

**Disaster Recovery and Build Back Better**  
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**Kyoto University, Japan**

**Lecture - 36**  
**Disaster Risk Communication**

Hello everyone. We welcome you through these lecture series on disaster recovery and build back better. This lecture is focusing on disaster risk communications. I am Subhajyoti Samaddar from Disaster Prevention Research Institute, Kyoto University and we will talk about disaster risk communications. We know that disaster risk communication is very important because we need to motivate people to take preventive actions or preparedness against disasters.

Let's say evacuations or using flood-resistant building materials, retrofitting the house. So, why people should do it because they need to know that this is the important and I should do it, in order to protect myself from future disasters. Now, who are involved into this process, what is the meaning when there are two parties. One, they want to make increase people risk awareness, another one is the people who are at risk of natural disasters.

Now, these two parties has to interact and there are other parties are also involved. So, this process, we called disaster risk communications. So, let us look into the detail of this entire process, which we call risk communications or disaster risk communications.

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## Risk Communication ?

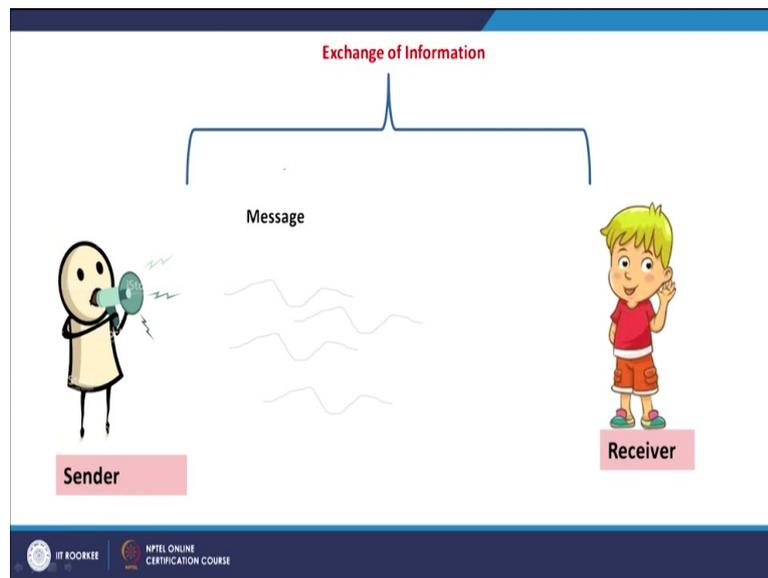
- Exchange of information
- About - ?



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Risk communication, what does it mean when we say risk communication okay.

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So, one in risk communication or in even in disaster risk communications, I am talking in a more, broader perspective, there should be one sender like local government okay. They want you to evacuate and so there is first in the disaster risk communications, we need one sender okay and what they do, they send message informations okay about the risk and what can be done to people.

So, senders, they are sending informations to the people, they are the receivers. So, there should be one sender, one receiver and another important component is the message between. So, sender and receiver they should exchange information, okay, exchange of information is critical between these two parties. So, this is one of the basic components of risk communications.

When we are talking about disaster risk communications, like flood, earthquake, so there should be informations about this. Now, when they are communicating, exchanging informations, two parties, senders and receivers, they are exchanging information but information about what, what kind of information. When you are talking about risk communication, what kind of information they should share, exchange.

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How was your vacation?

I'm analyzing it now. The photo only got eight 'likes' but one of them was from someone really influential.

Bizek  
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Gossip ? Day to Day Life ?

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Is it kind of some hot topic of the town like some gossip or just day-to-day life they want to share with each other like the colleagues or the neighbours or some co-workers, co-students they do or is it about my haircut?

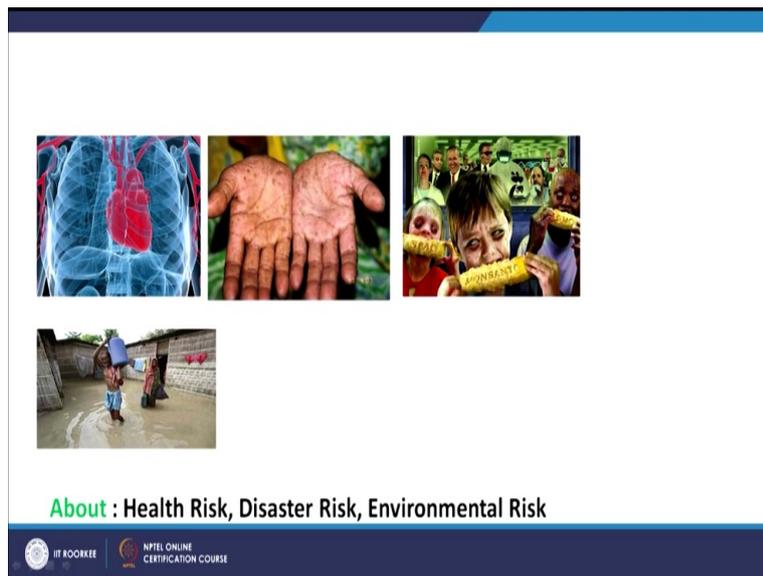
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How I would look good, is it about that one or is it about how to cook, what to cook and or my travel plan to Singapore or to Sweden or Switzerland. So, what kind of information they will share is very important to know okay. So, exchange of information when we are talking between senders and receivers, no in risk communications they are not interested about your hairstyle, about your travel plan or about your day-to-day life.

