agMOOCs

Development and Component of agro advisory for weather forecast-contd.

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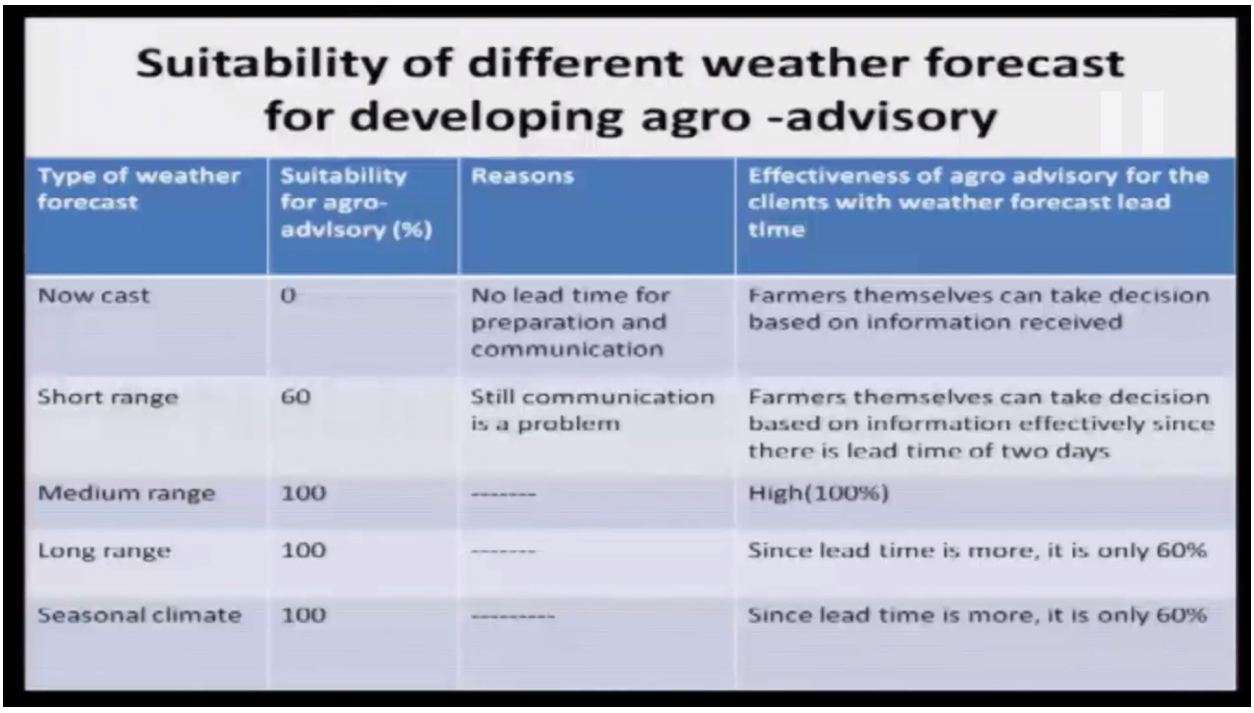
Okay friends, today I'd like to continue the subject that was discussed yesterday. As we discussed yesterday, I feel that it is a noble cause activity. Which is noble cause activity? Preparation of agro advisory based on the weather forecast. It is a skillful activity. Yeah, I say skillful. Skillful means you must have knowledge and the ground reality situation. Unless you do not know the ground reality situation of the crop, their stages, crust and disease load and other aspects of crop management, it is very difficult to prepare agro advisory for the benefit of the farming community or any other industries.



Suitability of different weather forecast for developing agro -advisory

Type of weather forecast	Suitability for agro-advisory (%)	Reasons	Effectiveness of agro advisory for the clients with weather forecast lead time
Now cast	0	No lead time for preparation and communication	Farmers themselves can take decision based on information received
Short range	60	Still communication is a problem	Farmers themselves can take decision based on information effectively since there is lead time of two days
Medium range	100	-------	High(100%)
Long range	100	-------	Since lead time is more, it is only 60%
Seasonal climate	100	---------	Since lead time is more, it is only 60%

