

economic reasons or there are certain pressurized situations that are challenging them, probing them to live in these conditions. So, this is where, this particular report also touched upon a variety of example starting from Namibia, starting from Turkey, Argentina.

And they have emphasized about few important aspects how to be taken care of. One is the security of tenure, evictions and risk reduction. Like, this is in case of Almansi's work where the Argentina aspect how to upgrade the informal settlements because if you ever go to slums or quarter settlements always an up-gradation plans keep ongoing. So, a tenure slum, non-tenure slum gradually becomes a tenure slum with the provision of infrastructure and services and up-gradation of the quality of the housing.

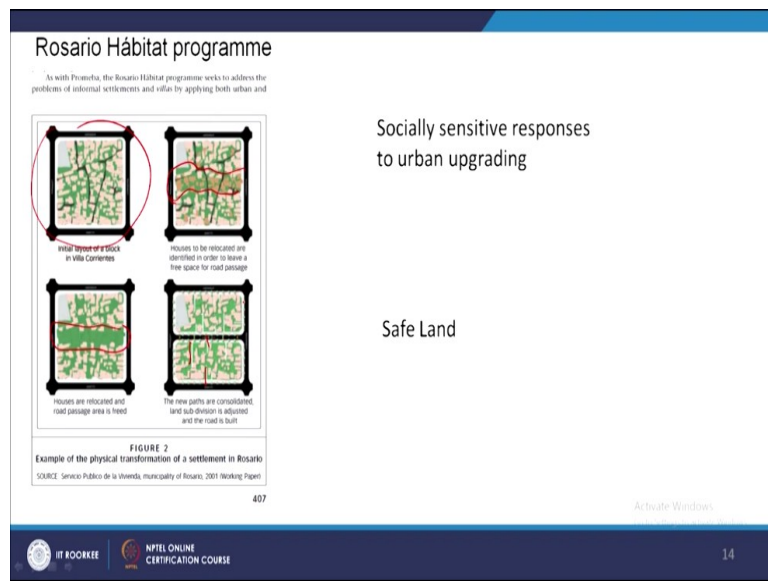
So, similarly, an unsubdivided land, so earlier, it was true in similar cases of Namibia as well. So, when people have been asked to get some you know, options of going there going into the land and vacate these places and stay in a safer lands but there are some other important aspects, what about the livelihoods. So, they are staying for various reasons as I said to you, they are staying for the economic reasons, okay.

And earlier, when there was an informal settlement okay, there is no regulatory framework has been enforced on that. So, people have developed on their own whenever the need has occurred. So, it has been grown very organically but then when the DRR practice has enforced them for up-gradation aspect with various mechanisms whether related to funding mechanism or any legal support mechanisms.

So, that is why they have to undergo various requirements. For instance, the minimum size plots of 300 square meters, the land over 375 meters above sea level and electricity and water civil services, the infrastructure service provisions and restriction for housing on watercourses boundaries, so that is where the zonal regulations also plays an important role and the percentage of land for a public place okay.

Whether you are giving a 10% or 15% of land for the public place and then only it could be formally registered land, then only, you can make the subdivisions right. So, one has to create that kind of, so provisions in order to make it a tenured plan.

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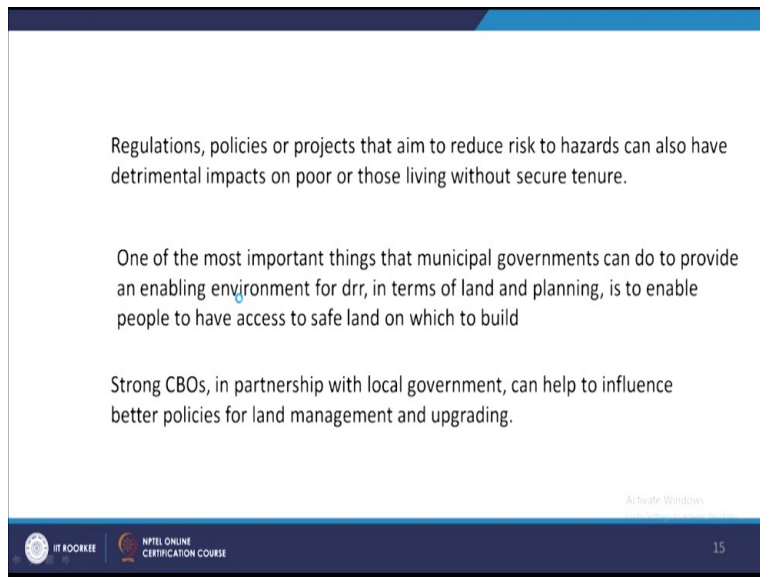


