

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

LOK SABHA
UNSTARRED QUESTION NO. 3317
TO BE ANSWERED ON THE 21ST MARCH, 2023

ROLE OF DIGITAL AGRICULTURE

3317. SHRI RAM KRIPAL YADAV:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि एवं किसान कल्याण मंत्री be pleased to state:

- (a) whether the Government agrees with the view that digital technology can play a transformative role in modernizing our agriculture; and
- (b) if so, the details of the initiatives taken/ proposed to be taken by the Government to promote digital agriculture in Patliputra, Bihar and if not, the reasons therefor?

ANSWER

MINISTER OF AGRICULTURE AND FARMERS WELFARE

कृषि एवं किसान कल्याण मंत्री (SHRI NARENDRA SINGH TOMAR)

(a) & (b) : Digital technologies are finding increasing use in the agricultural value system, and farmers are increasingly becoming more informed. The role of Digital technology in Agriculture are as under:

- i. The Institutes Agricultural Engineering SMD have taken up a number of projects to address different aspect of the digital agriculture such as development of sensor based equipment for application of farm inputs such as seed, fertilizer, water and pesticides. Promotion of the Unmanned Aerial vehicle for application of nano fertilizer and spraying is one such initiative which will help reduce the time taken to perform the operation. The institute is initiating the work on developing standard operating protocol for the UAVs in different crops and various applications.
- ii. Digital technologies can increase productivity of the precious inputs used in agriculture, improve farm management, reduce costs of operations, and make farming more efficient and sustainable. Here are some examples of the role of digital technologies in agriculture:
- iii. Precision Agriculture: Digital technologies such as Global Positioning System (GPS), sensors, drones, and machine learning algorithms are used in precision agriculture to monitor soil conditions, crop growth, and weather patterns. This information is used to optimize planting, fertilizing, and harvesting, reducing waste, and increasing yields. Farm mechanisation, irrigation, post-harvest storage and value addition are being transformed by the digital technologies. Precision planting machines, micro-irrigation systems and

grading and classification machines (color sorter for rice, fruit and vegetable sorters and graders), non-destructive machines for quality evaluation are some of the examples.

- iv. Climate-smart Agriculture: Digital technologies are being used to develop climate-smart agriculture practices that can help farmers adapt to climate change. For example, farmers can use weather forecasts and data analytics to optimize irrigation, planting, and harvesting, reducing the impact of droughts and floods.
- v. New technologies such as robotic harvesters, vertical farming, and blockchain-based supply chain management systems that improve efficiency and reduce waste have been possible due to digital technologies.
- vi. Further, Government has taken various measures to provide access to technology and information across the country, which are given below:
 - a. Under plan scheme viz. National e-Governance Plan in Agriculture (NeGP-A) wherein, funds are released to the State(s)/UT(s) for project involving use of modern technologies viz. Artificial Intelligence (AI), Machine Learning (ML), Robotics, Drones, Data Analytics, Block Chain etc. Government has sanctioned the project under this scheme during last 03 years for the state of Bihar for Digital Package of Practices for Major Crops and Automation Technique in Irrigation in State Seed Multiplication Farms.
 - b. Digital Public Infrastructure (DPI) for agriculture is being implemented as an open source, open standard and inter-operable public good to enable inclusive farmer centric solutions and support for growth of agri-tech industry and start-ups. It includes:
 - i. **Development of Central Core of the DPI**
 - Registries (Farmers, Crop Sown registry and Geo Referencing of Village Maps and Crop Sown Registry)
 - Unified Farmers Service Interface
 - Agri Data Exchange
 - ii. **Development of Krishi Decision Support System (KDSS)**
 - c. Sub Mission on Agricultural Mechanization (SMAM) is being implemented w.e.f April, 2014. The scheme aims at 'reaching the unreached' by bringing to the small and marginal farmers in the core and giving the benefits of farm mechanization, by Promoting 'Custom Hiring Centers' , creating hubs for hi-tech & high value farm equipments, distribution of various agricultural equipments, creating awareness among stakeholders through demonstration and capacity building activities, and ensuring performance- testing and certification at designated testing centers located all over the country.
 - d. National Agriculture Market (e-NAM) is a pan-India electronic trading portal which networks the existing Agricultural Produce Market Committee (APMC) mandis to create a unified national market for agricultural commodities. Digital services are provided to traders, farmers, Farmers Producer Organizations (FPO), Mandis through various modules of e-NAM platform such as FPO trading module, warehouse based trading module.
 - e. Under PM KISAN Scheme, fund is directly transferred into the bank accounts of the eligible farmers under Direct Benefit Transfer mode. Farmers can do their self-registration through the Farmers Corner in the portal. PM-KISAN Mobile App was launched to broaden the reach of the scheme where farmers can view beneficiary status, update or carry out corrections of name based on their Aadhaar card and also they can see history of benefits transferred to their bank accounts.