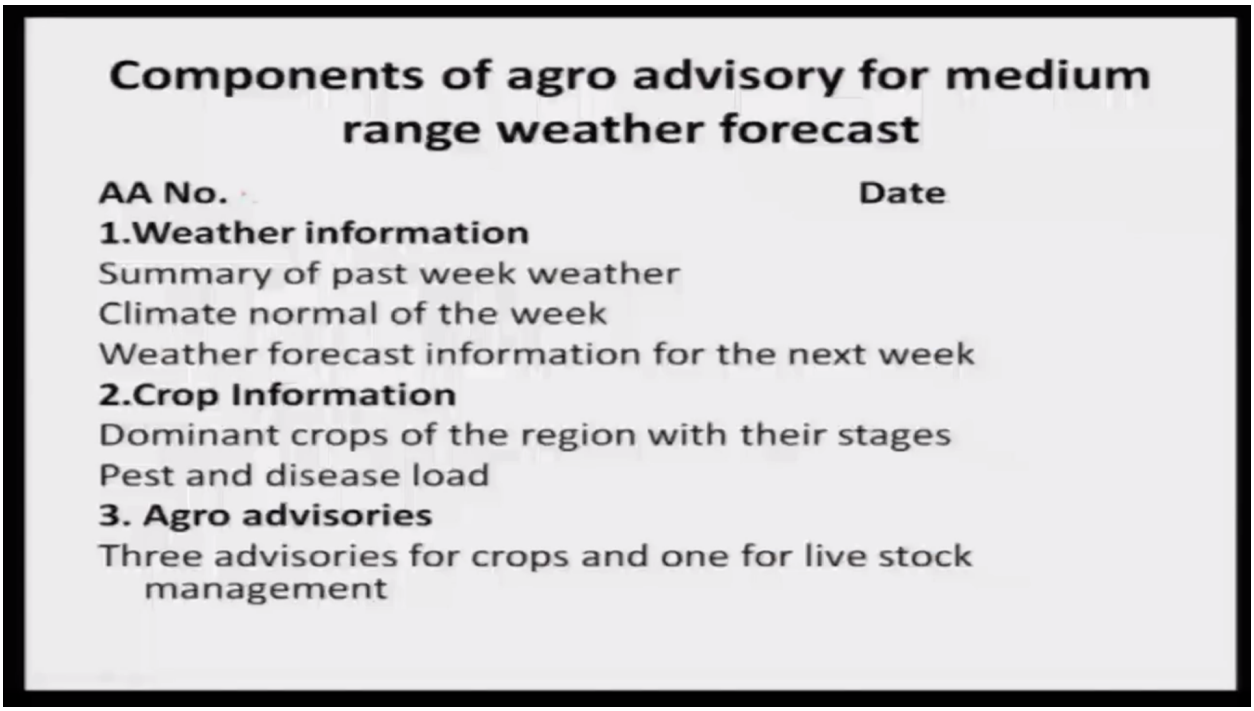
Now let us go discuss something else. We have studied many weather forecaster types in the last class, like now cast, short range forecast, medium range forecast, long range forecast, seasonal climate forecast, why not. Whether these forecasts are amenable for the preparation of agro advisory. If you raise such a question, for now cast I say, no lead time for the preparation and communication, because now cast is for another one hour, what will happen in the next hour, so you do not have enough time to prepare and communicate to the farmers. So in this case, the option is farmers themselves can take decision based on the information received. Only in case studies, I can give for this now cast. Well now cast on the hail occurrence is given to the farmers of the Nilgiri district of Tamil Nadu one hour back. The farmers did operate their sprinkler irrigation so that a strategy has been developed to face the challenge from the hail. Farmers who did the sprinkler irrigation, they were able to escape from the greater damage from the hail that occurred, but farmers who did not do it, their entire crops have been affected. This is a story. So they have to listen, farmers must be very quick to take their decision here. So from scientific institution, it is very difficult to give the agro advisory, only at the grassroot level of the farming community, they can take their own decision.

Then short range, this is for 60%, this forecast can be used for the preparation of agro advisory and also communication, because the forecast is being given for one day with an outlook for another one day, so 48 hours are available. You can prepare, and immediately you have to communicate to the farming community, so still there is a communication problem. Even then

farmers can take their own decisions in addition to our spontaneous release of the agro advisory.

Medium-range, highly useful. There is European medium-range weather forecast center, in the European countries. They give the agro advisories but in my last class I was telling that agro advisories or weather forecasts may not be highly useful to the stable weather system that prevail over European countries, but it is highly useful to our tropical situation, however European countries, they give forecast on our frost and everything, it is partly successful there also. Now in the case of India and other tropical countries, the medium range weather forecast is highly useful for the preparation of agro advisory as well as communicating with the farmers, because it has got a lead time from three to seven days.

Coming to long range can be 100% level. Seasonal climate can be 100% level. Since the lead time is more, it is only 60%; since the lead time is more, it is only 60% effectiveness I say. What is effectiveness? When we were studying about the different types of forecasts comparing with the efficiency of the forecast given, the long-range forecast has 60% efficiency where short range of forecast has got 90% efficiency. So with the lead time means more means whatever you do, it has got a little practical application rather than, though it allows fully for the preparation of agro advisory and they also to communicate to the farmers.



Now the other important trend, we have studied something on the agro advisory. What is the format to be used for communicating agro advisory?

This is very, very, very, very, very important. Unless you have a standard format, you can't prepare a standard agro advisory. I say, today you will prepare one format, tomorrow you will prepare one format, formats may get confused. That must be standard. That standard we like to discuss.

