

# DIGITAL TOOLS FOR FARMING ADVISORY

Roopa K. Muttappanavar

Department of Agronomy, UAS, GKVK, Bangalore, Karnataka

## INTRODUCTION

Agriculture continues to be the most important sector of the Indian economy and agriculture is a more or less a compulsion for livelihood of millions of farmers. Land and water resources have almost reached their limits, price of commodities is fluctuating almost every day, profits are negligible for most of the marginal and small farmers and most of all getting information is cumbersome. In present day agriculture, soft resources like knowledge and skills are as important as hard resources like inputs, and sometimes more important. Many initiatives have been taken in this regard to utilize mobile phones by private sector and public sector in agricultural advisory service for agronomic practices, weather forecasts and market price. With increased dependency, the mobile phone is becoming a common communication platform of the world, especially for agriculture.



## RISKS IN AGRICULTURE:

Risk is an important aspect of the farming. The uncertainties inherent in weather, yields, prices and other factors that impact farming can cause wide swings in farm income. The agricultural sector is exposed to a variety of risks which occur with high frequency. These include climate and weather risks, natural catastrophes pest and diseases, which cause highly variable production outcomes. Production risks are exacerbated by price risks, credit risks, technological risks and institutional risks.

**1. Production risk:** Agriculture is often characterized by high variability of production outcomes or, production risk. Unlike most other entrepreneurs, farmers are not able to predict with certainty the amount of output that the production process will yield due to external factors such as weather, pests, and diseases. Farmers can also be hindered by adverse events during harvesting or threshing that may result in production losses.

**2. Post-harvest Risk:** Indian loses about one of the third of harvest due to poor storage

**3. Market Risk:** Input and output price volatility is important source of market risk in agriculture. Prices of agricultural commodities are extremely volatile.

**4. Ecological Risk:**

**a) Limited Land:** Degrading soil health poses risk to future productivity.

**b) Limited water:** Declining ground water table and erratic rainfall poses a serious challenge irrigation.

## ICT (INFORMATION AND COMMUNICATION TECHNOLOGY):

ICT is an umbrella term that include any communication devices or application, encompassing: Radio, Television, Cellular Phones, Computer network hardware and software, satellite system and etc, as well as the various services and application associated with them, such as videoconferencing and distance learning. ICT includes devices, networks, mobiles, services and applications; these range from innovative Internet-era technologies and sensors to other pre-existing aids such as fixed telephones, televisions, radios and satellites.

Benefits of ICT The benefits of ICTs for increased agricultural productivity and

strengthening the Agricultural sector include timely and updated information on agriculture related issues such as new varieties release, emergence of new threats such as diseases, weather forecast, pricing control, warning alerts etc. ICT provide Timely information on weather forecasting and calamities to reduce agriculture risk. Benefit of ICT is provided Better and spontaneous agriculture practices, Reduction of agriculture risks and enhanced incomes, Better awareness and information, Improved networking and communication, Facility of online trading and e-commerce, better representation at various forums authorities and platform.

# DIGITAL ADVISORY TOOLS:

There are various modes- push and pull SMS, interactive voice response, mobile apps, and so on- through which mExtension services are provided either individually or in combination. While SMS and interactive voice response services are accessible from both conventional and smart phones, mobile apps require smart phones. Services can be free or subscription-based. Communication tools, info graphics, video, specific social media tools. Farm Software, web and phone application, Digital education and training materials and supports, Digital sensors and data collection and analysis, decision support tools, Digital marketing support tools.

## MOBILE APPS BASED ADVISORY TOOLS:

**Mobile App:** A software application developed specifically for use on small, wireless computing devices, such as smart phone and tablets, rather than desktop or laptop. Mobile apps can come preloaded on the handheld device as well as can be downloaded by users from store or the internet. Technology has entered almost all part of the agriculture production process: - from seeding the crops to selling them to end user. Mobile Apps available for Weather forecasts, Mapping, GPS tracking App, Ranching App.

**Farmers benefit from Agriculture Apps:** All farmer needs to take advantage of these technologies is a smart phone with Internet Access and a mobile app.

**i. Use of GPS Tracking:** Mapping allows farmers to use lots of location-based features including tracking drone investigation and seeing local weather forecasts.

**ii. Video Calls and Chats:** video calls also great features for an advisor app. They allow advisory to answer common question and allows farmer to join live video sessions.

**iii. Weather forecasting**



**iv. The Disease and Their Treatment**

**v. Push Notification:** They help farmer keep track of different activities they need to pay attention to warn about any emergence and new data and remind about event planned in the calendar.

**vi. Calendar**

**vii. Payment Gate ways**

**vii. Camera and Machine Vision:** Some agriculture applications are centered around visual information and machine learning which allows farmers to effectively recognize plant disease at early stage, identify weeds check nitrogen levels and evaluate leaf damage.

## MOBILE APPS:

1. Kissan Suvidha
2. Kheti Badi
3. IFFCO KISAN.
4. FERTILIZER CALCULATOR
5. Agri-market mobile app
6. Mandi Trades
7. Mausam
8. DAMINI: Lightning Alert
9. MEGHDOOT
10. YouTube for the farm

**Voice Call Based Advisory Tools:**

1. Kissan call center
2. Krishi Vani

**Website Based Advisory Tools:**

1. E-CHOUPAL
2. e-NAM (National Agriculture Market)

**Television Based Advisory Tools:**

- DD Kisan

## CONCLUSION:

Digital tools play a crucial role in disseminating information to farmers enabling them to decide on the cropping pattern, use of high-yielding seeds, fertilizer application, pest management, marketing, etc. Digital advisory is a potential tool for improving decision making in agriculture. In the last few decades, information and communication technologies (ICTs) have provided immense opportunities for the social and economic development of rural people.

