Slide 1: Welcome to this class of very interesting nature. In the last few classes we had discussed about weather forecasted types, methodology used, and how best it can be used for developing your agro adversaries. Now I like to discuss today on traditional knowledge on weather forecast. This is very-very important. When you give important on scientific weather forecast for preparing your agro advisory, we have our own developed information over generations are available, that also could be used effectively along with weather forecasts to prepare your agro advisories. So what I like to say is, you mix this traditional knowledge with scientific weather forecast and developer your agro advisory, that is my request. Thereby the preciousness of the agro advisory getting improved. So we like to see something on, then why this is very-very important traditional knowledge, given that observation over generations, so many generations, one generation means scientifically 25 years, over generations we have accounted. So when observation is seen by the so many generation means it is true, it is getting repeated, it has got lesser coefficient of variations. Many have scientifically valid, can be considered as a tool, along with scientific weather forecast for taking farm decision. This is the final output we anticipate from the traditional knowledge. In the case of the traditional knowledge, like in the science weather forecast, short range, medium range, and long range, people have already did the excellent work on this aspect in our villages. So I like to say something on the short range indigenous traditional knowledge. There will be heavy rainfall. If the rainbow appears on the eastern sky at the time of raining, if it is on the western sky, there will be no rain. Maybe location-specific, maybe state specific, maybe country-specific, but this information can be utilized for the concerned location, concerned state, or concerned country. This is the important, I like to offer.

Slide 2: When the crab comes to the bund, it may rain, because it comes out of their hole, thinking that stimulating, it has a stimulus that rain is going to come it is going to fill its holes, or there holes, so it is coming out, so rain will come. Red clouds in the east sky, it may rain in the next day, short range, 24 hours, what we have study in the short range scientific weather forecast, it is going to rain. Frogs croaking in chorus, not single, chorus, too many frogs, yes quite of croaks, day croak, then it is followed by rain. When dragon flies fly down, it may rain. That there will be rainfall within a day or two. See it is a shortage forecast. Already you have short range weather forecast received from the institution. They say that tomorrow you may get rain. Immediately you refer the indigenous knowledge collected for the particular area, and try to confirm. So definitely tomorrow the rain will come. So it is a supporting tool to take your weather forecast for tempering your agro advisories. Again there are many short range information, increased mosquito bites predict right, this is true and water stagnation is there, it gets multiplied then so many mosquitoes come out and it bites. So it says that rain is going to come or has come. So anticipating that the mosquito, this permission is developed. Dense fog in the early morning indicates no rain.

Fog means suspension of water droplets in the atmosphere, especially above the ground level, that means that already abundant moisture is available at the ground level, hence no rain is anticipated. See these information after many observation made by many people or generations. Then if there is an accumulation of clouds in the south east direction in a layered form, layer, first layer, second layer, third layer, fourth layer, like a sandwich, occurred when wind is blowing from the southern direction, then it is claimed. So if there is a swelling on the lower portion of the camel's leg, this is true for Rajasthan area, then rainfall is predicted by the farmers. The swelling are probably caused due to higher relative humidity. See how average is related to the rainfall, that we have discussed earlier in our last lessons. So like way, you try to collect short-range indigenous knowledge from local area and try to practice yourself for predicting your weather also in addition to getting the information of scientific weather forecast.

Slide 3: Now medium range ITK, that is medium range 3 to 10 days, earlier 1 to 2 days, the closer circle on the moon, closer circle to the moon, the nearer is the shower and vice versa, nearer uncertainty, may be five days, maybe six days, maybe seven days. So it is un-quantified terminology. If snail climbs certain trees, there will be no range. This is another observation made in Kerala and other states, where snails are more.   So these information we can get it under medium range weather forecast. The earlier class, I was saying that when tree flowers during may, then the south west monsoon in India would be very prosperous, would be bountiful, that means, because of the advanced increase in (inaudible) before the start of the season in the atmosphere, the tree gets flowered, are rich in the atmosphere. Similarly in the case of Rajasthan also the camel gets swelling in the leg.   These are all some very interesting information, if you give scientific whaling, I think those carries very-very validated information.

Slide 4: Then long-range ITK, short range, medium-range, and long-range. If the… this I discussed earlier with you people, see lapwing bird, Tatihari bird, it is available anywhere, lapwing bird, if lays eggs on the higher portion of the lake bund or on the top of any structure, the coming season carries heavy rainfall. See how the bird gets information in advance. So if I lay the eggs in the ground, it may get damaged, it may get submerged, my generation may not come, so fearing that it lays egg over the bunds escaping from the… your damage from the flood. The coming season carries heavy rainfall. If the same bird lays eggs on the lower side of the tank or on the floor of the tank, drought is anticipated. How the bird knows like science, they are all scientific birds. So farmers or old people, they observe the behavior of these birds and they are able to develop such indigenous knowledge, This is a very-very important for developing our forecast. Then further it is also believed that if a single egg is laid by the lapwing bird, then there will be a rainfall only for one month. See spatial and temporal forecast. This is a temporal or spatial, you can take anything else, you can appreciate.

One egg means, you have South west monsoon for four months, June July August September, 1 egg means 1 month, 2 eggs means 2 months, 3 eggs means, it means 3 months, 4 eggs means 4 months. How the load is related to the occurrence of rainfall or months. See the the stimulus of the bird is, when rainfall would be more, the food would be more, then they can put more eggs or something else, so positively related with this event then continued, if the clouds thunder on the first day of mid April, there shall be no rain for 72 days. So these are all some observations made earlier, this could be rightly used for validating your scientific weather forecast or also as addition to develop your agro advisories. So like that, if crow cries during night and the fox howls during the day, then there would be a severe drought. This is all anti-activities. Normal crow flies in the morning, daytime, they sleep in the night hours, but they awake in the night and make cries means something is happening, everything is against nature, then it indicates that drought is going to come. So then some dragonfly, which appears generally in the rainy season are observed to swam, swam in large group or water surface, they go to the water surface, then dry weather is predicted, if they swarm on dry lands and fields, so these are all very-very important information to be collected and to be used along with your scientific weather forecasts. What I like to say is, the indigenous knowledge is highly valid as like that of your scientific weather forecast. So you develop your agro advisory, based on these two then your agro advisory will be highly useful to the farming community. With this I close this class, let us continue something wonderful in the next class. Thank you very much.