

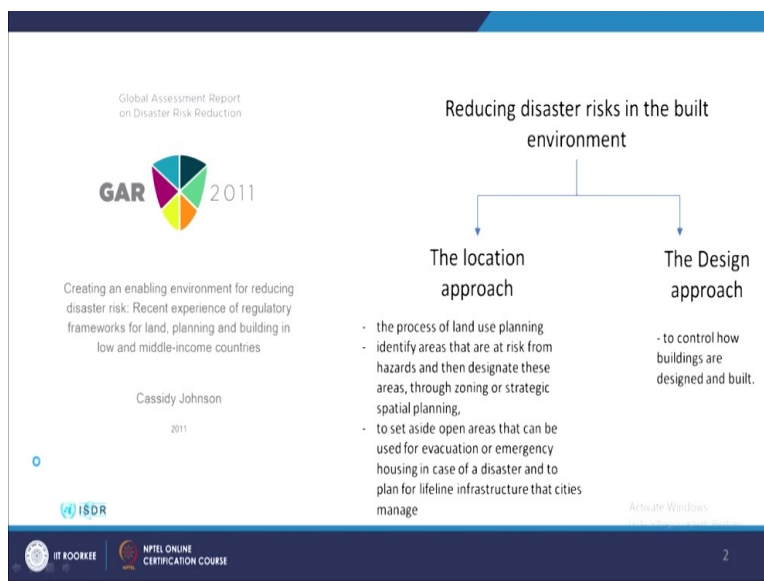
Disaster Recovery and Build Back Better
Prof. Ram Sateesh Pasupuleti
Department of Architecture and Planning
Indian Institute of Technology, Roorkee

Lecture - 34
Assessments

Welcome to the course disaster recovery and build back better. My name is Ram Sateesh; I am an assistant professor in Department of Architecture and Planning, IIT Roorkee. Today, I am going to discuss about assessments, in the disaster recovery and build back better, how different assessments have been conducted, what are the methodologies therefore followed and what kind of focus they have laid and what are the good things about the assessments and what are the lacuna in the assessment process and how to take it further.

So, I will just give you a little of critical review of 2 to 3 different assessments and especially, one is a global level and one, two are at a specific level aspect. I will start the discussion from a global perspective.

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I will briefly introduce you to the Global Assessment Report on disaster risk reduction. This has been prepared by the Cassidy Johnson and her team. In 2011, this has been developed by ISDR. It is a creating and enabling environment for reducing disasters risk. Recent experience of regulatory frameworks for land, planning and building in low and middle-income countries.

So, the focus has been laid, on the low and middle-income countries because the DRR aspect, the challenges in the DRR is very much pertinent to these low and middle-income groups and because there were various reasons, why we are unable to aptly introduce certain technical interventions as well as somehow, we are unable to address the bottom of cultures, the bottom level realities and with that building codes, the structural measures and as well as the land planning issues, land management issues, planning and land management.

So, that is all been covered in this particular assessment report. So, I will briefly explain, how this has been tackled. When we talk about the reducing disaster risks in the built environment, there are 2 approaches to it; one is the location approach, the second one is the design approach. In the first one, the location approach, it deals with the process of land use planning.

When we say land-use planning means obviously, there are different processes, that goes hand in hand to each other and it goes in a particular sequence. Like for instance, we also identify the areas that are risk from hazards, when we know that these are the potential areas, whether it is a regional level understanding, whether it is a particular area development understanding, so we will understand, which are the potential areas that will be subjected to what type of risk.

Whether it is a landslide, whether it is a flood-prone area, whether it is a multiple hazard-prone, so that is first task. The second one is we do with the zoning aspect; also we designated these areas through zoning or strategic spatial planning. The moment you zone them which is the high risk, which is the low risk, which is a moderate risk, which are prone for this, what are the possibilities, what are the opportunities, what are the threats within it.

So, this is where we also develop a strategic spatial planning process. Here, we need to incorporate to set out some open areas that could be used for the evacuation or emergency housing, in case of disaster and to plan for lifeline infrastructure that cities manage. A few examples I can give you. When Hudhud cyclone has hit, there has been a real pressurized situation, much of the infrastructure has been cut down from you know, the main service plans.