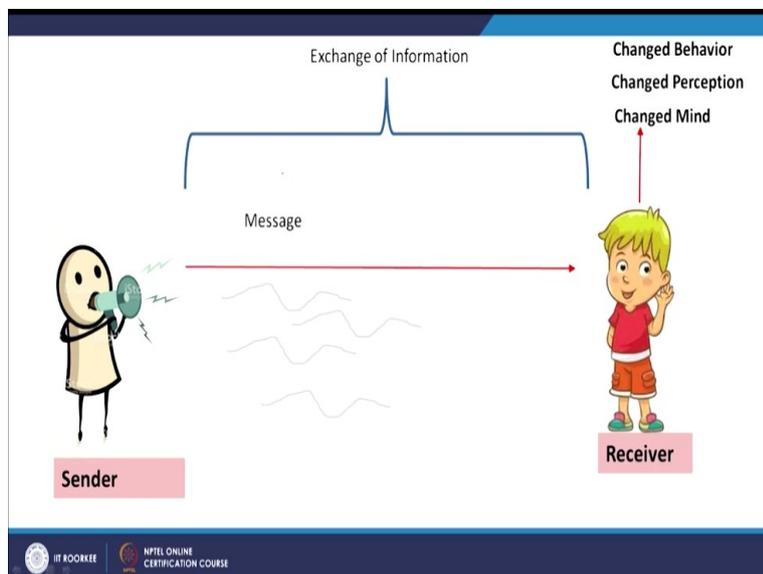
In risk communication, in disaster risk communications, when we say we are exchanging informations, we are directly or indirectly talking about some particular hazards and risk.

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It could be a heart problem, it could be arsenic contaminations of groundwater and that's causing the cancers to the people or it could be flood-related issues or it could be genetically modified food like many people and nowadays exposed to genetically modified food and they are having a lot of health issues or could be Fukushima nuclear plant that was devastated and nuclear accident took place by 2011 earthquake and Tsunami.

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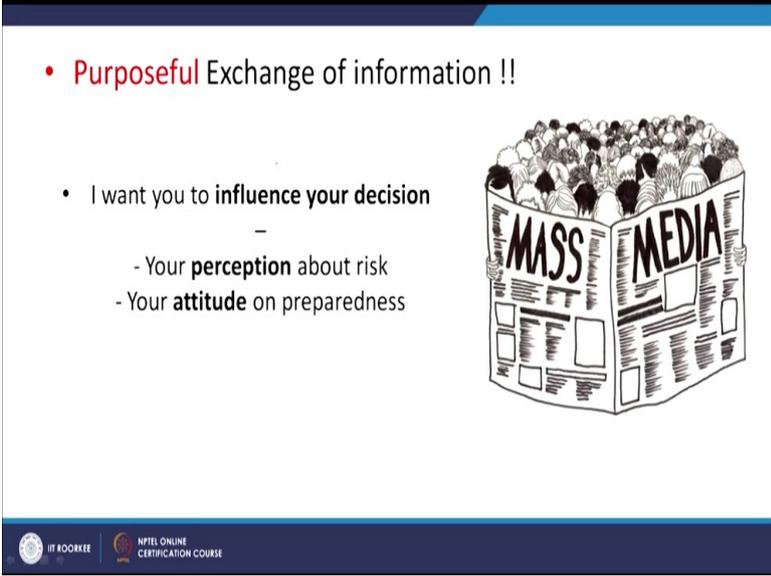


So, we are actually we have senders and they are passing informations to the receivers and they have a message and they have exchange of informations and this exchange of information is about risk but when the senders passing the information, passing the information to the receivers, there is a motive. Do you know what is this motive? What they want to do?