And there are also various schemes and programmes like Promeba is one of the program and they have also conducted this as implementation level in various informal settlements. I will show you some examples of Rosario Habitat Programme and here, what they do is initially, if you look at it, this is the initial layout of the Villa Corrientes and there has been almost 13% of the land in that particular region is all completely the informal settlements.

And when if you want to make it formal, you have to make it a socially sensitive responses and you have to communicate it to the people you know, how it can benefit. First, what they did was they identified that could be relocated in order to plan for infrastructure and services because you look at or identified so that is where and these are, these houses have been relocated and they have some passage for roads and services has been freed up.

And that is where then they started making new paths and the land subdivision has been adjusted and the road is built. So, in that way, within the existence without disturbing much of the habitat, so a few households have been recognized so that roads and basic services could be laid out in order to meet for the planned process and the requirements.

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And many of these regulations, policies or projects that aim to reduce risk to hazards can also have detrimental impacts on poor or those living without secured tenure. Now, when it comes to the informal settlements, there are both tenure done without tenure, so in many of the development regulatory process, they don't, without tenure has not been recognized in a proper way and that is the reason they end up living there and those unsafe conditions and they end up being a target groups.

There is also other cases when in cases of Namibia, when certain up-gradation program have been developed or the relocation program have done, they identified the land which was not part of the you know, in the local jurisdiction but then, the time it came into it has been included in the urban level, by the time people because there is no urban enforcement when they have been allocated a land.

So, people started already building up with whatever the facilities they have, so now, when it has been included then the urban regulatory frameworks have been incorporated, so that becomes a challenge because communities have already developed in their own ways of patterns of the normally developed. So, these are some of the examples of the time-lapse when it is included and when it is not included.

And there is also strong community-based organizations in partnership with local government which can influence the better policies for land management and upgrading and this is where the municipal governments can do to provide an enabling environment for DRR in terms of land and planning, is to enable people to have access to safe land on which to build.

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The slide is titled "BUILDINGS AND CONSTRUCTION" and contains the following text:

i) Designing and developing appropriate codes and standards

Practical Action offers some principles to guide code revision efforts:

- o Relevance: revisions should be relevant to environmental and economic circumstances and deeply rooted in local cultures and living habits
- o Cost reduction: changes must result in cost reductions so that adequate and affordable shelter is attainable for all
- o Focus: focus on improving conditions for poor in informal settlements
- o Participation of all sectors of housing delivery process
- o Flexible to allow for interpretations, variety of materials and technical solutions, innovations
- o Access: legislation should be easily accessible and widely disseminated
- o Incremental improvement of dwelling and surroundings can happen
- o Procedures: plan approval fast, free from corruption and inexpensive for builder.

At the bottom of the slide, there is a footer with the IIT ROORKEE logo, the text "NPTEL ONLINE CERTIFICATION COURSE", and the number "16".

When it come to the buildings and construction the part 2 of the report, it talks about the designing and developing appropriate codes and standards and many at cases, it's very much true that many of the building codes which will not reflect to the local situations, that is where practical action group offer some principles to guide how codes could be revised. Now, even in India, we have the NBC 2016, earlier it was from 2005.