So, hardly the roads have been damaged, the flood water came onto the main road, so railways have been damaged. So, in that way, the access has been cutted out in many areas and this is where, once we know that these are inundation levels here, this might go up to this level, so we can even plan that whether we should, what kind of alternate infrastructure connectivity we should have in terms of disaster, how we can evacuate this people through an alternative approach you know, and where can we put them.

In the immediate relief and rehabilitation process, where can we actually put these people, what kind of open area because if you keep planning house for house, house for house and then if you make it as the congested environment, so what happens during a disaster? We need a place, for keeping them this evacuated, so all this whole process together frames into a strategic spatial planning.

That is the DRR has to be addressed in that level but the question is whether we are able to address that in that way or we are only taking in a piecemeal approach you know. this parcel of land we are dealing with this and that's it so but how about in a collectively, how a city is working, how we have to plan with it. So, these are some major challenges. When the design approach, this is to do with to control mechanisms how buildings are designed and built.

So, whether it is by following certain codes, certain regulatory frameworks and how they are abide with this national-level regulatory frameworks or a local level frameworks bylaws. So, this is how this looks at the design aspect of it. The important challenge in both the approaches is, first of all, we do have the regulatory frameworks but in the developing countries under low and middle-income countries to what extend they are adopted in a full-scale or strictly they have been adopted.

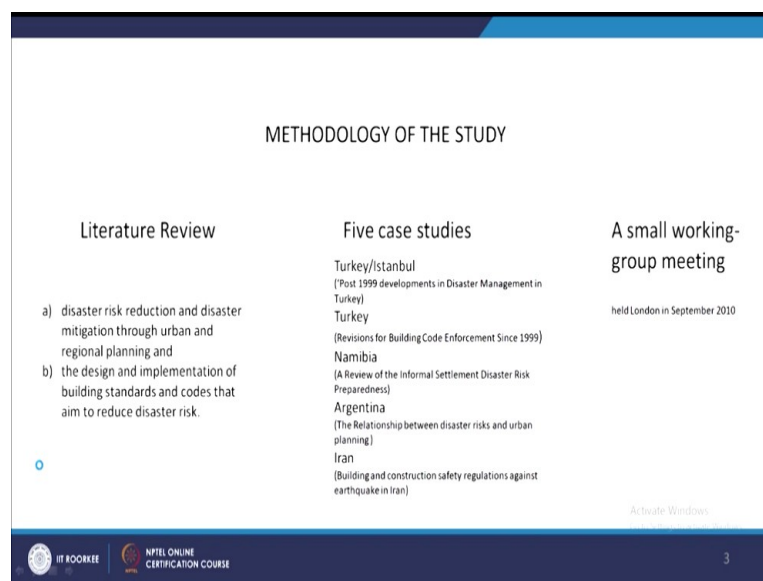
So, there have been many challenges, poverty being one of the challenge, education being another challenge, so like that, there are many aspects which and the cultural compliance you know, how the local cultures also able to comply with these authoritative frameworks. So, there has been so I will go through a few examples and as there are some important points and how this assessment has been conducted.

When we talk about this lecture on the assessment, I am going to describe about the methodology it has been framed. This study has composed of 3 components; one is the

literature review. So, the experts have collected a variety of literature, which is pertinent to disaster risk reduction and disaster mitigation through urban and regional planning and the design and implementation of building standards and codes that aim to reduce disaster risk.

So, which is one level is talking about the urban and regional planning of it the DRR and the second level is talking about the implementation aspects of building standards and codes. Then, the second aspect is they have taken 5 case studies, each from different country.

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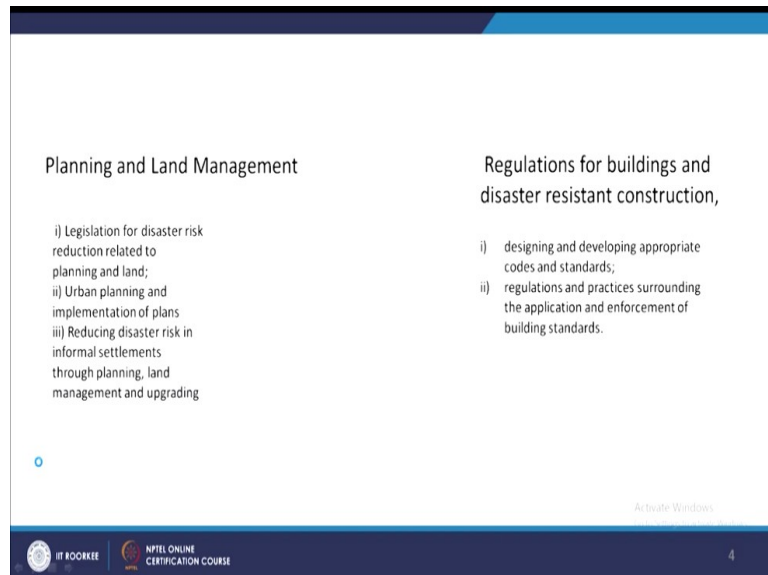