If the sender is sending these informations to the receiver, he has a very particular motive when we are talking about disaster risk communication, the motive is the sender wants to change the mind of receiver okay, change his mind, changed perception and changed behaviour. So, the sender, once that receiver should have different perspective, a different behaviour, different attitude, once they would be successfully communicate with them.

So, it's not only a matter of exchange of informations but sender wants to influence the receiver, so it is a purposeful exchange of information, purposeful exchange of informations between senders and receivers.

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• **Purposeful** Exchange of information !!

• I want you to **influence your decision**

–

- Your **perception** about risk
- Your **attitude** on preparedness



The slide features a blue header and footer. The main content is on a white background. On the right side, there is a black and white illustration of a newspaper with the words 'MASS MEDIA' printed on its front page. A large crowd of people is depicted on top of the newspaper, suggesting a mass audience. The footer contains the logos for IIT Kharagpur and NPTEL Online Certification Course.

So, like media like mass media when they give you advertisement, they want to change you, they want to change your mind, they want to cover you in every way every aspect, they want to brainwash you. This slogan is pretty clear, the intention is very clear, I want you to influence your decision, it's not that I am talking like a gossip or you are not listening to me or we are talking anything.

No, in disaster risk communications I am communicating with you because I have a reason, a purpose and the purpose is very clear that I want to change your mind okay. So, your perception when I say that what I want to change you, what is that, your perception about risk one and also I want to change your attitude about preparedness. Suppose, if there is an evacuation, I first tell you that okay you are at risk because cyclone is coming and you need to evacuate.

So, first I need to tell you that cyclone is coming and that is true and I want to change your decision and then I want you to evacuate from that place okay. So, purposeful exchange of information in disaster risk communication is very important.

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**Purposeful information = different from  
NOISE !!**

- **“Message”** : Informer intends to expose the target audience to a system of meaningful signals.
- That may change their perception of the issue or the image of the sender.



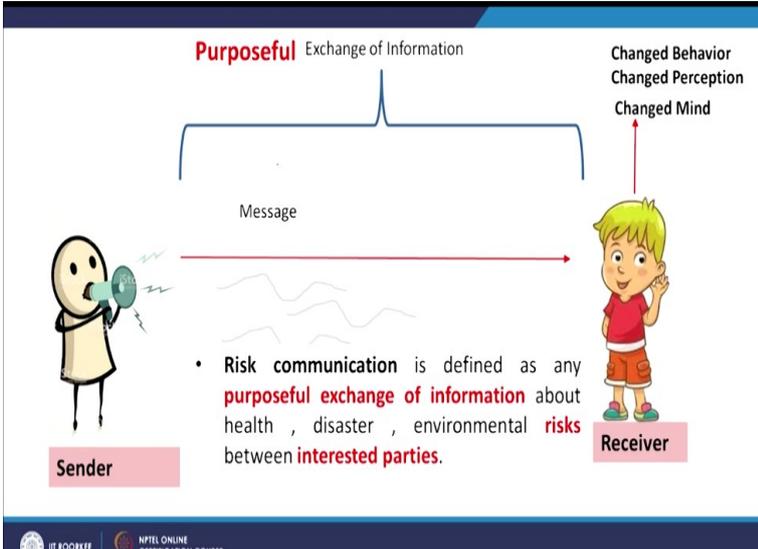
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Now, purposeful exchange of informations or purposeful informations, they are very different from the noise. When we say message okay, in that case, a receiver or the informer they intend to expose the target audience that is a receiver to a system of meaningful symptoms like I want you to spoon-feed, I want you to change your mind okay, is simply that I want to brainwash you, I want you to do what I think okay. That may change your perception or the image of the sender.

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**Purposeful** Exchange of Information



- **Risk communication** is defined as any **purposeful exchange of information** about health , disaster , environmental **risks** between **interested parties**.

