

ICAR  
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e-Book

## Women Friendly Nutri-Smart Interventions for Alleviating Malnutrition in Rural Areas

3-12 January, 2023



भा.कृ.अनु.प. - केन्द्रीय कृषिरत महिला संस्थान, भुवनेश्वर  
ICAR-Central Institute for Women in Agriculture  
Bhubaneswar, Odisha -751003



## **ICAR Short Course**

Women Friendly Nutri Smart Interventions for Alleviating Malnutrition in Rural Areas

**3-12 January, 2023**

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## **Compendium**

### **Women Friendly Nutri Smart Interventions for Alleviating Malnutrition in Rural Areas**

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## Implementation of Digitalization in Agrifood System

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The digital technology has the potential to be a very powerful instrument in the agri-food system. It can be helpful throughout the entire food production process, including harvesting, processing, marketing, etc. At each level, a variety of factors have an impact on agriculture and the agri-food system. It can reduce the gap of access of information for underprivileged farmers. Through digital technologies different types of advisories may be timely given to farmers. It is known for its efficiency, timeliness, etc. By including information technology in agriculture, the target to feed the world may be achieved in spite of various hindrance . The livestock and horticulture sectors have also witnessed the emergence of digital agriculture applications.

### Why Digital Technologies?

- Communication Speeds.

Digital technologies are known for its fast communication speed, execution speed and data accuracy with less human involvement required.

- Versatile Working.

Digital devices are of versatile in nature and can be used in almost every activities of agriculture.

- Accuracy in prediction based on data

In spite of less human intervention the accuracy of data prediction is quite good. The data predicted from temperature sensor, soil sensor gives satisfactory results for performing farming activities.



Figure 1. Agriculture Minister Signing 5 MoU for Digital agriculture (Source: PIB, Delhi)

Recently, MOA&FW have signed MoU with 5 private partners towards the digitalization of agriculture. It has full potential to bring the 2<sup>nd</sup> wave of green revolution.

### **ICT Applications for Agrifood system:**

To support the Digital India Initiatives various online portals have been developed to help farmers. Some are as follows:

**e-NAM portal:** The e-NAM Portal provides a single window service for all APMC related information and services. This includes commodity arrivals and prices, buy and sell trade offers and provision to respond to trade offers, among other services. While material flow (agriculture produce) continues to happen through mandis, an online market reduces transaction costs and information asymmetry.

**FARMER PORTAL:** Farmers' Portal is an endeavour in this direction to create one-stop-shop for meeting all informational needs relating to Agriculture, Animal Husbandry and Fisheries sectors production, sale/storage of an Indian farmer

### **IT enabling policies:**

The Digital India scheme is one of the basic policies for making India digitally empowered society and knowledge economy. There are various other government schemes through which the rural India are being kept under the umbrella of high speed internet. Internet became ubiquitous for accessing any type of information. BHARATNET programme is started with the aim to provide high speed internet to rural India in affordable price. Other scheme like PMGDISHA (Pradhanmantri Gramin Digital Saksharta Abhiyan) is aimed for make 6 crores persons in rural areas, across States/UTs, digitally literate. It specially targets the marginal section of society.

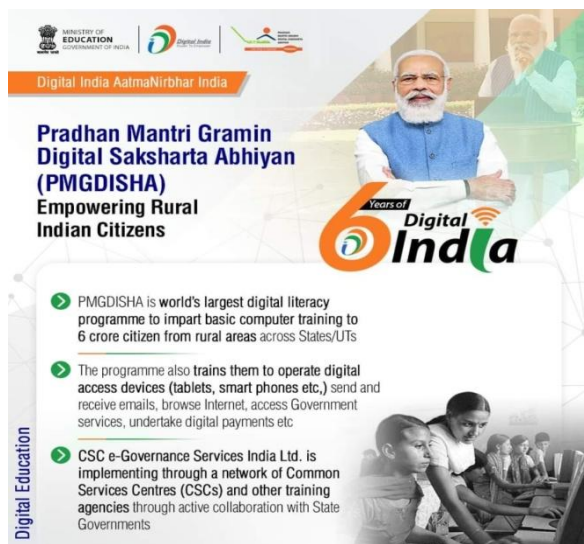


Figure 2 (a) BharatNet programme for Internet connectivity in rural India (b) PMGDISHA scheme for digital literacy among rural youths.

### Gender mainstreaming in IT.

The active IT users in farm community is not gender balanced. The no of smart phones used by male farmers are more than the female farmers. More mobile apps, portals related to agriculture are searched by male farmers comparatively with female farmers.

**Different mobile applications:** A large no of user friendly mobile applications have been developed for farmers that provides advisories and information on finger tip related to crops,



fisheries, animal science, etc.

Figure 3: Smart agriculture using the mobile application

### Online meeting platform like zoom, google meet etc:

Online meeting platforms are very important for farm women, as their mobility get restricted because of unpaid house hold work too. Women farmers can meet with each other on online meeting platform like google meet, Zoom etc. They can also get scientific advisories over it. These platforms may save time and money of farm women.

### Digital transaction in purchase of agricultural inputs:



It is the government policies to promote cashless economy to bring transparency. The government is also sending money to the beneficiaries through DBT mode in order to reduce corruption and non-involvement of middle men. To bring transparency in whole agrifood system the transaction should be done in cashless mode only.



Figure 4. e-RUPI Digital payment solution

#### 4. Challenges:

Fast growing digital technologies has shown unexpected reach in agricultural scenario. It had already proved its efficiency in industrial sector where production, inspection, quality control everything is done with robotics, IoT, artificial intelligence. In Indian agriculture scenario there are some hurdles for implementing it and Digital literacy is one of them. According to the NFHS data more than 50% of population still not have smart phone and internet services. Digital learning policies should be strengthened for making digital farming a great success in Indian scenario.

#### References:

- [1]. NFHS (National Family Health Survey)
- [2]. PIB (Press Information Bureau)
- [3]. NSSO data (The National Sample Survey)
- [4]. e-NAM
- [5]. Farmers Portal
- [6]. PMGDISHA (Pradhan Mantri Gramin Digital Saksharta Abhiyaan)



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