One is what is the agro advisory number? It starts from January but it can be started based on irrigation year or based on agriculture year, based on calendar year, based on your metrological week, anything else, but you must have a standard sorting number and also put state, date of your preparation of the agro advisory, but the basic thing for the preparation of agro advisory is weather forecast for the next five to six days. That you have to understand, and he ought to consider crop weather interaction, you have to consider indigenous knowledge that are available at the local level, and you have to consider the thumb rules also, and also you have to consider your experience, you have to consider the analog years, what was happened, then you're your agro advisory will be highly useful to the farming community.

First, weather information, what are the information we like to provide under weather information, summary of the past week weather of your particular region, of your particular district, of your particular block. What was happened, what was the amount of rainfall received, what was the wind speed, and what was your maximum temperature, what was your minimum temperature, what was the cloud cover, what was your relative humidity, like that. What happened in the past week must be given in quantity manner, or also in quality manner. If it is in quantitative manner, farmers are able to understand very well. So this is required.

Then in addition what is the normal climate of the week, this is very, very important. How to compute a normal climate? We have discussed already you how to take 30 years data on all these other parameters, rainfall, maximum temperature, minimum temperature, relative humidity wind speed, wind direction and cloud cover. So this ought to be computed based on you were past 30 years data, maybe for week, maybe for month, maybe for a decade analysis, or maybe for days, anything else, but the week is better. So take normal for week and provide here. So if you find the difference, this is the normal of your particular week, but last week in reality, this had happened, so you are able to say pursue the weather situation.

Then there thirdly you consider the weather forecast received from the institutions for the next five days. So you consider past, you observe your normal, and also you consider the next forecast, then you have the good knowledge on the weather situation of your particular district or block our particular area. Then you start the preparing your agro advisories. Collect your crop information in reality, what are the dominant crops of the region, where you like to provide your agro advisories, what is a crop changes,

whether the crop is a sensitive to weather, whether the present stage is sensitive to weather, whether the crop has any present disease, whether any drought situation occurs, and rain and agriculture, so you collect all ground real information from your action centers or actions and officials. You must have a network with them, then only your agro advisory get validate data very well. So this you have to understand, you have to maintain document, you have to have a linked with your actions and department.

Then after that I propose or we propose for this week, I like to produce three agro advisories for dominant crops, food crops. Within the dominant crops, you touch into your food crops, then also one agro advisories for animals, that also very, very required.

Then coming to the next stage. So in general, I have given, weather information you are collecting or you are getting, then you are getting the real situation crop or dominant crop stages, pests and diseases load, then thirdly you would like to prepare three agro advisories for crops and one for animals. Now in India I you like say one thing, we have the peak meteorological organization, India Meteorological Department. It is a renowned institution in India where there was a center, National Centre for Medium-Range Weather Forecast. It was functioning separately earlier. Now it get fixed with our India Meteorological Department, so New Delhi. They run global circulation model. They have supercomputer. So they get the weather data around the world, all the optical system, they collect all data, and every circulation model is going on around 24 hours, so they develop the weather forecast for five days and for each districts of India, and they communicated to concentrator, your regional meteorological center.

If you if you see the administrative of India Meteorological Department, on the apex body at New Delhi, and there's six regional meteorological centers, below that there are state meteorological centers, okay. So when the forecast is prepared for the next as five to six days. It is being communicated to the regional meteorological center. Under that center many states are being under control, so after receipt of the weather forecast from the New Delhi, they smoothen for the local state's conditions.

Weather experience, by analyzing the past data, this smooth model gives rough idea. It may be nearer to the actual things to be anticipated, but they smoothen by their experience and past data and they communicate to the concerned agro met field units, first New Delhi, comes to the regional meteorological center, then agro met field units. This agro met field units are available are is positioned by state agricultural city or ICR institution or State Veterinary and Animal Science University. Many are going, even NGO also being involved. So each institution has his agro met field units.

Presently, we have at the agro climatic zonal level. so one soon agro climatic zone level agro met center is receiving the weather forecast, it receives weather forecast not only for that center alone, but the whatever the district center that control of the agro climatic zone, there is even the weather forecast. So suppose for example the agro climatic zone is where agro met field unit is there. The agro climatic zone has the four districts means this agro met field unit gets weather forecast for four districts.

So after seeing that they can be expert people, one agronomist, one plant pathologist, one entomologist, one physiologist, or whatever may be the resource, they convene a meeting on every Tuesday and Friday and they analyze the weather forecast received from the regional meteorologist center and also, they analyze the data received from western centers on crop position, stage and present disease load, they prepare agro advisory.

Then communicated daily web and television and also SMS through mobile, because they have gotten the mobile number from farmers and those are being linked to our computer, so when message is printed, and okay, if you put to pass on, automatically the high related message that will be seeing later, that we will be seeing farmers to take the message that we'll be seeing later will be communicated to the farmers to take the decision to adopt. So in this way, this system is being operated.

So this is enough for today's class; in the next class we will continue some more things on this aspect. Thank you very much.