



Digital AgriTech

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Excerpts from an interview with **Rajendra Uprey** | Ministry of Land Mgmt, Agriculture & Cooperatives

1. What is the future of AgTech by 2050?

AgTech future is always important, bright and exciting. Our population has been increasing and demand of food and agro-product is always increasing. On the other side, all resources (land, water, bio-diversity, quality of soil, pollinators, farm-labors etc.) have been decreasing or scarce. So, our world always needs cost effective, efficient, eco-friendly and affordable AgTech.

2. What are the greatest benefits and risks of embracing advanced technologies on urban and sub-urban farming?

Benefits of embracing advanced technologies are huge for urban and sub-urban farmers and consumers. Advance technology increases per-unit productivity many-folds compared to conventional technology and it increases efficiency of all production factors (land, labor, time, resources). It also decreases per-unit production cost and makes its productions economic for the consumers. But because high initial-investment requires adopting advanced technology, it is also risky for the small and marginal farmers living in rural areas and depend on conventional agriculture farming. They will be less-efficient, less-competitive and more vulnerable to manage their livelihood.

3. What it takes to adapt to precision farming from current agriculture practices?

Current agriculture practices are less-efficient, unsustainable and not eco-friendly. It wastes farmers' used fertilizers/nutrients and increases soil, water and air pollution. Same time increase production cost. Those weaknesses of current agriculture practices can be solved or minimized by using precision farming.

4. What steps need to be taken to encourage future generations in agriculture business? If not, what are the drawbacks?

Farmers around the world are leaving agriculture day by day because of reduced income from conventional farming. It is very difficult to manage farmers' livelihood from conventional farming and they need to create different sources of incomes. But, currently young generation farmers are coming to the agriculture field with advanced and efficient technologies and this trend is increasing. If we link farmers with advanced and efficient technologies with efficient support mechanisms then we can encourage future generations in agriculture business. Government and other stakeholders need to intensify their efforts to create efficient value-chain of agriculture production and support systems "from production field-consumers" and trying to increase the percentage of benefit should reach to producers. Now, the main portion of the benefits is captured by the middle-man. It needs to change especially in the developing countries where producers/farmers are less organized and less aware about the market-management system. If we are unable to change farmers'/producers' situation they slowly leave farming or keep it in less priority. It ultimately affects our efforts on poverty-reduction, food-security situations and to sustain our agriculture.

5. With the unprecedented climate change, what can farmers do now to preserve health and build resilience in the agriculture ecosystem?

Unprecedented climate change affected our agriculture and livelihood dynamics of our farmers. To cope with its unwanted effects we need to take two parallel strategies side by side. Need to explore more and more indigenous-knowledge based location-specific eco-friendly and sustainable agriculture practices and make it aware and applicable to our rural-farmers and in those areas where agro-ecological situation is more vulnerable. On the other side, we need to make our advanced technologies affordable and doable to small farmers and make it accessible with a full support system. By using these two strategies we will be able to manage food-requirement and make our agriculture more eco-friendly and sustainable.