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इंस्टीट्यूट ऑफ़ हॉर्टीकल्चर टेक्नोलॉजी
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Contents

APPLYING MODERN TECHNOLOGIES TO AGRICULTURE TO TRANSFORM AGRICULTURE SECTOR IN RURAL INDIA

Corona period has turned the youth of rural India towards agriculture. Meanwhile, the educated young generation is looking for ways to improve its efficiency in dealing with the problems in the agricultural sector, besides, it is also putting more emphasis on how the adoption of technology can bind agricultural efficiency in rural India. India is one of the leading contributors to domestic and global agricultural production demand. India is the largest producer of milk in the world, the second-largest producer of fruits and vegetables, and the adoption of technology has helped to improve these figures in various ways. But still today Indian agriculture is not free from problems.

Conversion of agricultural land for alternative uses, the decline in the average size of agricultural holdings has reduced average landholdings, challenging the efficient application of traditional farming methods. Indian agriculture is highly dependent on monsoon rains and rising global temperatures have made agriculture more prone to extreme weather events.

Lack of marketing infrastructure, large storage gaps, cold chain limited connectivity have led to transportation and marketing challenges. The introduction of the latest technology has been limited due to various reasons such as lack of mechanization, access to credit, and low awareness.

Profiteering by middlemen is reducing the income of farmers, which is reducing the purchase of electricity for farmers to adopt new technology. Food processing efficiency is low in India, at 3 per cent compared to 30-70 per cent in developed countries, and the waste of agricultural produce is more than 40 per cent. These issues are emphasized in the adoption of technology in agriculture. Examples of technology for remote sensing (via satellite), GIS, crop and soil health monitoring, and livestock and farm management are helping to improve agricultural efficiency. Seed quality enhancement: Quality can be enhanced with advanced techniques; high yielding seed varieties are produced by adopting seed management strategies. Solar-powered water pumps use the abundant solar energy available. They provide an energy-efficient way. Reduce production costs and increase profits for the farmer. Per capita availability of fruits and vegetables is very low due to post-harvest losses, which is about 25 per cent to 30 per cent of production. However, the adoption of cold storage chain technology for perishable and other perishable agricultural commodities has greatly reduced waste and improved the benefits to farmers and consumers.

Aadhaar-linked bank accounts and government records provide access to monetary benefits by correct identification, which in turn solves the problem of access to credit. Direct farm for door connectivity through e-commerce and m-commerce platforms has facilitated a large number of artisans to reduce the share of intermediaries and get a fair price for their produce.

Providing tractors and other agricultural implements at reasonable rates in rural areas like small agri-based enterprises help in reducing the cost of production. Enabled agricultural equipment on the rental system through apps. Better access to information through Kisan Suvidha App and DD Kisan Channel helped in improving efficiency in agriculture.

According to FICCI's "Knowledge Paper on Indian Agricultural Equipment", the use of agricultural equipment in India is about 40-45 per cent. This is even less when countries like the US (95 per cent), Brazil (75 per cent), and China (57 per cent) are not 'tractor-isolating' and mechanizing the industry. According to the National Digital Literacy Mission, India Digital literacy among almost 90 per cent of the population is almost non-existent.

A successful future development strategy requires ideas for agriculture. Digital technologies transforming Indian agriculture require continuous innovation and inclusion as an agribusiness enterprise. However, agricultural technologies are developing rapidly in India. Business models need to be designed. The path to successful commercialization and using it on a large scale needs to bring the right incentive and policy support technology.

Such everyday changes in the new agricultural sector create new challenges. Private sector agricultural investment is increasingly playing an important role, operations, and expertise will greatly benefit the agricultural public. Efforts in these areas need to be stepped up. Because of technical knowledge, infrastructure, and a strong distribution system, the R&D ecosystem contributes directly to agriculture.

Technologies for Agriculture Growth

TECHNOLOGY DEMONSTRATIONS

Institute of Horticulture Technology recognized as Scientific and Industrial Research Organization- SIRO by DSIR, Ministry of Science and Technology, Govt. of India. Institute undertakes number of R&D and Technology demonstration projects for horticulture crop production with modern technology and finding solutions to the problems faced by the farmers.

In one of the projects undertaken with the support of Department of Biotechnology, Ministry of Science and Technology, Govt. of India on production and buy back of aromatic plants namely Patchouli, Citronella & Sugandhmantri entitled "Field Demonstration of Cultivation and Development of Process Technologies of Aromatic Crops (Patchouli, Citronella and Sugandh Mantri)" has been taken up by IHT. Technology demonstration for the cultivation of aromatic plants is being undertaken in IHT's NE Centre Mandira, Assam and farmers' fields in Goalpara, Kamrup and Berperta districts of Assam. The farmers are being provided quality planting material, hands on training for the technological interventions used for improved production of the biomass from the plants.