- f. Integrated Scheme for Agricultural Marketing schemes (AGMARKNET) to promote creation of agricultural marketing infrastructure by providing backend subsidy support to State, cooperative and private sector investments Services are provided through (AGMARKNET) portal which is a G2C e-governance portal that caters to the needs of various stakeholders such as farmers, industry, policy makers and academic institutions by providing agricultural marketing related information from a single window. It facilitates web- based information flow, of the daily arrivals and prices of commodities in the agricultural produce markets spread across the country.
- g. Agriculture Infrastructure Fund (AIF): To mobilize a medium - long term debt finances facility for investment in viable projects for post-harvest management Infrastructure and community farming assets through incentives and financial support in order to improve agriculture infrastructure in the country. Financial assistance is provided digitally in the form of Interest Subvention and Credit Guarantee for setting up post-harvest management Infrastructure to beneficiaries such as Farmers, Primary Agricultural Credit Societies (PACS), Farmer Producers Organisations (FPOs), Self Help Groups (SHG), State Agencies/APMCs.
- h. National Mission on Horticulture: It Promotes holistic development of Horticulture sector (including bamboo & coconut) HORTNET project is a web enabled work flow-based system for providing financial assistance under MIDH. It is a unique intervention to accomplish e-Governance in NHM where-in total transparency has been envisaged in all the processes of workflow i.e., online application filing, authentication, processing and online payment to the beneficiary's bank account through DBT.
- i. National Project on Soil Health and Fertility: To issue soil health cards to farmers of the country, so as to provide a basis to address nutrient deficiencies in fertilization practices. Soil Health Card Portal is available where farmers can track soil samples.
- j. Development of Kisan Suvidha mobile application to facilitate dissemination of information to farmers on the critical parameters viz., Weather; Market Prices; Plant Protection; input Dealers (Seed, Pesticide, Fertilizer) Farm Machinery; Soil Health Card; Cold Storages & Godowns, Veterinary Centres and Diagnostic Labs. With market information, farmers are better informed about markets to sell produce, prevailing market prices and quantity demanded in the market. Thus, they can make informed decisions to sell produce at the right price and right time.
- k. The Indian Council of Agriculture Research (ICAR) has also compiled more than 100 mobile apps developed by ICAR, State Agricultural Universities and Krishi Vigyan Kendras and uploaded on its website. These mobile apps developed in the areas of crops, horticulture, veterinary, dairy, poultry, fisheries, natural resources management and integrated subjects, offer valuable information to the farmers, including package of practices, market prices of various commodities, weather related information, advisory services, etc.
- l. Further, Government of Bihar has informed that the following initiatives have been taken by the state Government towards digital agriculture:
- Providing digital identity to farmers.
 - Creation of single platform for farmer registration, subsidy application, verification.
 - One-time farmer registration using Aadhaar for marinating data integrity, farmer authenticity and establishing verification status of such farmers (Aadhaar Consent taken).
 - Usage of Direct Benefit Transfer (DBT) to farmers in the schemes.

- Transfer of subsidy of DBT Schemes in Aadhaar-NPCI linked and seeded bank accounts of farmers.
- Status of Applications is on open web-portal and is transparent.
- Dissemination of SMS of farmers regarding their registration, subsidy scheme application, and regarding status of the application.
- Limited manual interventions during the subsidy application life-cycle.
- Digital monitoring on the application from Headquarter level.
- Each and every application catered is being accounted for.
- Availability of Verification module on web-portal as well as on mobile android apps for faster processing of applications.
