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SMART AGRICULTURE

'Drones can help farmers increase productivity'

Prof. David Halliwell talks about smart agri techniques.

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In the Indian economic scenario, agriculture plays a major role, contributing around 20% of the Gross Domestic product (GDP). However, compared to other nations, the per acre productivity is, on an average scale, below par. This is majorly because the sector is yet to catch up in terms of technology usage and basic facilities available to farmers in other parts of the globe.

Prof. David Halliwell, Director of Centre for Regional and Rural Futures (CeRRF) at Deakin University, Australia, spoke to The Sunday Guardian about the benefits of adoption of "Smart Agriculture" techniques into the Indian agricultural system. Excerpts:

Q: The Indian economy is still mostly a rural and agrarian economy, yet India is dealing with farmer distress and low productivity. What smart agricultural ways can India adopt for better farming?

A: There are a number of technologies we are using back in Australia and I am sure even here the government is working towards improvement of the farming community. As far as technology is concerned, we (Australia) use technologies like the remote sensing technology for better understanding of the farms, predict irrigation patterns and resources required. That's probably one of the simplest and easiest technologies. In Australia, we are also using drone technologies with sensors for a number of things like understanding soil texture and its nutrient value, crop yield, giving indication about the deficiency in soils and then managing the efficiency of the soil and inputs

Prof. David Halliwell

Q:A

to increase productivity.

Q: Can you explain how drone technology helps in farming?

A: Drones are like the same small flying gadgets with cameras, which we see in televisions, etc. In drones, we use visible spectrum cameras and infrared cameras with sensing technology. They can also be used and controlled from one's smart phones. As a drone flies over farms, it gives pictures and mapping of the farms indicating the water stress in the crop. Dark and red patches in the map also indicate where there are less or more moisture in the field. Different colours are used to indicate different aspects in the field. And then these maps can be used to analyse and provide the field with their necessary requirements and nutrients into the affected area for better productivity.

Q: How much does this drone technology cost?

A: In Australia, this technology costs about 3,000 Australian Dollars, which would amount up to Rs 1,50,000 in India.

Q: But the Indian farming community largely constitutes rural farmers who are mostly un-educated, less tech savyy and mostly poor who would not be able to afford this. How feasible do you think is this technology in India?

A: I understand the nature of the farming community in India and the biggest impediment here would be the cost of the drones, because here (in India), the size of farmlands are very small so the government can step in to serve the farmers by helping them purchase the drones. Once it is bought, it is easy to use and does not require any rocket science. If farmers come together to form farming cooperatives, thus increasing the area of farmlands, it would become cost effective as all farmers would not require to have a personal drone. The drone technology would in turn help the farmers understand their soil better and increasing productivity.

Q: For farmers in India, water is seen to be a major concern, as some regions have been reeling under severe drought for the past two years. What technologies can Indian farmers adopt, to solve this problem of water scarcity?

A: Drought is not just an Indian problem; it is everywhere. Israel seems to have has done very well in the field of drought mitigation and water saving, they also have a very strong institution. Drip irrigation is a very smart technology to use water judiciously in times of water scarcity and for this, the farming community needs to be educated by the government. Better weather forecasting by the government would also help farmers plan their crops well in advance. Workshops, management of farmers' database and help from the government can also relieve farmers during times of distress.