Sender Receiver

Changed Behavior  
Changed Perception  
Changed Mind

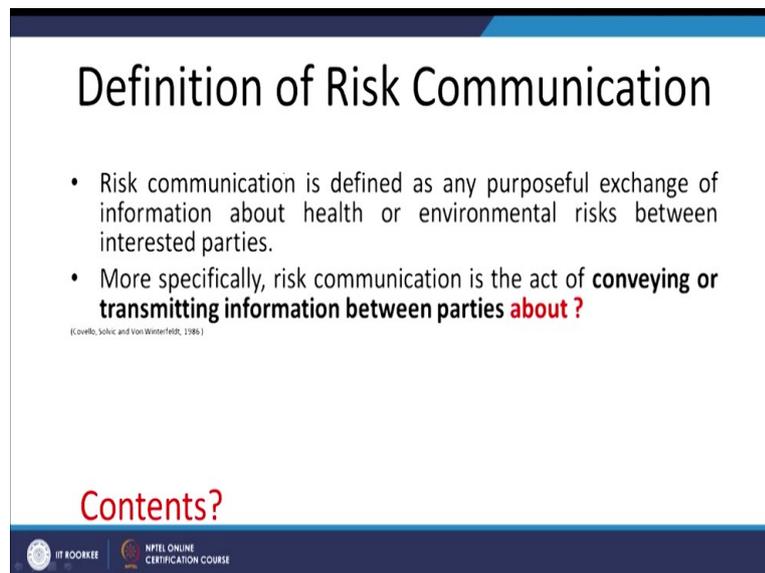
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So, purposeful exchange of information, so one sender is there and he would like to be or she would like to change the mind of the receiver in the way, they perceived the risk, their attitude about preparedness. So risk communication basically, primarily defined as purposeful exchange of information about some kind of risk. In our context, this is more about disaster risk but it could be health risk, it could be environmental risk, it could be other risk okay so between interested parties.

So, there are two interested parties; one is the sender and one is the receiver, they are affected, impacted by particular disaster or particular risk and they have an information exchange, purposeful exchange of informations and sender wants to change the mind of the receivers okay.

Now, this is the, there are many definitions of risk communications, of course, enormous number of definitions we have but just for simplifications, we can take one which is more relevant for our course.

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The slide features a title 'Definition of Risk Communication' at the top. Below it are two bullet points: 'Risk communication is defined as any purposeful exchange of information about health or environmental risks between interested parties.' and 'More specifically, risk communication is the act of conveying or transmitting information between parties about?'. A small citation '(Covello, Slovic and von Winterfeldt, 1986)' is present. At the bottom, there is a red 'Contents?' text and logos for 'IIT KOOBEE' and 'NPTEL ONLINE CERTIFICATION COURSE'.

And here, we took that was given by Covello, Von, Slovic and others in their study and they are saying that risk communication is defined as any purposeful exchange of information about health, environmental risk between interested parties. In our case, as I said it's not only environmental risk or health risk, it's also disaster risk. More specifically, risk communication is the act of conveying, is an act of conveying or transmitting information between parties.

So, it's an act of conveying some meaningful informations between two parties but when we are talking about that they are purposeful exchange of informations, okay. They are doing it, senders and the receivers. What they are talking about, what are the contents of that exchange of informations that we also like to know, in risk communications but what they are really talking about.

Let us look. When we are talking about risk, risk is a very funny word, very-very funny word; people want to know that who is at risk, what ecosystem will be hampered?

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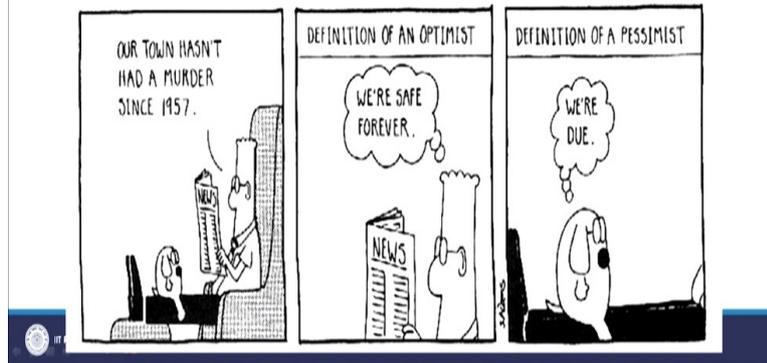


The slide features a blue header with the text "RISK ??". Below the header is a bullet point: "• Who or what ecosystem will be hampered". There are two images: on the left, a group of rescue workers in orange uniforms carrying a stretcher with a person on it; on the right, a graphic titled "WHO IS AT RISK?" showing silhouettes of people. At the bottom, there are logos for "IIT KOOBKEE" and "NPTEL ONLINE CERTIFICATION COURSE".

When you are saying that you are at risk because of the flood, because of the earthquake in this city, people do not want to believe you. They said that what do you mean that I will be in fact, who is who are I okay, who are you. So, you have to define that who, what extent this and this settlement and these people will be affected. Like, so people have different perceptions about risk, so that's why it is very important to know.