Weeding in Patcholi Field

Earthing up & Irrigation at Patchouli Field

IHT EDUCATION

Institute of Horticulture Technology provides training on latest technologies in protected cultivation of vegetable, flowers and modern young plant production in protected conditions. The objective of different courses offered acquaint the technical manpower for horticulture crop production by adopting latest technologies.

These trainings are the step towards the upcoming startups being set up by the prospective entrepreneurs. For starting greenhouse crop production people need some trainings for the better understanding of the technology. These training programs help in enhancing the competence level and talent of the trainees. These courses aims to develop ability to grow crops in greenhouse and the challenges in it.

Hands on training for imparting skills among the workers symptomatically so they Learn Quickly

These courses are relevant and valuable as a foundation for any person interested in modern horticulture crop production technologies. The institute organizes many training programs include greenhouse crop production. landscape training, cut-flower production, and commercial hydroponics.

CAPACITY BUILDING e-TRAINING

Commercial Hydroponics: This is a unique training module on hydroponics provides an understanding of modern technology and its application to growing plants, with emphasis on hydroponic production. Skills obtained throughout the course will enable you to set up your own business and feel confident for Hydroponics Crop Production. With this Hydroponics training program, trainees get the knowledge about the hydroponic crop production which helps them to decide about starting an entrepreneurship venture. The trainees get information about the S.O. P's required for growing hydroponic crops without pesticides. Institute of Horticulture Technology has organized various e-training programmes for entrepreneurs in "Commercial Hydroponics". Commercial Hydroponics course are being delivered 50% online and 50% offline, i.e. hands on training in institute, supported with online and offline resources.

Hands on Training on Hydroponic Crop Production

Production Technology of Greenhouse Vegetable Crops: Training course for protected cultivation was organized by institute entitled "Production technology of Greenhouse Vegetable Crops". The trainees were encouraged to follow the principle of 'Learning by Doing' wherein trainees get wide exposer through field visit and hands on trainings. The trainees were explained about the significance of following standard operating procedures to be adopted during nursery production. Interactive lectures were provided on protected cultivation of various vegetable crops. The major components of the course were soil health management, soil sterilization, solarization, nursery production, soil and soilless bed preparation, amendments, pH, EC correction, mulching, nutrient management, integrated pest management, post-harvest handling, storage in zero energy chambers. The trainees found the program a practical based and helpful in understanding the operations of a protected cut-flower and vegetable production for developing their entrepreneurial skills.

Hands on Training on Nursery Production Vegetable Crops

Landscape Gardening: Knowledge is only part of what makes a landscape designer exceptional. Landscape Gardening course encourage the trainees to develop flair for design, a passion for gardens and a practical touch. It provides the trainees opportunity to interact with leading landscape professionals. Institute organized 5 days training programme on Landscape Gardening in this month. Landscape Gardening course was delivered 100% online, supported with relevant videos and ppts. This module provides a trainee's opportunity to have learning activities at a time convenient to workplace demands without having to leave the work site to attend the trainings. Under this online garden design and maintenance course the basics of gardening, from the planning stage right through to garden maintenance was covered. This enable the trainee to evaluate, plan, purchase, plant and maintain a garden to suit the natural environment and garden characteristics.

Cut flower Production: Over recent decades cut flower growing has experienced rapid expansion in India. This has resulted in an increased demand for training in the skills and knowledge required by the industry. The Cut Flower Production undertaken by the Institute in this month was successfully organized for 5 days in online training mode. The trainees were acquainted with the greenhouse structure and maintenance, crop production modules, irrigation and fertigation techniques and Integrated Pest Management of cut flower production.

Cut flowers production in Greenhouse

Landscape Horticulture: Three days online e-training program for entrepreneurs/students on "Landscape Horticulture" was conducted in December 2020. The major training sessions were on Planting Material, Nursery Production, Plant Propagation, Types of Gardens, Kitchen /Terrace/Vertical Gardening, planning and Designing of Greenhouse Technology related to Landscape Horticulture, Soil health management, Bed preparation, Moisture conservation, Soil solarization, Bonsai making, Irrigation and Fertigation, Disease, Pest and Nutrient Management, Training and Pruning in Garden Plants, Establishment and Maintenance of Lawn and Turf, Culture of Floral Display, Maintenance of Garden and Container Gardening.

Upcoming e-Trainings

S. No.	Title	Date	Duration
1.	Hydroponics	11th - 13th January	3 Days
2.	Commercial Hydroponics	28th Dec. - 11th Jan.	2 Weeks
3.	Landscape Horticulture	11th - 16th January	5 Days
4.	Commercial Hydroponics	18th Jan. - 1st Feb.	2 Weeks

Customized courses also offered on demand
For more details, contact: Anish Ranjan, Relationship Manager, Mobile +91 8860082566

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