Two of them are from Turkey, one is pertinent to the Istanbul following upon the post 99 the Ankara earthquake, the Marmara earthquakes and the post 99 earthquakes in Turkey and what kind of developments happened in the disaster management in Turkey and the second one focus also in Turkey, it talks about the what kind of revisions and enforcements in the building code have been taken since 1999.

So, it is very focused on the building code aspect. Whereas in Namibia it talks on the review of informal settlement of disaster risk preparedness and in Argentina they talk about the relationship between disaster risk and urban planning and in Iran they talk about the building and construction safety regulations against earthquake because Bam has been affected by recent earthquake at that time and that side talked about the earthquake safety in very particular.

Then, following these case studies and relating to the literature review, they also ended up, they concluded with the kind of small working group meeting which has been held in London in September 2010. So, that has framed the whole report process.

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And how, this was presented for the leadership, there are 2 parts; one is the planning and land management, the second part which is on the regulations for the buildings and disaster-resistant construction and here this has been again further divided into 3 components; one is the legislation for disaster risk reduction related to planning and land, the second one is the urban planning and implementation of plans, third one is reducing disaster risk and informal settlements through planning, land management and upgrading.

So, the focus has been very much focus on the informal settlements. Whereas, in the second part regulations for buildings and disaster-resistant construction. The first one has been focused on the designing and developing appropriate codes and standards, the regulations and practices surrounding the application and enforcement of the building standard. So, what are the various challenges that is faced in the implementation process?

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Planning and Land Management	Regulations for buildings and disaster resistant construction,
<ul style="list-style-type: none"> i) Legislation for disaster risk reduction related to planning and land; ii) Urban planning and implementation of plans iii) Reducing disaster risk in informal settlements through planning, land management and upgrading 	<ul style="list-style-type: none"> i) designing and developing appropriate codes and standards; ii) regulations and practices surrounding the application and enforcement of building standards.

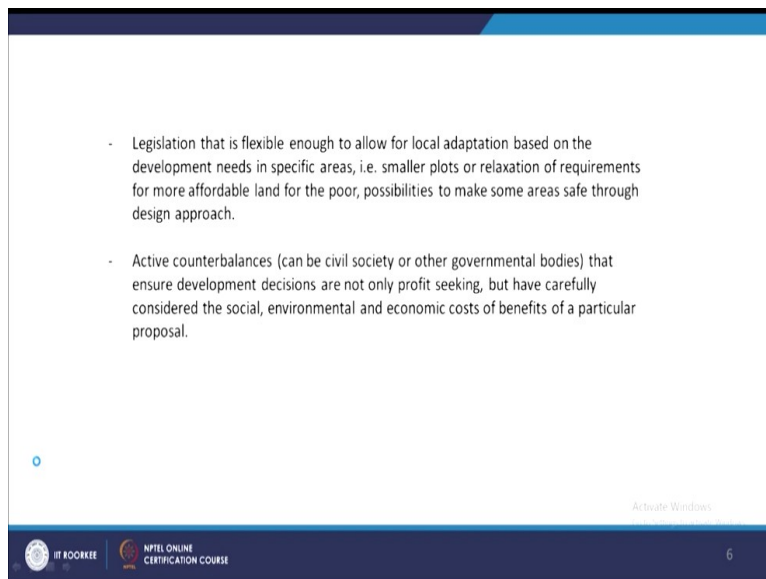
So, they have discussed about a variety of issues, for example, in Turkey there are some evidences which talk about the gas pipelines, how and gas stations which has been provided in the residential areas near the residential areas which may be hazardous but none of the regulatory frameworks have talked about these gas service stations. So, which means it is completely not been looked into the regulatory perspective.

