



## Mobile Application: A Transformation in Livestock Farming

C.R. Monikha

Krishi Vigyan Kendra, Tirunelveli, Tamil Nadu (627 852), India



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### Corresponding Author

C.R. Monikha

✉: harini.moni@gmail.com

**Conflict of interests:** The author has declared that no conflict of interest exists.

### How to cite this article?

Monikha, 2023. Mobile Application: A Transformation in Livestock Farming. *Biotica Research Today* 5(2):149-152.

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### Abstract

Animal Husbandry plays a major role in providing veterinary health care and improving the genetic production potentialities of livestock and poultry reared in the country. Animal Husbandry is the root base of rural economy. In these days, mobile applications are potential digital tools which can be effectively utilized to reach Animal Husbandry information to a large number of farmers within a short period of time. They can be used to enhance farm income and productivity through providing correct information, better input and farm management, easy marketing and linkage with government agency for policy support to farmer *etc.* The documentation of these mobile apps and evaluating their content and features is of immense importance for the farmers as it will provide guidance in choosing suitable app for getting need based reliable information for livestock farming. This will also assist the mobile app developers in designing new app or in modifying and improving their exiting mobile apps.

**Keywords:** Animal Husbandry, Livestock, Mobile Application, Veterinary

### Introduction

Animal husbandry refers to livestock rising and selective breeding. It is the management and care of animals in which the genetic qualities and behavior of animals are further developed for profit. About 20.5 million people depend upon livestock for their livelihood. Livestock contributed 16% to the income of small farm households as against an average of 14% for all rural households. Livestock provides livelihood to two-third of rural community. Mobile apps are potential digital tools which can be effectively utilized to reach Animal Husbandry information to a large number of farmers within a short period of time. They can be used to enhance farm income and productivity through providing correct information, better input and farm management, easy marketing and linkage with government agency for policy support to farmer *etc.* ICT based information delivery to livestock sector can significantly improve the quality of decision-making in livestock farming system (Tiwari *et al.*, 2010).

### Role of Mobile App in Animal Husbandry

In these days rural India is drastically moving towards digitalization and technology. Digital India, launched in 2015 by Indian Prime Minister Narendra Modi which aims towards the promotion of digital literacy and creation of digital infrastructure, is apparently helping Rural India to gain this

success of the farming community. Moreover, while 58% of Indian households still depend on Agriculture as their most eminent source of livelihood, it's time to give more focus on Digital Agriculture for a growing and prosperous India.

Moreover, farming apps are the most convenient and useful medium to educate and guide farmers to use improved technologies. It gives you the guideline for doing the proper scientific way of housing management, feeding management, breeding management, disease control, production technology and general care and management. Farmers can easily solve their farming problems related to diseases and breeding management or any problems which put them in a difficult situation. A farming app can be the best friend of farmers in farming which can enhance their productivity without spending a single amount of money. You can easily download it from your Google Play Store without paying a single rupee. It providing access to information, markets and services to farmers, these technological innovations could contribute towards more productivity in the livestock sector (Sreeram and Jancy, 2017).

### Advantages of using Mobile Apps in Animal Husbandry

- Provides advisories through text and video messaging services.
- Access to information on Management, Nutrition, Disease management *etc.*, which directly affect agricultural decision

### Article History

RECEIVED on 02<sup>nd</sup> February 2023

RECEIVED in revised form 10<sup>th</sup> February 2023

ACCEPTED in final form 11<sup>th</sup> February 2023

making.

- Market intelligence through providing data on prices, quality and quantity of arrival of various agricultural commodities at different markets across the country.
- Online monitoring and management of livestock/ poultry/ fisheries etc. is possible through mobile apps.
- Provision of feedback from farmers and other stakeholders in different fields of agriculture.
- Information on important machineries and equipments are easily accessible using these apps.
- Mobile apps can be utilized for delivering services offered by Government to farmers in the form of inputs and subsidy distribution.
- It facilitates effective farm management by recording data, analyzing it and giving suitable recommendation for different enterprises.

### Mobile Applications in Animal Husbandry

#### 1. Bakri Mitra

Bakri Mitra App developed by Central Institute for Research on Goat (ICAR-CIRG), Makhdum, Farah, Mathura and Cooperative Cooperation of Internal Climate Research Institute Nairobi Kenya under the development of goat milk and mass value chain in the state of Uttar Pradesh and Bihar.

