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## AGRICULTURAL TECHNOLOGY INNOVATION IN INDIA: A STUDY

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### Abstract

Agriculture sector is considered as one of the major sectors of Indian economy. According to the Economic Survey 2021-22 report, the Gross Domestic Product (GDP) of the agriculture sector in 2020-21 is said to be 18.8 percent. It has declined from 19.9 per cent recorded in 2020-21. It is possible that this rate has come down due to Covid-19. But in the previous year, the country's agricultural sector had improved from 17.8 percent to 19.9 percent. Meanwhile, the government farm techniques the government took major steps to support the agricultural policy sector besides promoting agricultural technology. Digital technology in agriculture has accelerated the increase in crop production. Emphasis was placed on increasing agricultural production with minimum use of water and chemical inputs.

### Key word

Agriculture, techniques, government, of Indian economy, production, Digital technologies.

### Introduction

Since ancient times, agriculture has been an important sector of the Indian economy and since agriculture it is the main occupation of the people of India, agriculture plays an important role in the national income of the country, industrial development, foreign trade and overall economic development of the country. Indian farmers are farming in traditional way. He needs to know the new technology of agriculture for more increase in production. Digital technologies, such as artificial intelligence and machine learning, remote sensing, big data and block chain are being used in the Indian agriculture sector. Many countries like Netherlands, USA, Australia and Israel revolutionized agriculture by using technology. Therefore, it would not be wrong to say that agricultural technology in India is still in its infancy. However, there is a promising picture that the use of digital agriculture in India will definitely increase under the Public-Private Partnership (PPP) model in the near future. The demand for digitization in Indian agriculture is gaining momentum and it is getting approval from the government as well. Similarly, efforts have been started towards digitalization in agriculture according to the prevailing value chain. Jio Agri launched the Jio Agri platform in February, 2020.

Under this digital platform, up-to-date guidance on agriculture will be provided to empower farmers. For this, accurate agricultural advice will be given to the farmers at individual level using innovative technology. With the help of technology, it is possible to manage and monitor agriculture properly. As this technology provides real-time digital analysis of the farm to farmers, they can improve their practices over time. Due to this, it is possible to obtain high yields with proper use of pesticides, fertilizers, and water. Along with this, the farmer can get many benefits.

Besides increasing the overall income of the farmers, reducing the losses of the farmers due to various reasons is a big challenge. But it is certainly possible to solve this challenge with technology. If not only internet but all other advanced technologies come in the hands of the farmer, then the farmers will get a real all-round development. As India still grapples with an ongoing agricultural crisis, a glimmer of hope is emerging as agricultural technology takes hold.

Government policies and adoption of new technologies in a country where agriculture is the main source of livelihood have shown good results. Advanced agricultural technology must reach the village level. Over the past few years, there have been changes in farming methods and techniques used in them and they have been successful. For example, nowadays we see less use of inorganic fertilizers, less pesticides for crop growth and use of tractors and Agri machines for cultivation and other purposes. Crops are growing at

full potential in areas that were predicted to be unable to grow due to technology. This process involves introducing specific traits into the genes of crops through genetic engineering, which helps the crops to resist pests and drought.

### Review of related literature

1. Dalbert's article 'Impact of Technology on Agriculture' discusses how agricultural production has increased due to the use of technology in agriculture. According to the author, new machines in agriculture, new irrigation schemes, improved seeds, soil testing methods, and modern use of organic fertilizers, modern market creation technology has increased the agricultural production of the farmers and its economic growth.

2. Prof. Hussain 'Impact of Technology Change in East Pakistan of Technology Change in East Pakistan' is a descriptive study of how modern society has been affected in this article Farmers in East Pakistan before 1947 used traditional technology and simple implements for farming in traditional way.

3. Meyer Nimkoff in his article 'Technology and Family' (Technology and Family) studied how changing technology has affected the family. Technology has led to the development of urbanization. Migration increased. Joint families started getting separated. Household industries were shut down. The use of cosmetic products started to increase in the family. Modern medical facilities have increased the life expectancy of people. Population density increased.

4. Francis R. Allen, Harnell Hart, Delbert C., Miller William S., Ogham and Meyer F. Nimkoff published the edition 'Technology and Social Change'. He has studied various aspects of social change and social process. According to him, it is the transformation of modern western society. The contribution of technology is crucial to make it happen. The author opined that "Technology is created for human welfare or human development using scientific discovery. As a result of this technology, social change takes place. The strong proof of this is the change in Western society. Change in social organization with the development of technology in Western society." Happened. Of course, technology changed the social structure of Western society." This is the opinion of the author.

### Objective of the study

- 1) To study the importance of agriculture innovations.
- 2) To study the importance of Technology be beneficial in Agriculture field.
3. To study the Steps taken by the government of India in Agriculture innovations.

### Methodology

For the present study the secondary data was collected from newspaper, magazine, online journals, etc.

### Concepts and definitions of technology

Techniques refers to the methods Technology is a broader concept than technique. It involves three components namely application of knowledge, method of application and problem. An efficient method of applying relevant knowledge to solve specific practical problems is developed. This is called technology. New machines are constantly being developed and technology is evolving.

### Steps taken by the government of India in Agriculture innovations

#### 1. Agri Stack

The Ministry of Agriculture and Farmers Welfare plans to create 'Agri Stack', a collection of technology-based interventions in agriculture. It will create an integrated platform to provide end-to-end services to farmers across the agri-food value chain.

#### 2. Digital Agriculture Mission

This initiative has been started by the government from the year 2021 to 2025 to promote projects based on new technologies like artificial intelligence, blockchain, remote sensing and GIS technology, use of drones and robots in the agriculture sector.

#### 3. Unified Farmers Service Platform (UFSP)

It is a combination of core infrastructure, data, applications and tools that enables seamless interoperability of various public and private IT systems in the agriculture ecosystem across the country. UFSP plays the following roles:

#### 4. National e-Governance Scheme in Agriculture (NeGP-A)

It is a centrally sponsored scheme; the scheme was launched on a pilot basis in 7 states in the year 2010-11. Its objective is to promote rapid growth in India by using Information and Communication Technology (ICT) to deliver timely agricultural information to farmers.

### 5. Artificial Intelligence (AI)

AI has made everything easier for farmers to predict the environment, decide what kind of soil the crops need and provide solutions.

### 6. Mobile Application

Smartphone devices are increasingly popular and are proving to be a valuable resource.

### 7. Tracking through satellite images

Farmers can use this facility to know how environmental conditions and oceans are doing, but more importantly, it can help you check your crops and see if they are still in the ground.

### 8. Drones

Farmers will use agricultural drones and spray crops to see if they are infected. Drones may also have or show detailed soil erosion as well as some dry patches on the ground.

### 9. Biotechnology

Farmers can cultivate crops in dry and desert lands with the help of biotechnology. It is a type of technology that helps farmers do less work. Growing crops in dryland has never been easy, but biotechnology has made it possible.

### 10. Kisan App

Farmers can get information about government schemes through this agriculture mobile app. This is explained in the subject of state schemes and also save the time.

### Benefits Technology of innovation in Agriculture sector

1. By using the Modern vehicle transport the people and goods.
2. Water consumption is reduced.
3. Farmers will predict the weather and plan their work accordingly.
4. Farmers are now selling their goods through internet.
5. Farmers can use cell phones to monitor and analyze their crop data.
6. It increases agricultural productivity.
7. Prevents soil erosion.
8. Reduces the application of chemicals in crop production.
9. Spreads modern agricultural methods for quality, quantity and low cost of production.
10. Brings changes in the socio-economic condition of farmers.

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