So, things have been taken into account and committees have try to reflect that and let it has to keep revising. Some of the aspects says the revision should be relevant to environmental and economic circumstances and deeply rooted in local cultures and living habits. Whereas, the cost reduction changes must result in cost reduction so that adequate and affordable shelter is attaining for all.

Focus; the focus is also should be laid on improving conditions of the poor informal sectors, participation of all sectors of housing delivery process, flexible to allow for interpretations, variety of materials and technical solutions. Now, today are there any particular housing standards, which is allowing a stone construction which is locally available which is allowing an indigenous methods.


Access legislation should be easily accessible and widely disseminated and so incremental improvement, the code dwelling concepts and surroundings can happen. Procedures, the plan approval should be fast, free from corruption and inexpensive for builder. The approval stage is one of the biggest challenges in developing countries. One has to understand that this

process will go about 9 to 11 agencies to get a formal approval whether it is a water supply, whether it is electricity, whether it is airport authority.

So, all these agencies has to approve, fire and safety right. So, the municipal corporation, everything has to be approved but then one has to look at a single-window check you know, the person has to roam around to different agencies and get and that is wherein many of the developing countries, the corruption do exist and that time, many at times it violates laws and regulation.

Like for example, how does it does not meet with there is a big difference between the codes and the reality.

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As per the codes  
BNBC states  
75 units/hectare with average 5 persons/dwelling. The minimum plot size varies between 30 sq. m to 25 sq. m in dense metropolitan areas. Minimum width of walkways is to be 3 m

Reality  
families averaging six to eight people in size are living in a 9 sq. m one-room dwellings cantilevered over the water (thus there is actually even no plot of land). The walkways are 1.5 metres and there is no outside space.

Figure 4: Informal settlement in Mohammadpur, Dhaka does not conform to Bangladesh National Building Code (source: Huraera Jabeen)

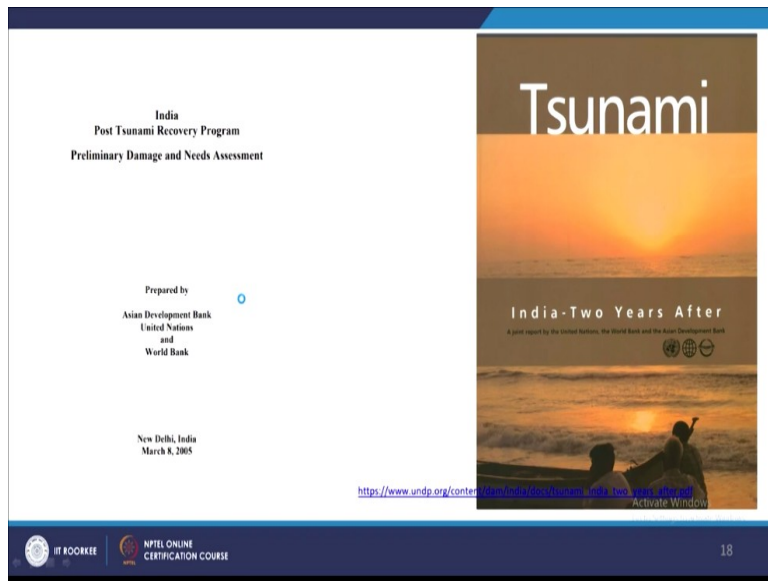
Activate Windows

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In Bangladesh in Mahammadpur, it does not confirm to the Bangladesh National Building Code like you have the Bangladesh National Building Code refers 75 units per hectare with average of 5% per dwelling and the minimum plot size varies between 30 square meters to 25 square meters in dense metropolitan areas and the walkways should be width of 3 meters but the reality is the families averaging 6 to 8 people in size are living in 9 square meter dwellings which are cantilevered over the water.

So, even projected over the water so there is hardly is no plot of land where no reinforcement has come. The walkways are 1.5 meters and there is no outside space, so these are some of the reality which the developing countries face.

