

Need For Agriculture Renovations

Prabhakar Tamboli*

Adjunct Professor and Director, Department of Environmental Science and Technology, College of Agriculture and Natural Resources, University of Maryland, Maryland, USA

***Corresponding Author:** Prabhakar Tamboli, Adjunct Professor and Director, Department of Environmental Science and Technology, College of Agriculture and Natural Resources, University of Maryland, Maryland, USA.

Received: October 17, 2017; **Published:** October 19, 2017

Volume 1 Issue 6 October 2017

© All Copy Rights are Reserved by Prabhakar Tamboli.

According to estimates of International Food Policy Research Institute (IFPRI) global food production needs to be increased by 60% to meet the demand for projected -9 billion populations by 2050 from the current level. Food and Nutrition Security (FNS) is a major concern in many countries in the world, especially in Africa and Asia. Recent report by IFPRI on ranking of countries by Hunger index gives more details about dire situation to attain FNS. The International community is committed to ending hunger by 2030 as the second of 17 Sustainable Development Goals (SDGs).

Very important challenge to international and national agriculture community at large is how to increase productivity per unit of land and water and at the same time maintain natural resource base.

Agriculture sector is very complex with various components and sub components. It has social, political, economic and technological dimensions. In recent years it has become even more complex due to globalization and impact of climate change. Natural resources like cultivable land, water and energy are shrinking and demand for food, fiber, meat and milk is increasing.

Many countries are struggling with the idea of developing a location specific technology package by multidisciplinary team of agricultural scientist with little or not much success. Out of the box and new innovative technology is needed to meet the challenge. Some examples of such innovative technologies are given below:

1. Glass/Green House Technology: The Dutch have become world's leaders in agriculture innovation, pioneering new paths to fight hunger. Netherland has become an agriculture powerhouse, second largest exporter of food by dollar value next to USA. Furrows of artificial light, the greenhouse capital, and climate controlled farms grow crops around the clock and every kind of weather. It is number one in yields and doing more with less.
2. Vertical Farming: It is the practice of producing food and medicine in vertically stacked layers, vertically inclined surfaces and/or integrated in other structures (such as skyscrapers, used warehouse or shipping containers).
3. Precision Farming: Using drones and other tools to assess the heat of individual plants and determine exactly how much water and nutrients they need. Agriculture is getting lift from the insight provided by maps generated from images captured by commercial drones. For example scanning for irrigation breaks and plant counting for yield prediction via drones allows farmers to focus on areas

Citation: Prabhakar Tamboli. "Need For Agriculture Renovations". *Innovative Techniques in Agriculture* 1.6 (2017): 273-274.

that need most help. Additionally, tools for monitoring plant health, like multispectral sensors, can better optimize crop yields for farmers, while reducing water consumption and fertilizer costs.

4. Use of Cell Phone: The International Crop Research Institute for Semi-Arid-Tropics (ICRISAT) based in Hyderabad, India, has a joint project with Microsoft, to help farmers determine optimum sowing date using Cell phones. It helps to increase yields by 30-40% in semiarid climate.
5. Modify Photosynthesis: Researchers at the Illinois University have found a way to modify photosynthesis in plants in order to increase their production considerably

In Summary, sky is the limit for human ingenuity to innovation and meeting challenges facing humanity at large. Not too far in future, ROBOTS would be guiding farming. Collaboration between academics and entrepreneurs is the key to innovation.

Dr. Prabhakar Tamboli

www.pmtamboli.me

Submit your next manuscript to Scientia Ricerca Open Access and benefit from:

- Prompt and fair double blinded peer review from experts
- Fast and efficient online submission
- Timely updates about your manuscript status
- Sharing Option: Social Networking Enabled
- Open access: articles available free online
- Global attainment for your research

Submit your manuscript at:

<https://scientiaricerca.com/submit-manuscript.php>