#### 2. AI in Goats

The App is developed with the collaboration of ICAR-CIRG and UP council of Agricultural Research funded by the UPCAR under the project "Conservation and phenotypic documentation of Mirzapuri goat". The App includes almost every aspect of artificial insemination in goats in a very simple and interactive language. This App provides the videos related to various aspects of AI in goats through which a simple or less educated stakeholder can easily understanding the different aspects of AI.

#### 3. CIRG - Goat Farming

ICAR-Central Institute for Research on Goats under the aegis of the Scheduled Caste Sub-Plan of Indian Council of Agricultural Research developed this mobile application is to propagate basic knowledge among the farmers and entrepreneurs who are involved in or are interested in goat farming. The app covers information on Indian goat breeds, their breeding management, nutrition management of different age groups, fodder production, shelter management and general care, health management and goat meat and milk products.

#### 4. ICAR DPR App

The ICAR-Directorate of Poultry Research (ICAR-DPR) is one among the premier institutions in the field of poultry science research and extension with the support of Indian Council of Agricultural Research developed the ICAR-DPR mobile application. It providing information about the genesis, vision, mission & mandate of the Institute, germplasm and technologies developed, AICPR on poultry breeding, poultry seed project, germplasm availability,

latest news, downloads and contact details.

#### 5. Leptospirosis

Leptospirosis is a transmissible disease of animals and humans caused by infection with the spirochete *Leptospira*. This app was developed by the National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI), Bangalore, contains disease information, sample collection methods, transmission cycle, risk factors, prevention and control, diagnostics and treatment.

#### 6. LDF App

LDF-Mobile App, developed by ICAR-National Institute of Veterinary Epidemiology and Disease Informatics (ICAR-NIVEDI), Bengaluru, in New Delhi. It provides information on Livestock disease information, preventive measures and disease forewarning in India.

#### 7. ICAR-CIRB Bhains Janan (Buffalo Reproduction) App

ICAR-CIRB Bhains Janan App was developed by ICAR-CIRB, Hisar. The App provides basic information on different areas of buffalo reproduction covering topics of reproduction, puberty and sexual maturity, heat symptoms and breeding methods, pregnancy diagnosis, peripartum care, bull selection and management for breeding.

#### 8. ICAR-CIRB Bhains Poshahar (Buffalo Nutrition) App

Buffalo Poshahaar is an educational mobile App, designed and developed by ICAR-CIRB, Hisar covering topics of Buffalo feed management, fodder management and conservation, calf feed management, common nutritional deficiency/ metabolic diseases, toxicity or poisoning in animals and faulty feeding practice with unique photographs.

#### 9. IVRI- Shukar Palan (Pig Farming) App

This has been designed and developed by ICAR-Indian Veterinary Research Institute (Deemed University), Izatnagar in association with ICAR-Indian Agricultural Statistics Research Institute, Pusa, New Delhi. This App is providing information about all the aspects of scientific pig farming from selection of the right breed of pig to its housing, scientific feeding, low cost feeding, breeding management, complete health care and general management.

#### 10. IVRI-Waste Management Guide App

IVRI-Waste Management Guide App is designed and developed by ICAR-Indian Veterinary Research Institute, Izatnagar in collaboration with ICAR-Indian Agricultural Statistics Research Institute, New Delhi, covers information related to composting & its various methods viz., aerobic, anaerobic, rapid, large scale, in vessel & miscellaneous methods.

#### 11. IVRI-Disease Control

This App designed and developed by ICAR-IVRI, Izatnagar & IASRI, New Delhi. It provides information about important diseases of livestock, poultry and dogs their symptoms, diagnosis, treatment, prevention and control.

#### 12. IVRI-Animal Reproduction App

Animal Reproduction App, designed and developed by ICAR-IVRI, Izatnagar, & IASRI, New Delhi is targeted to impart knowledge about reproductive problems in cattle and buffaloes and measures to treat and control them.

### **13. IVRI-Pig Ration App**

The IVRI-Pig Ration App, designed and developed by ICAR-IVRI, Izatnagar and IASRI, New Delhi. The IVRI-Pig Ration App can help the end users to formulate balanced ration for the various categories of pigs based on the locally available feed ingredients.