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So, that is briefly about the Global Assessment Reports and also talk about the post Tsunami assessment. There are two sets of assessment reports, I am going to discuss here. One is the needs assessment. In 2005, when the ADB and United Nations and World Bank have made an assessment report, a preliminary damage and needs assessment.

And then following up on the Tsunami after 2 years, how the reconstruction have taken up, what are the various segments, what is the progress of it, so there is a second way of assessment has been done after 2 years.

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Table 1. Preliminary Summary of Damage and Losses (\$ million)

	Damage and losses			Effects on Livelihoods
	Damage	Losses	Total	
Andhra Pradesh	29.7	15.0	44.7	21.2
Kerala	61.7	39.1	100.8	36.3
Tamil Nadu	437.8	377.2	815.0	358.3
Pondicherry	45.3	6.5	51.8	5.9
<b>TOTAL (by sectors)</b>	<b>574.5</b>	<b>448.3</b>	<b>1,022.8</b>	<b>421.7</b>
Housing	193.1	35.4	228.5	
Health and education	10.7	12.9	23.6	
Agriculture and livestock	15.1	22.4	37.5	26.0
Fisheries	229.6	338.2	567.8	338.2
Livelihoods (Microenterprises and other)	0.0	37.5	57.5	57.5
Rural and municipal infrastructure	28.0	1.6	29.6	
Transportation	35.2	0.3	35.5	
Coastal protection	42.8	0	42.8	
Relief <sup>a/</sup>		200.7	200.7	

<sup>a/</sup> Relief provided by the local, state and national governments (not included in Total (by sectors)).  
Source: JAM estimates on the basis of information made available by the governments and direct observation.

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Now, the way after the Tsunami, what kind of damage has been occurred, this is how you see the preliminary summary in Andhra Pradesh by state wise by sector-wise, by housing sector, health and education, the agriculture and livestock, fisheries, livelihoods, rural and municipal

infrastructure, coastal protection and this is where the damage and as well as the losses and what kind of effects on the livelihoods.

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	Reconstruction needs		
	Short term reconstruction	Medium term reconstruction	Total
Andhra Pradesh	26.0	46.6	72.6
Kerala	83.8	73.9	157.7
Tamil Nadu	248.6	619.7	868.3
Pondicherry	41.6	72.8	114.4
<b>TOTAL (by sectors)</b>	<b>400.0</b>	<b>813.0</b>	<b>1,213.0</b>
Housing	160.0	329.0	489.0
Health and education	11.9	5.5	17.4
Agriculture and livestock	10.4	11.3	21.7
Fisheries	54.5	229.6	284.1
Livelihoods (Microenterprises and other)	70.6	108.1	178.7
Rural and municipal infrastructure	23.5	74.0	97.5
Transportation	41.5	27.7	69.2
Coastal protection	19.5	18.6	38.1
Hazard risk management	8.1	9.2	17.3

Source: JAM estimates on the basis of states' statements and memoranda.

And also, what are the needs assessment, what kind of budget you need right and one has to look at the short and medium-term process. So, immediately in the relief stage, in rehabilitation what does you need but in a medium-term for next 1, 2 years what kind of budget you might need, so that is where an each sector how much it take, this is the kind of assessment it makes.