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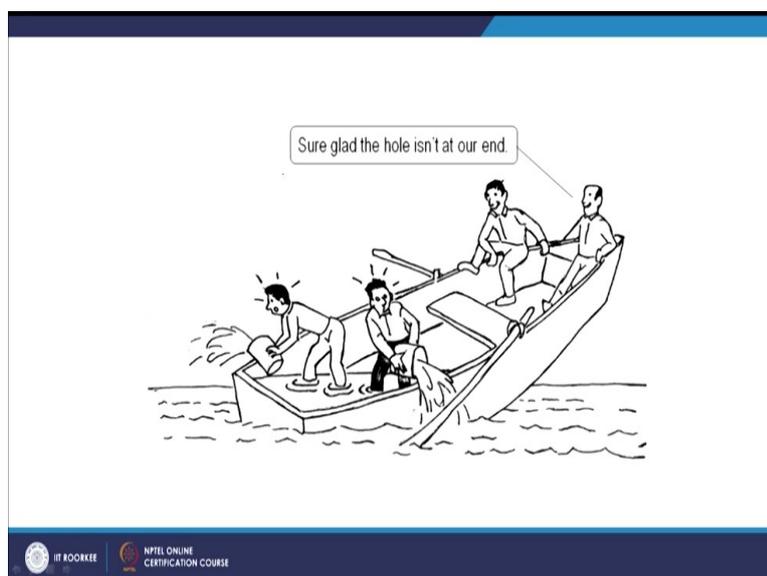
## Risk perception



Like, if there is a news that our town has not had a murder since 1957, there could be this news, simply this news or this idea of risk, people have two different perspective. The first person, if you look into the middle one, definition of an optimism of looking into this. We are safe forever, okay. So, he believes that we are safe forever because that our town has not had a murder since 1957.

So, reasonably enough to assume that we are safe enough but on the other hand a pessimist thinks that we are do, that means something is coming here, right that maybe next is me. So, they are looking in a very negative way. So, the stimulus is there, the same but two people have two different perspective or interpretations of the event of the stimulus. Similarly, in case of risk people have very different mindset of different way of thinking.

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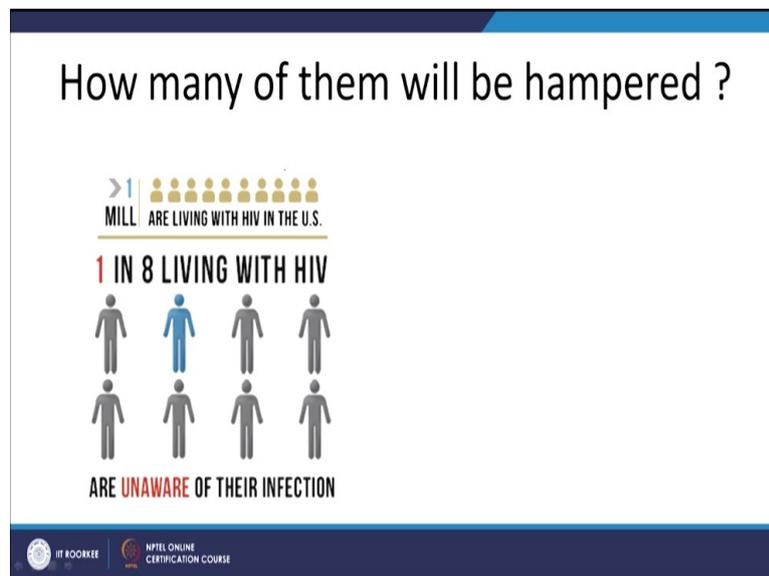


Here, look into this in this picture okay, you can see this boat is at risk but the person in the other end thinks that we are not safe, he is in the same boat, but he thinks that okay I am not at risk because the hole is not at my side, is in the other end. So, if something happened, I will not be exposed, I will not be impacted okay. So, who will be impacted, how will be impacted is very important for people.

So, when we are saying that the exchange of informations, what is the meaning of content of that, what kind of content they should discuss, of course, they are talking about risk but what is, what component of risk they are talking about, so that's we are talking okay. So, how many people, we will want to know that we were talking that earthquake is coming, flood is coming in your cities but I want to know that how and how many of us will be affected by that.

If you have given a cyclone warning, people want to know is it the entire city that will be affected or is it any particular neighbourhood or particular ward that will be affected, particular settlements will be affected in a city, in a village, in a province. So, is that how many of them will be affected is very important to tell people when we are communicating risk.