So, this is some of the lacuna in what how the land use planning also have to consider the DRR in giving an appropriate functionality of different plan uses, you know. So, imagine if you are keeping this because it is also the industrial segments, how it is interacting with the residential land use.

There are also other things like for example, in the water contamination you know, the arsenic water contamination in Bangladesh, how it has been, people are very much prone in Bangladesh that they have been living with it. So, like that there are various aspects one has to look at and in this particular land use planning, this not only has to do the national level legislative framework as because in India we talk about the URDPFI guidelines and various other national level setup.

They have to take into the multiple risks, account of the multiple risk and mandate planning in the local level and strategic and forward-looking legislation rather than reactionary legislation in response to disaster events. So, one has to not only look at the if the event happens and then we respond to it, it should not be like that, one has to look at a strategic way, how even if the event is not had occurred how we can plan for it.

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- Legislation that is flexible enough to allow for local adaptation based on the development needs in specific areas, i.e. smaller plots or relaxation of requirements for more affordable land for the poor, possibilities to make some areas safe through design approach.
- Active counterbalances (can be civil society or other governmental bodies) that ensure development decisions are not only profit seeking, but have carefully considered the social, environmental and economic costs of benefits of a particular proposal.

Activate Windows

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So, the legislation which could be flexible enough to allow for local adaptation based on the development needs in specific areas, smaller plots for relaxation of requirements for more affordable land for the poor and possible to make some more areas safe through design approach. So, it is not only just by identifying the land and this is the safe land but even a design can contribute to the understanding the safety of it.

And it can actually not only at the safe positioning the buildings in the safe land but their orientations, the way the whole approach has been taken so that we can at least achieve the safety for the people. Active counterbalances, between the civil society and other governmental bodies like in Scandinavian example, I have been working on the snow maintenance aspect when I was working in Sweden.

So, there we have interviewed many agencies, how the snow management program has been conducted by the council. In the same building, two departments exist because they have 3 categories of the snow maintenance; one looks at the highways, one looks at the state highways and the main highways, the second one looks the district routes, the third level looks the neighbourhood level.

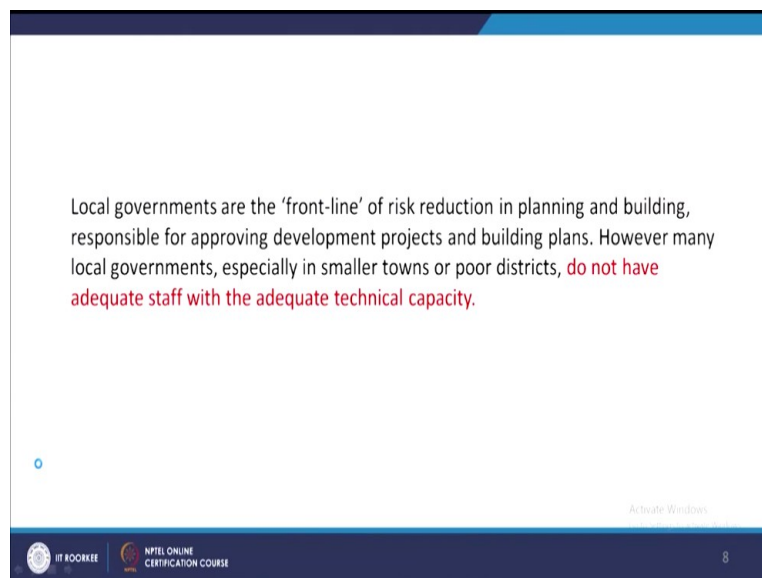
So, these 3 are situated in the same building but they never interact, so they have different policies and procedures for each of them but they have some gaps in that 6 o'clock one highway will clean, highway people, will clean and at 9 o'clock someone else will come but it will cause the barrier for the neighbourhoods to come into the bus stop. So, that is where

there should be some coordination what about the middle areas which are in between, the sandwiched areas between the local clearance people and the highway clearance people.

So, that is a kind of coordination which was needed. So, that is where, I am saying about there should be also some kind of balance between the government bodies and they should ensure, this kind of balance can ensure that the development decisions are not only profit-seeking because many of the development authorities look for the economic security of that particular neighbourhood or a city or a particular state.