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	2003-04	2004-05	2005-06	2006-07	2007-08
	R.E.	B.E.	Projection	Projection	Projection
<b>TAMIL NADU</b>					
<b>Status Quo Scenario</b>					
Fiscal deficit	3.7	3.8	3.3	2.8	2.5
Interest	2.8	2.9	3.0	3.0	3.0
Debt stock	28.5	30.1	31.0	31.2	31.0
<b>New Scenario: Additional expenditures: Relief Rs. 350.0 crore (\$80.46 million) and Reconstruction Rs. 3,772.0 crore (\$867.13 million)</b>					
Fiscal deficit	3.7	4.0	3.9	3.5	3.2
Interest	2.8	2.9	3.0	3.1	3.2
Debt stock	28.5	30.3	31.8	32.7	33.1
<b>KERALA</b>					
<b>Status Quo Scenario</b>					
Fiscal deficit	6.1	5.3	4.6	3.8	2.4
Interest	3.7	3.6	3.5	3.4	3.3
Debt stock	41.5	42.6	42.6	41.9	39.6
<b>New Scenario: Additional expenditures of Rs. 666.0 crore (\$153.1 million)</b>					
Fiscal deficit	6.1	5.3	4.9	3.9	2.6
Interest	3.7	3.6	3.5	3.5	3.4
Debt stock	41.5	42.6	43.0	42.3	40.2
<b>Memo: Impact of Tsunami</b>					
Fiscal deficit (Tamil Nadu)		0.2	0.6	0.7	0.7
Fiscal deficit (Kerala)			0.3	0.1	0.2

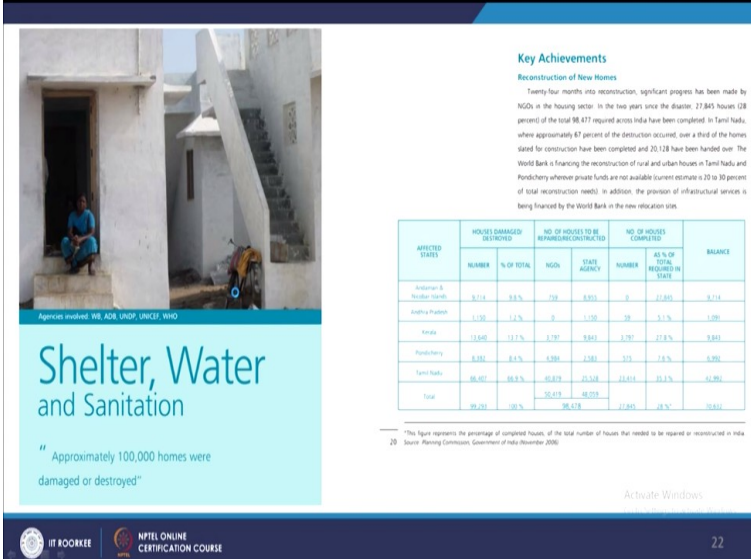
R.E. - Revised Estimates/B.E. - Budget Estimates

And similarly, on the impact of Tsunami related expenditures and finances, it also goes from the 2000 year wise and when we talk about 2005, that is 2006 to 2008 there is a projection



that each state has status quo scenario and as well as the new scenario and that is how the budget estimates are prepared by the economist.

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**Key Achievements**  
Reconstruction of New Homes

Twenty-four months into reconstruction, significant progress has been made by NGOs in the housing sector. In the two years since the disaster, 22,845 houses (18 percent) of the total 98,477 required across India have been completed. In Tamil Nadu, where approximately 67 percent of the destruction occurred, over a third of the homes slated for construction have been completed and 20,128 have been handed over. The World Bank is financing the reconstruction of rural and urban houses in Tamil Nadu and Pondicherry wherever private funds are not available (current estimate is 20 to 30 percent of total reconstruction needs). In addition, the provision of infrastructural services is being financed by the World Bank in the new relocation sites.

AFFECTED STATES	HOUSES DAMAGED/ DESTROYED		NO. OF HOUSES TO BE REPAIRED/RECONSTRUCTED		NO. OF HOUSES COMPLETED		BALANCE
	NUMBER	% OF TOTAL	NGOs	STATE AGENCY	NUMBER	AS % OF TOTAL REQUIRED IN STATE	
Andhra Pradesh	9,714	9.8%	709	8,005	0	27.8%	9,714
Andhra Pradesh	1,130	1.1%	0	1,130	38	3.1%	1,092
Kerala	13,645	13.7%	3,787	9,858	3,787	27.8%	9,858
Pondicherry	6,082	6.1%	4,589	1,493	375	7.4%	6,292
Tamil Nadu	58,487	59.5%	10,678	47,809	23,410	24.1%	34,399
Total	99,458	100%	19,173	80,285	27,845	28.3%	72,440