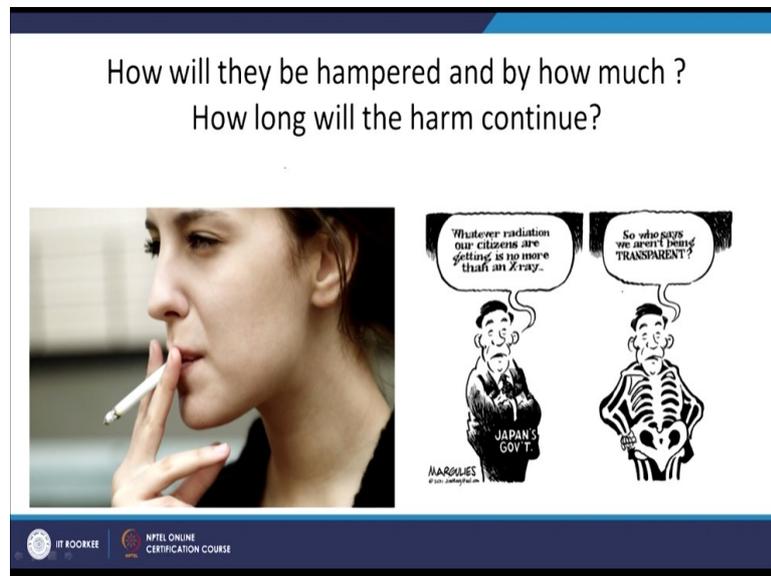
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Here is a very interesting data, very interesting data. Of course, it is not related to disaster but it's saying that 1 in 8 living with HIV in US they don't know, they don't know that they are infected. So, can you believe it? So, 1 in 8 living with HIV, they don't know that they are

infected. So, how many people will be affected, what extent is a critical important message risk communication should provide.

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And not only how many or what extent but people want to know, that how that will hamper me okay, what extent that this will continue, like she may be smoking, well I am giving examples is not only in disaster context, it will help us to understand the broader perspective of understanding the risk and risk communication. So, she is smoking. So, maybe we can discourage her not to smoke.

Now, the question is when we are communicating hard to quit smoking, she is under the impression that okay I know many people who are smoking but they are fine but I know many people who are not smoker but they are affected by cancer. So, it is not necessarily that only those who are smokers they will be affected by cancer but also those who are nonsmoker can also affected by cancer right.

So, how people take this data, this fact and interpret them is a critical question. So, when we are communicating risk, it is very important to tell people what extent, how extent they will be hampered by disasters okay. So, how will they be employed and how much and how long will the harm continue is important. In this cartoon, you can look that talking about the radiation issues that whatever radiations our citizen are getting is no more than an x-ray.

So, somebody may be talking about Fukushima or other nuclear accident and they may be worried about the radiation impact and so these government people, Japan government

people in a cartoon is saying that the radiation, the way people are exposed actually is lesser than when they are having x-ray. So, this is how people have different perspective about the risk.

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**Definition of Risk Communication**

- Risk communication is defined as any purposeful exchange of information about health or environmental risks between interested parties.
- More specifically, risk communication is the act of conveying or transmitting information between parties about ?  
(Covello, Solic and von Winterfeldt, 1986)

- **Levels** of (health /disaster / environmental) risks.
- **The significance** or meaning of risks.

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So, in case of risk communication, as I said, risk communication is a defined as any purposeful exchange of information about health or environmental risk between interested parties, more specifically it is the act of conveying, transmitting information between parties about what? One is, what is they will talk is the level okay, it's level of risk, what extent people will be affected and the significance and the meaning of risk is important content.

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**Providing Risk Information is Enough ?**

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But is it enough, if we only tell them the level of risk that what extent they are going to affected and what risk they are facing therein what risk is imminent, is this enough

information in risk communications? No, basically no. Why no, when we are saying that okay we have risk analysis and risk perceptions, there is another question is looking into risk management.

So, look into this, that first maybe some scientific aspect doing that risk analysis part but people have their own perceptions as I gave the example that how people interpret different risk in different ways.

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But also, that if you simply putting your ear that can help you to reduce this risk exposure okay, so these are important information. So, when we are talking about people that you are at risk, suppose we are telling them that there is an earthquake but a risk communication, only they tell about this risk or hazard, this is not enough. We should also tell them that what they can do, what measures, actions, preparedness they can take to protect themselves.

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So, if there is an earthquake, they can go under desk or furniture to protect themselves. So, this is just one simple example that how they can do it and this message should be given to the people. Like if there is a Tsunami, we tell people that okay, Tsunami is coming but if this information is not enough, it is incomplete information. We should also tell them that if they can evacuate to a higher place like these people is showing that okay, you can go to a higher place to protect yourself okay.