They also have to consider what kind of social, environmental and economic cost of the benefits of a particular proposal. If someone is coming with 140-acre development proposal review, so you need to look at the all aspects, how it may have an impact on the water security issues, how it will have an impact on the soil degradation issues you know, that is all the aspects has to be looked in. So, I am also summarizing a few implementation challenges.

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Now, when we talk about any plan implementation, first of all, it will be submitted to the local development authority. These local governments they have the first step when you propose something a large area development if you want to submit to the local council and that is where they are in the front line of the risk reduction in planning and building responsible for approving the development projects.

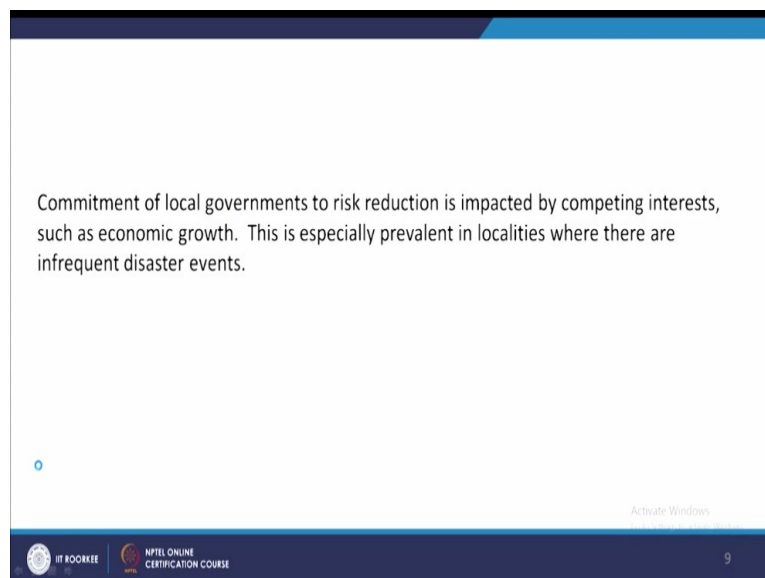
If someone is coming with huge housing development project, then the first place it is going to the local council and the problem in developing countries was he might be a big architect

who is let's say Norman Foster or any other or even some very well-known architects like B.V. Doshi or anyone who is designing the big housing projects but at the end of the day who is receiving that in the evaluation, in the council.

He might be the many cases in small towns; you might find even very less qualified persons who have not understand who may not be able to understand the kind of terminology of the disaster risk reduction aspects, the environmental concerns. So, they are trained in a different process of their daily pressurized situation of approving and but then how these locals, because they are heavily burden with lot of development proposals and the process the bureaucratic process.

If you ever happened to go a planning office and if you look at the atmosphere, the working atmosphere, it's really they have a very less adequate staff and also not having an adequate technical capacity especially, this is very true in the smaller towns.

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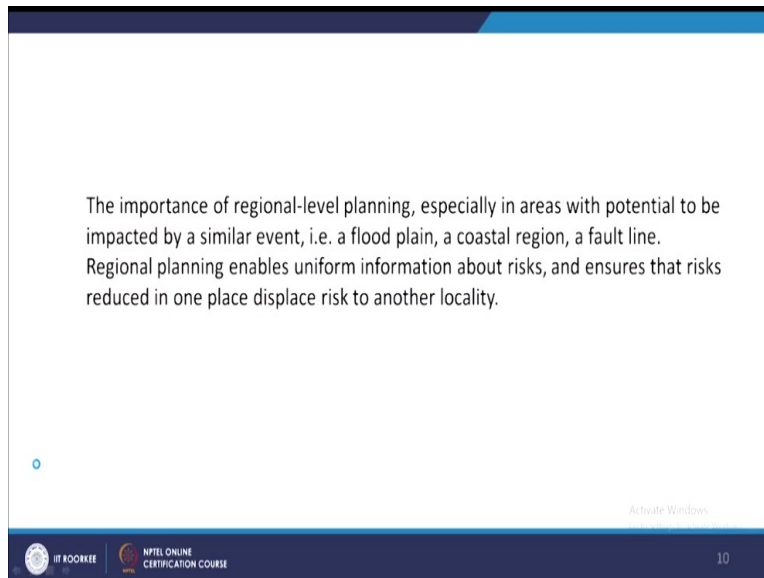
And commitment of the local governments to risk reduction is impacted by competing interests such as economic growth. I was in Mahabaleshwar in Pune and on one side the tourism segment is been a promotive aspect to raise economic growth but one has to understand it is also part of the eco-sensitive zone. So, the local governments have to give that kind of priority that you know, one has to be sensitive enough in the development.