\*This figure represents the percentage of completed houses, of the total number of houses that needed to be repaired or reconstructed in India  
29 Source: Planning Commission, Government of India (December 2009)

Agencies involved: WB, ADB, UNDP, UNICEF, WHO

Shelter, Water and Sanitation

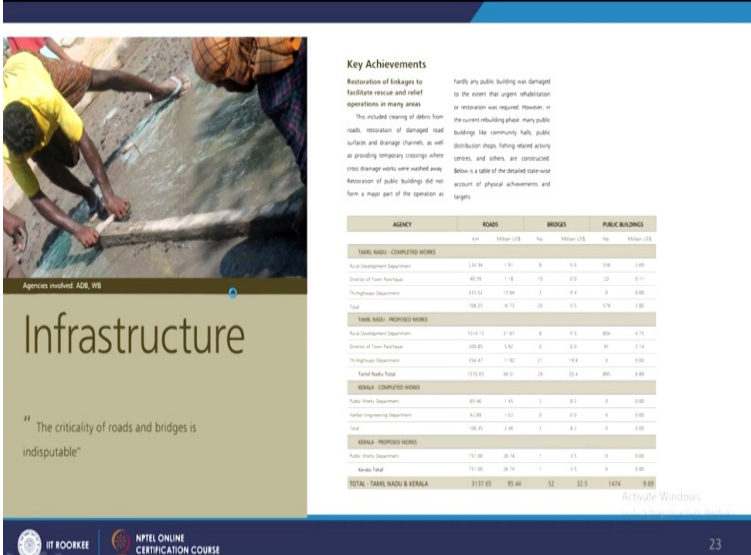
"Approximately 100,000 homes were damaged or destroyed"

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But then when the budget estimate has been presented to the state government and how they allocate it, how the external funding is also collaborated with it, so after 2 years the second report, which I showed you, how what we have achieved. Now, when we talk about the shelter and water and sanitation, so different segments they look at it.

Many of that, they looked at different states, what are the number, which has been damaged and the percentage have been reconstructed, which have been completed and what is the balance okay and why they are delayed. So, this is how the review is always presented.

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**Key Achievements**  
Restoration of linkages to facilitate rescue and relief operations in many areas.

This included clearing of debris from roads, restoration of damaged road surface and drainage channels, as well as providing temporary coverings where cross drainage works were not yet done. Restoration of public buildings did not form a major part of the operation as hardly any public building was damaged to the extent that urgent rehabilitation or restoration was required. However, in the current rebuilding phase, many public buildings like community halls, public distribution shops, fishing-related activity centres, and others, are constructed below is a table of the detailed state-wise account of physical achievements and targets.

AGENCY	ROADS		BRIDGES		PUBLIC BUILDINGS	
	Km	Million US\$	No	Million US\$	No	Million US\$
<b>TAMIL NADU - COMPLETED WORKS</b>						
Rural Development Department	220.36	1.37	0	0.0	156	0.88
Director of Town & Country	40.08	1.14	10	0.0	22	0.11
Traffic Engineering Department	437.52	10.84	2	0.0	0	0.00
Total	708.05	13.35	12	0.0	178	0.99
<b>TAMIL NADU - PROPOSED WORKS</b>						
Rural Development Department	1714.73	17.87	0	0.0	856	4.75
Director of Town & Country	280.80	8.40	10	0.0	30	0.14
Traffic Engineering Department	552.47	10.90	20	0.0	0	0.00
Tamil Nadu Total	2547.93	47.17	30	0.0	886	4.89
<b>KERALA - COMPLETED WORKS</b>						
Public Works Department	63.46	1.45	2	0.0	0	0.00
Public Engineering Department	47.08	1.01	0	0.0	0	0.00
Total	110.54	2.46	2	0.0	0	0.00
<b>KERALA - PROPOSED WORKS</b>						
Public Works Department	70.00	16.74	1	0.0	0	0.00
Kerala Total	70.00	16.74	1	0.0	0	0.00
<b>TOTAL - TAMIL NADU &amp; KERALA</b>	3137.05	64.40	33	0.0	886	4.89