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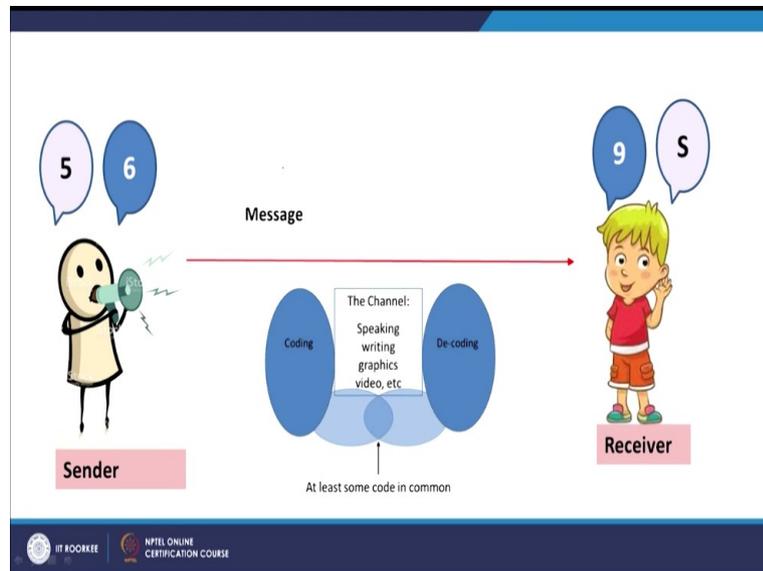
## Definition of Risk Communication

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(Covello, Sebick and von Winterfeldt, 1986)
  - **Levels** of (health /disaster / environmental) risks.
  - **The significance** or meaning of risks.
  - **Decisions, actions, or policies** aimed at managing or **controlling** health/ disaster/ environmental risks.

So, risk communications is the content between two parties about discussing one is the level of the risk, okay and the significance and the meaning of risk and also it is about the decisions, actions and policies aimed at managing and controlling the risk. So, these 3 components are important aspect of risk communications. Now, we are discussing about the risk communication definitions and core ideas.

Let us look what are the objectives of risk communications, what we really want to achieve from risk communication, where here is so we have sender and the receiver.

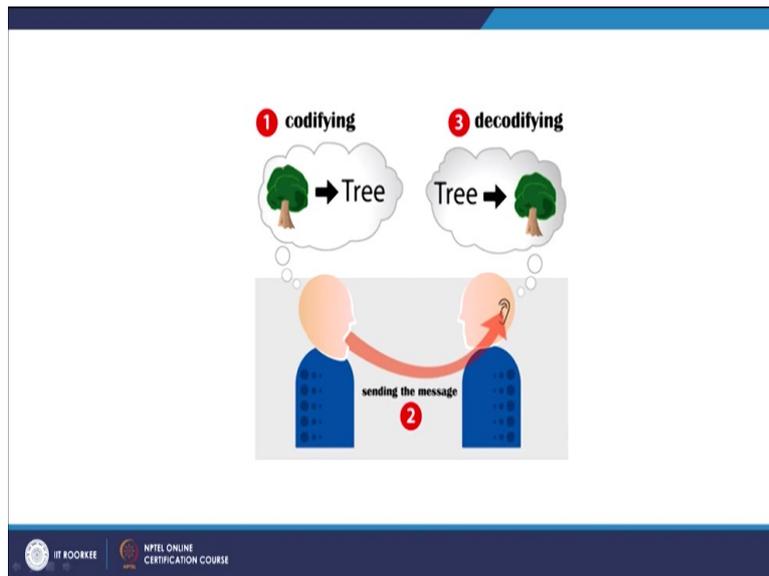
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And sender wants to send message to the receiver right, so it can be sent through coding and decoding. We can discuss this aspect, in later on another lecture but it should be sent through speaking, writing, graphics, videos through different channels right at least one and in this process there is a involvement of coding and decoding. Anyways, the important is that when the sender wants to say that okay I want to communicate with you.

So, if the sender is saying 6 and receiver perceives as 9 is different right. Let 's say sender is sending 5, want to say that okay this is 5 some code and receiver decoded it as S. So, what I mean, what I mean by the sender and what I understand is important in risk communications. If I am sending 6 and if you are considering it as 9, if I am sending 5 and if you are considering it as S then it would not work right, it would not work.

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So, when we are codifying, if I want to say you tree, you should understand after the coding is as tree, okay. So, sending the message from sender to receiver after coding and decoding should be same meaning, what I want to mean and what I understand should be same.

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An effective risk communication should have this component. Like here, you look into this very interesting cartoon is saying this lady is asking this person that why you have only 40% of your umbrella is covered? This person is answering because I receive an early warning today and is saying that there is a chance of rain 40% and that's why only 40% of my umbrella is covered.

So, this is so interesting, so what the sender wants to do and what the receiver is interpreting is completely different, although they are same right, they are same.

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Or if this lady having some challenges, physical challenges is at risk because there is a fire and now you are saying to him that don't use the staircase because it is in fire. Then, she wants to say what, should I commit suicide now.

