Slide 1: In the last class we were discussing about the different types of weather forecasts and methodology used and how they are being utilized for the benefit of the farmers. Here I like to raise one question, you may also raise your question on this. Comparing the European countries our forecast is not so accuracy, you may ask a question on that, I can say answer for that. So we are in the equator, here the weather system is always under turbulence. But in the case of the European, Western countries the weather system is very-very calm. So whatever forecast they give, it would be around 100% in reality. But since our forecast is being develop under equatorial situations, the weather system is not at all stable, it collapses, it move... changes, like weather it gets changes. So our whatever forecast, we try to precisely to be given, it may not be 100% accuracy, it is maximum, under now costing it is around 90% accuracy.

Slide 2: For today's discussion, let me continue on the same topic, how to integrate the different weather forecasts. Now here question has come, sir we have different types of weather forecast, if it is given under isolated condition, will it be useful to the farmers, the question you may asked, the question is very-very relevant. It must be integrated for better utility by the farmers of India or any country. So integration means, integrating your long-range forecast, your medium range forecast, your short range forecast. so that farmers can take farm decisions and they can improve their input efficiency, they can increase their profitability, and everything, and how it should be done is to be discussed today. Now let me say the integration means, you will be knowing what is integration and everything, integration means integrating long range, your medium range, and short range. Have been given to the farmers from a single source with agro advisory in temporal dimensions, very-very important, single source and temporal diamonds. See we were seeing in the last class, now casting is given by IMD, short range weather forecast is given by IMD, long range is also given by IMD, medium range by two organization IMD as well as TNAU, seasonal climate forecast is given by your TNAU. So if these information are delivered from two source means, farmers may not be very interested to implement the agro advisory given by these organizations. So we have to integrate, but only the IMD must undertake the responsibility of giving all forecast information to the farmers and that too in temporal basis. First they give long-range forecast, what will be the anticipated seasonal rainfall, they will be giving first, lead time is about 45 days then farmers thinks that oh this is the rainfall, we are going to get it, then we have to take some decisions, that we will be discussing later. Then after the season has come, the IMD will give medium range weather forecast, what will happen in 3 to 7 days, in the coming days, then farmers can modify certain farm operations. And if they give short range within the 3 to 7 days, 1 to 2 days arrange, then farmers retune or refine or retake their decision and taking appropriate farm decision to reduce the crop protection bricks and farming conditions, that we will be discussing for today.

Slide 3: Now forecast types and farmers decision to be taken under integrated forecast, suppose long range, single source, your IMD to be nominated, then when the long-range forecast is given in Australia they call it as response warning. So when long range forecast is given, 45 days alert every season, what the farmer can decide, oh if drought comes you can decide how many acres to be cultivated. In Australia they say that if drought comes means, against a 10,000 hectares, they go for cultivation thousand hectares only.   So they reduce the risk by decreasing the area under cultivation, then what are the crops to be selected. If it is a flood zone, the flood tolerant crops to be selected, if the drought comes, then drought tolerant crops to be selected, and also technology be to select that according to the forthcoming seasonal rainfall, in the way I say crop planning, land's planning can be done very effectively by the long-range weather forecast. And also you can procure your input according to the selection of the crop, according to the selection of your technology, based on the long-range forecast, 45 days in advance or the season comes, this is very-very important. Once the season has come, the IMD will give medium range forecast. So land preparation, when to be done, season has started, the rain may occur. See we have studied earlier in the class that long range forecast has accuracy up to 60%, medium range weather forecast has about 70%. So the farm decision can be taken according to the medium range weather forecast, so land preparation, sawing, fertilizer application, and plant protection. So whatever decision taken earlier through long-range forecast can be modified precisely with the forecast from the medium range weather forecast information. Then after that within the 3 to 7 days they will be issuing the, your IMD short-range weather forecast, by that harvest, when rain comes postpone your harvest, when rain comes postpone your water management or irrigation, when rain comes don't do plant production, like that, you can take tour decision accordingly. So this is the integration of the weather forecast to be received from the organizations.

Slide 4: Now I have put in figuratively, priority of communication. Farm decision under integrated weather forecaster or through single window. Single window means IMD, India meteorological department. So first is long-range, then long-range or climate, your seasonal forecast, medium range, and short range. Now long-range is given, your seasonal crop plan, and the management. This is very-very important. Our farmers are yet to come to take decision like this, but in other countries, especially Australia, America, in other European countries, everywhere once the seasonal rainfall is informed, people undertake such activities. This is very-very important. Thereby you can reduce your risk, you can also increase your input deficiency also. Then the second one is medium range weather forecast, farm operation decisions, already we will be knowing whether sensitive farm operation, weather sensitive crops, weather sensitive stages, accordingly the weather forecast information can be used then finally short-range retuning or re-modifying

earlier decision taken under medium range weather forecast. So you are refining your crop planning or farm decisions according to the forecast, thereby you are trying to reduce the crop production risk. So with this I close this class. So all along we were discussing about the weather forecast types and how best it would be utilized for the benefit of the farming community. Thank you very much, we will meet in the next class.