Round Table on Artificial Intelligence (AI) in AIGGPA

A Round Up by M. K. Tyagi,
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A round table was organised on AI under the chairmanship of Director- General of the institute on 27th April 2019 in AIGGPA. Joint Secretary, MoA Shri Vivek Agarwal participated from Government of India. Director, Mandi Board, Shri Faiz Ahemad Kidwai participated from Department of Agriculture. Shri Vikram from Mumbai, running an agri-start up and conducting the study, made a presentation on the learnings of pilot project done on 'Artificial Intelligence' for Mandi Board.

Director-General welcomed and introduced all the participants. He highlighted the importance of the use of new age technology (AI) in price predictions of agricultural commodities in the state.

Shri Vikran gave a background of the project and shared learnings gathered in the project so far. He started sharing the data sets used in predicting the prices of some important agricultural commodities for major Mandies in MP. He told the audience that some of the important attributes included in the pilot include- demand and supply, Mandi prices, international prices, Volumes etc. He also clarified that data points included not only the numeric data sets but also the supply, wealth and other quality attributes.

In response to this, joint secretary, GoI, pointed out that base price in Mandi is also affected by the presence of the processing facility of the commodity in the neighbourhood and its distance from Mandi. According to him, crushing capacity of such a facility also affects the opening base price in nearby Mandi. He also emphasized about the role played by transportation in determining prices of different commodities in different Mandies.

On the interval, at which the price predictions should be made, Mr Vivek Agarwal was of the opinion that short cycle price prediction does not help the farmer much because he cannot use this information in his decision making process. Seasonal or annual price prediction shall be more useful from the farmer's and policy planner's point of view. Then farmers can take the decision about which crops to be grown in the next season.

On the choice of crop selection, Joint Secretary, GoI, suggested that it is advisable to select first the crops which are traded on the forward market. There is a hedging mechanism in the trading of these crops and the presence of hedging balances the prices of these commodities. Consequently, in such crops there is less volatility in prices. In doing so, farmer's risk shall be hedged to a great extent. He also suggested that data sets on weather prediction from ISRO/Plancet /Sentinel, which are being used for crop

forecasting (area and yield) presently, can also be integrated in the present algorithm to give better prediction on pricing. This will help the farmer in deciding his cropping pattern in advance.

Mr. Agarwal also brought into focus another fact about pricing. He informed the house that it is the first bid (pehla sauda) offered at the start of the season which is important as it sets the benchmark price for rest of the season. Prices stabilize in about 10 days of opening of this initial bid for the rest of the season. So he advised the start up to consider predicting prices in the beginning (for Pehla Sauda), prices during the season and price prediction for post season sale.

Mr. Faiz Ahamad Kidwai brought another dimension to price prediction of agricultural commodities. He informed that in certain crops, price is regulated by a few dominant markets. He said in such crops, it is important to take data sets from such markets too for the purpose of price prediction by using AI.

At this stage Project coordinator wanted to know whether it would be useful to predict prices at Mandi level. Forum after deliberations agreed that it is better to predict prices at state or regional level or at best at 11 agro climatic zones level.

In the end Joint Secretary, GoI, suggested including the following data sets, if available, to be used into present logrithism for the price prediction by using AI:

- Demand and supply
- Quality or grade of produce
- International prices
- Available local capacity for processing
- Distance of facility from Mandi
- No of licensee traders
- Consumer price index for retail prices of the commodities
- Input cost factor data
- Crop forecasting data

At last joint secretary suggested developing a hedging product for the farmers from the point of view of risk mitigation.