And in this kind of focus of the local government, the politicians are very much actively engaged in, they want to promote their areas with much more rich economic, sensitive

economic generation models you know, they want to develop tourism, they want to develop some of the industries to get the job opportunities but how it will have an impact, how it will can reduce the disaster risk reduction.

And these kinds of things are very especially, prevalent in the localities where there are infrequent disaster events.

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The importance of regional level planning, I just said to you now, the Mahabaleshwar case, being a part of the eco-sensitive zone, the approach has to not go only that a city level or a town level or urban level. It has to relate with the larger ecosystem that's where the regional level understanding has to come. Similarly, in Uttarkashi to Gangotri, where the eco-sensitive zone has been declared.

So, all the planning has to address that aspect, so where you are planning and where the regional level, the fault line is going and how to plan those areas you know, that is where the regional planning will enable you the uniform information about risks and ensures that risk reduced in one place, displace risk to another locality. So, the moment you construct something here and it may affect something else in the followed precincts.

So, that is where a regional planning approach should be implemented. Also, the despite legislation enabling multiple stakeholders, inputs into planning of DRR, nations and cities do not easily achieve a true multi-stakeholder perspective. So, these challenges somehow, they seem to lie in the capacity planning offices to overcome the purely technical approaches to

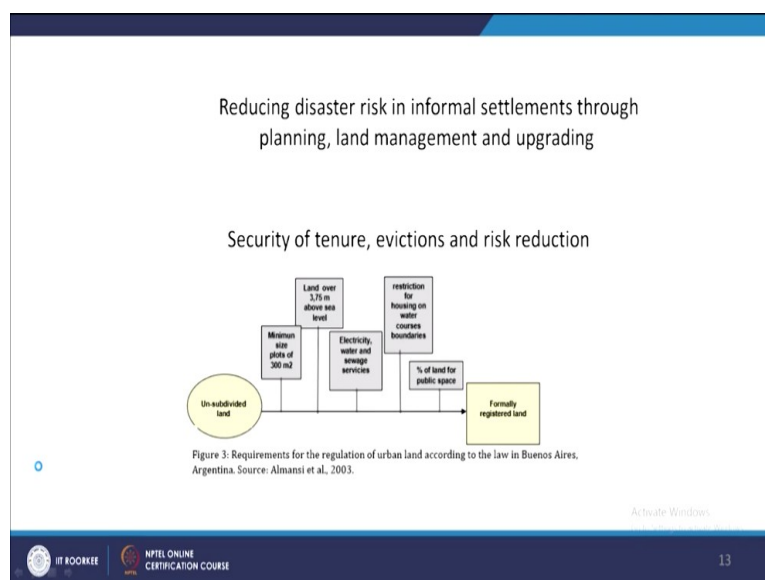
the disaster management and planning instead of engaging a very multiple different stakeholders.

So, as I said to you planning officials somehow in many at cases they are dominant with the technical approaches rather than a consultative process of different stakeholders. Sometimes, these meetings do held in many councils but then to what extent this has been considered and how depth these are, the bottom-up approaches and this is where the technical approaches dominates with the social approaches as well the perspective of different stakeholders.

Traditional separation of the departments of disaster management in urban planning is still prevalent in most jurisdictions. So, disaster management is mostly seen as a contingency planning for disaster response whether in a larger perspective on urban resilience. As I said to you, we are still in 1980s in many of the cases, that disaster planning is not well integrated into the planning process.

Because they always see that how well at the event of a disaster or risk how well we can plan for rescue but how to avoid this okay, how a planning process itself can engage that thought process in it. So, this is the two different separation of these departments are still existing in many of the jurisdictions. Reducing disaster risk in informal settlements through planning, land management and upgrading.

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So, as you have seen that many of the impacts are seen in the informal settlements, they are targeting the poor living on the edge. Whether, they are living on the edge for various