Hello everyone I'm Mrs Ishani Roy, associate professor of geography, Government college of Arts and Commerce, Vinoda, Pernem. Today my presentation is on Disaster Risk Reduction, warning signals and communication.

The outline of the session will be introduction, warning systems types, communication, system, conclusion and reference.

The learning outcome; understanding the concept of disaster mitigation, identifying the disaster risk and need for warnings and will be able to apply the knowledge. all these concept,

.Let's start with the introduction. Disasters are major catastrophic events, caused by vagaries of nature, often aggravated by human interference and affect natural resources as well as human habitats. Disaster can be mild. It can be intense. It can be predictable. It can be unpredictable, but all are causing havoc to life and property. Disaster of all types impacts heavily on the growth and development of the national economy.

Hence, there is a need to develop an efficient system of prevention, risk reduction, and mitigation. This is very very urgent need for all the nations. What is that efficient system of prevention, risk reduction and mitigation? While natural disaster cannot be prevented like earthquake but with the advanced technological knowledge the effects can be reduced through timely warning. For example, nowadays technologies help the cyclone to track so that enough time the nation has, the area has, the administration has to relocate the people from the vulnerable or the threatened areas. Many man-made disasters can be prevented also through holistic planning implementation and proper communication warning signals. .These are warning signals and communication.

These are the two vital and crucial components in the application of disaster risk reduction and mitigation.

Warning signals; the term warning is used to describe the provision of information on an upcoming disaster upcoming, which can be or which will come in the future possibilities where this information can help to take action in advance to reduce the risk. An early warning system

consists of timely and meaningful warning It should be timely and meaningful. Warning information of the possible extreme events or disasters like for flood, earthquake, draught, tsunami etc. which threatens life, should be timely and meaningful. I told already it should be timely and meaningful, when the flood is coming the people should get the signals much before that. The purpose of this system is to enable threaten people to prepare an acting time to minimize the possible risk.

For example, relocate the people from the threatened areas. The degree of risk reduction depends on accuracy of the warning. How accurate the warning is. The time gap between issued warning and the onset of the disaster is very important. The warning should not come within one hour of the disaster. There should be some gap so that people are getting time to prepare themselves to relocate.

The state of pre disaster planning and preparedness. This is very important. The administration should have a disaster plan and ready for the disaster so that in time they can help the people.

Elements of early warnings. There are some elements.

First one is risk knowledge. Risk assessment provides essential information to plan priorities for mitigation and prevention strategies and design warning system.

Number two is monitoring and predicting systems. With monitoring and predicting capabilities it provide timely information of the potential risk faced by communities and environment. These monitoring and predicting system include also some tools like GIS rather and other things which can help to predict the capability, specially satellite images information. Disseminating information communication systems are needed to deliver warning messages to the potentially threatened groups. For example, who stays near the coast, who stays near the river or near the earthquake zone. This is response coordination, good governance, an appropriate action. Plans are vital in effective early warning, so early warnings for disaster reduction are a must for public policy as it involves protection of life and resources.

So each nation or the country should have the warning system of disaster reduction as their public policy.

Next component is **communication.** An effective early warning system needs an effective communication. Only warning system is not enough. It should be communicated to the vulnerable people or the groups and the administration also. So the early warning communication system are made of two main components, first, **reliable and strong communication infrastructure hardware** which needs to be used during disaster. It should be very strong and reliable and

B. **appropriate and effective interaction** among the concerned people of the warning process is like scientific community, stakeholder decision makers, the public and the media. All should interact properly in time. Many communication tools are available for warning communication like short message service, SMS, email, radio, TV, web services. All should be used in time to communicate the warning to the people and to communicate between the administration and to the people. Information and communication technology is a key element in early warning system ICT plays a vital role in disaster communication and dissemination of information to officials in charge as well as the public.

So we can conclude in conclusion that warning system is obviously a crucial aspect for disaster mitigation and management It definitely depends on the efficacy of learning sequences and the capability requirements. It also needs a thorough study by the concerned authorities who are responsible for. One **wrongly transmitted**, very important word, or recorded message can disrupt and derail the entire warning process. So highest priority should be given to intense training and to involve experts as well as dedicated professionals in the entire process of disaster mitigation.

For my presentation I have use this following references. So students can go through my references and learn further.

Thank you all for listening to my presentation. Thank you.