Infrastructure

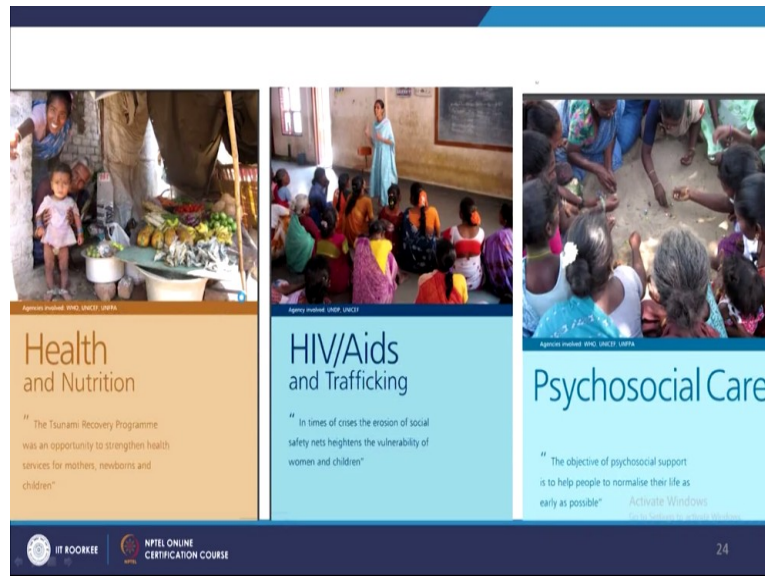
"The criticality of roads and bridges is indisputable"

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And that is what ministers look at, how many number of houses were planned, how many have been executed, how many have been laid out and how many are pending. So, this is the infrastructure, what are the roads, what kind of highways, what kind of Panchayat offices, what kind of community facilities, so this is all the infrastructures and again the bridges, public buildings, roads, how many of them are planned, how many of them are completed, what are the budgetary requirements.

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From the health similarly, the health segment, HIV AIDS, trafficking as well as psychosocial care you know, so because many of the children who lost their mothers, fathers in the event of disaster, how they could be taken care of, how the woman who lost their husbands could be given some encouragement of an alternative livelihood systems and how health and nutrition could be provided for children you know.

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And as I said to you, the child protection, how the child labour and the orphan children could be protected, how their psychological conditions could be improved by providing a better education systems and again the livelihood aspect. In the Tsunami case, many of the fishermen lost their boats so immediately, the fibre boats have been provided and provided some financial expenditure you know, support to buy some nets and fish gear.

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Also, what kind of environmental impacts and how it has been improved, what kind of plantations has been taken care of, so all these things will be accounted. Similarly, how the communities are trained with the disaster risk management in the event of the upcoming disasters, how they have to face and the information, communication technology and coordination.

In Tamil Nadu, before that there was not proper early warning systems but now what they did was, they have identified the core villages which will have set up of the communication systems from the central level to the state level and then it goes to the village nodes and where they disseminate this aspect and the train the villagers to how to operate the computers, how to operate and understand this information and how to send this information.

So, these all activities have been taken up by different NGOs but the reality is the assessments does not focus on how far they are successful in terms of a better lives. The ministries only talk about the numbers, how many of them are occupied and how many are there adequately you know, addressed the cultural needs or their livelihood needs and how a person have adapted and modified it these places.

And in other lectures also we have discussed how these shelters have been modified for that because of their individual and collective needs. So, I think if this kind of qualitative assessment also is there, then these are lacking in the ministerial setup or in a bureaucratic setup. So, one also has to look at this angle. I hope you understand about this assessment reports. Thank you very much.