### **14. IVRI-Vaccination Guide App**

ICAR-IVRI, Izatnagar in collaboration with IASRI, New Delhi has designed and developed 1 more mobile App "IVRI-Vaccination Guide App". This App provide information on the causative agents, types of vaccine available, serotype/stain used for the vaccines, vaccination schedule and commercially available vaccines.

### **15. IVRI-Veterinary Clinical Care App**

IVRI-Veterinary Clinical Care App designed and developed by ICAR-IVRI, Izatnagar & IASRI, New Delhi. It provides information about most frequent clinical conditions encountered in field conditions related to medicine, gynaecology & surgery. The App covers information about each of these conditions under the various subheads viz., About, Symptoms, Diagnosis, Treatment and Prevention & Control.

### **17. IVRI-Zoonoses App**

IVRI-Zoonoses App designed and developed by ICAR-IVRI, Izatnagar & IASRI, New Delhi aims at providing basic information about important zoonotic infections including their modes of transmission, symptoms, prevention and control measures.

### **18. Meat App**

Meat App designed and developed by National Research centre on Meat. It provides information on meat production, processing, value addition and utilization technologies to serve the cause of meat animal producers, processors and consumers.

### **19. Feed Chart App**

ICAR-NIANP has developed feed chart - a ready reckoner for feeding of dairy cattle and buffaloes. It provides information on three different feeding pattern *i.e.*, High green availability, medium green availability and low green availability.

### **20. The Fodder & Range Grasses App**

The Fodder & Range Grasses app designed and developed by ICAR-IGFRI. It provides information about information about cultivated fodder, range grasses and range legumes.

### **21. Forage India**

The app is developed and maintained by All India Coordinated Research Project on Forage Crops & Utilization, Indian Grassland and Fodder Research Institute, Jhansi - (UP) India. App basic purpose is to suggest the suitable forage crop and variety for any state/ UTs and growing

conditions for higher and quality green fodder productivity in the country.

### **22. Forage Seed**

Forage Seed App is developed under All India Coordinated Research Project on Forage crops & Utilization, Project Coordinating Unit ICAR-IGFRI Jhansi Uttar Pradesh India. This App basic function is to render forage seeds stored by seed suppliers or anyone for purchase of forage seeds.

### **23. Feed Calculator**

The Feed calculator App designed and developed by Tamil Nadu University of Veterinary and Animal Sciences. It provides information about different types of feeds is green fodder, dry fodder, concentrated feeds and concentrated feed composition.

### **24. TANUVAS Sheep and Goat Farming**

The App designed and developed by Tamil Nadu University of Veterinary and Animal Sciences. It provides adequate information on breeds, breeding, management, disease control, marketing, *etc* with texts and video.

### **25. Cattle Expert System**

Cattle Expert System App designed and developed by Tamil Nadu Agricultural University. It covers feeding management, breeding management, disease and control management, production technology, calf management and farm machineries for cattle and buffalo.

### **Challenges of using Mobile Apps in India**

- It requires skilled manpower to operate mobile apps for which digital literacy is must.
- Diversity in language across the country makes it difficult to make apps in local languages.
- The content requires translation at many stages which may affects its quality and reduce acceptability among farming community.
- Better internet speed is required for using mobile apps. Many times in rural area, internet connection and speed is a major issue which affects mobile application services.
- Farmers are not adequately equipped with required knowledge & skill to use mobile apps.
- Many mobile apps are charging money for its use; therefore farmer may not afford paid services through these apps.
- Lower adoption and use of mobile apps by farmer is a huge challenge and government must enhance digital literacy in order to resolve it.

### **Conclusion**

The Mobile Application developed for animal husbandry contains information like housing management of animal, feed management, problems and solutions related to reproduction, various diseases and their prevention and fodder cultivation. It helps the farmer for improvement in practices and management which is time saving and economical. Mobile application have more efficient tool to disseminate new technologies and information through

text, videos and audios. Farmers are getting benefits of mobile application like better access to extension services, financial services and market linkages. Mobile apps for Animal Husbandry help in acquiring knowledge and decision making. A range of mobile apps have been developed for the benefit of the farmers for improving information transfer efficiency and significantly impact Livestock business (Kakani *et al.*, 2021).

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