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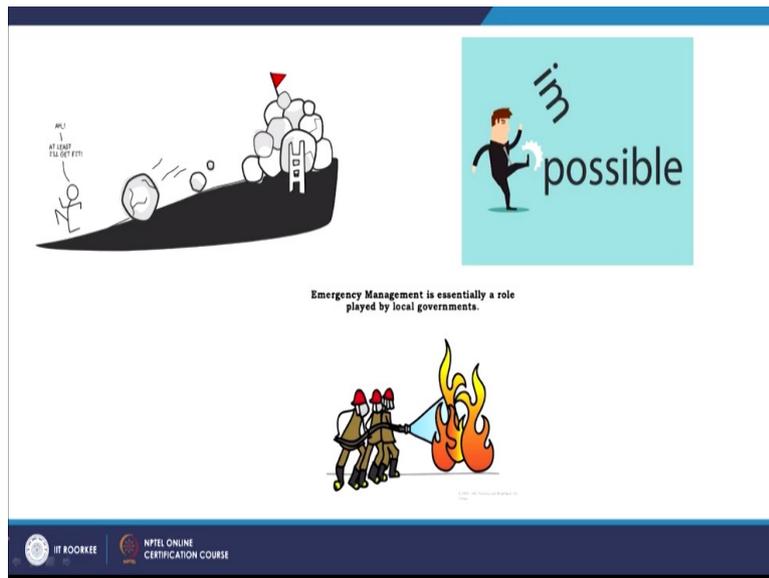
## Objectives

1. To make sure that all receivers of the message are able and capable of **understanding and decoding** the meaning of the messages sent to them.
2. To persuade the receivers of the message to **change their attitudes or their behavior** with respect to a specific cause or class of risk .
3. To provide the conditions for a **rational discourse on risk issues** so that all affected parties can take part in an effective and democratic conflict-resolution process

The slide includes logos for IIT ROORKEE and NPTEL ONLINE CERTIFICATION COURSE at the bottom.

So, in case of objectives of the risk communication; one of the critical objective is to make sure that all receivers, all receivers of the message are able and capable of understanding and decoding the meaning of message sent to them. So, when senders are sending message to the receiver, they should able to understand and decodify the meaning that sender sent okay.

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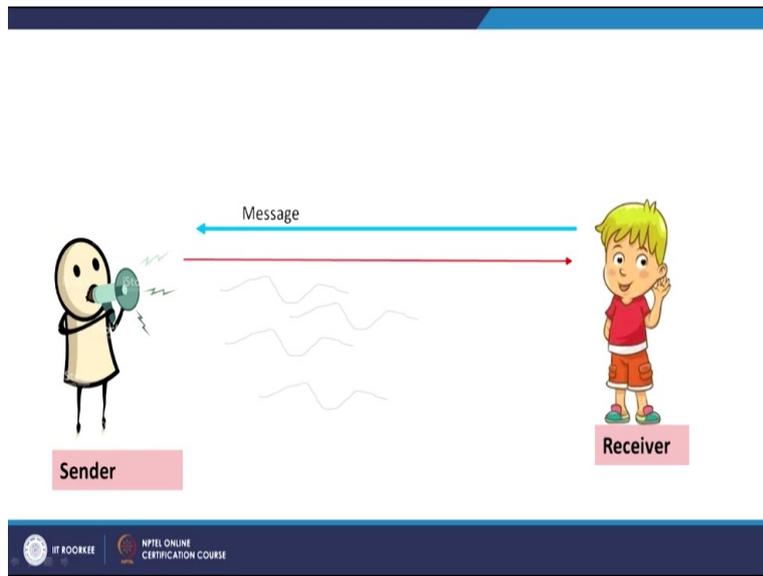
The message should be very clear and second objective is that when senders wants to send the receiver some message about a particular risk or a kind of some preparedness message.

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He wants to change the attitude of the person okay, is changing attitude is one of the critical component of risk communications. So, senders when sending the informations, he wants, he or she wants to change the mind of the receiver and changing their attitude to persuade the receivers of the message to change their attitude and their behaviour with respect to specific cause or class of a risk.

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Another important aspect, when sender is sending informations to receiver, receiver will be same time able to feedback what they understand, what are the questions, concerns they have to the senders.

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So, it should be in a more democratic reciprocal process, like we can share our concerns in a summit or maybe in just in a village meeting. So, one of the key component, objective of risk communication, disaster risk communication is to provide a condition of rational discourse on risk issues, so that all affected parties okay they can take part in an effective and democratic manner for conflict resolutions.

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## Understanding Risk Message



If you have different opinions, you can share and you can resolve this conflict and come into consensus or agreed decisions. So that's all for today's lecture, this lecture, so thank you very much.