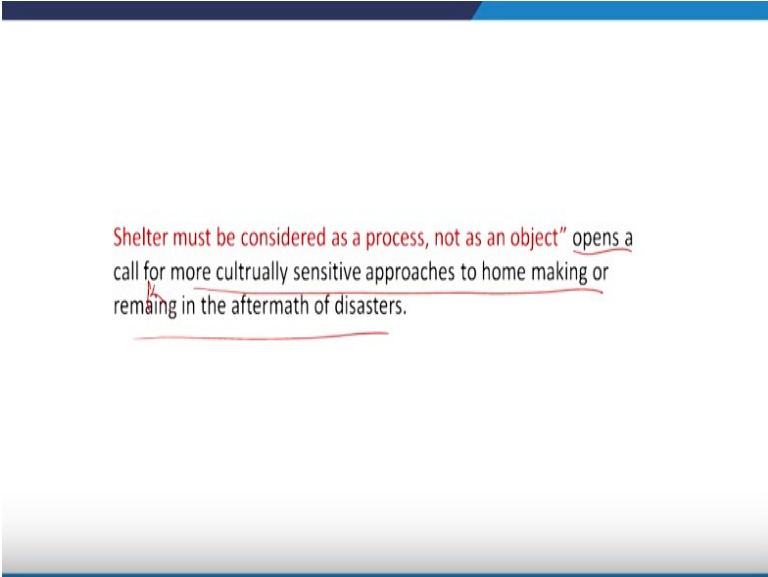
We have the option and choices; we have the relocation options, we have the in situ. we have the building typologies, we have the international competitions, so there is options and choices come forward which is a set of force. Land issues and tenures that is what I just discussed with you the ownership, the renting, and the squatting.

The materiality; the scale of destruction, the recurrent technology, the geography of the disaster, the displacement, the type of housing and the construction industry.

The social relationships; the social complexities, the poverty, poverty has a direct equation with the disaster risk and the vulnerability. The marginalized representation systems who often get affected by the disaster.

Power; whether it is a local government, whether it is an agency, whether it is a feudal system, so that is where the ideologies how they frame how they conceive the development. The political capacity to exert control over funding and policies, the development.

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Shelter must be considered as a process, not as an object" opens a call for more culturally sensitive approaches to home making or remaining in the aftermath of disasters.

So that is where in short summary Ian Davis reflects. Shelter must be considered as a process but not as an object, and this whole set of cases and examples which we are facing in our daily

observations it opens a call for more culturally sensitive approaches to home making or remaking in the aftermath of disasters.

So the culture is very important, and understanding of the philosophical understanding of place and space and the process of making a place is very important that an architect has to understand and this particular subject needs even further more debate to actually look at a reflective learning you know how we learn from the practice is very important. I hope you understand.

Thank you very much.