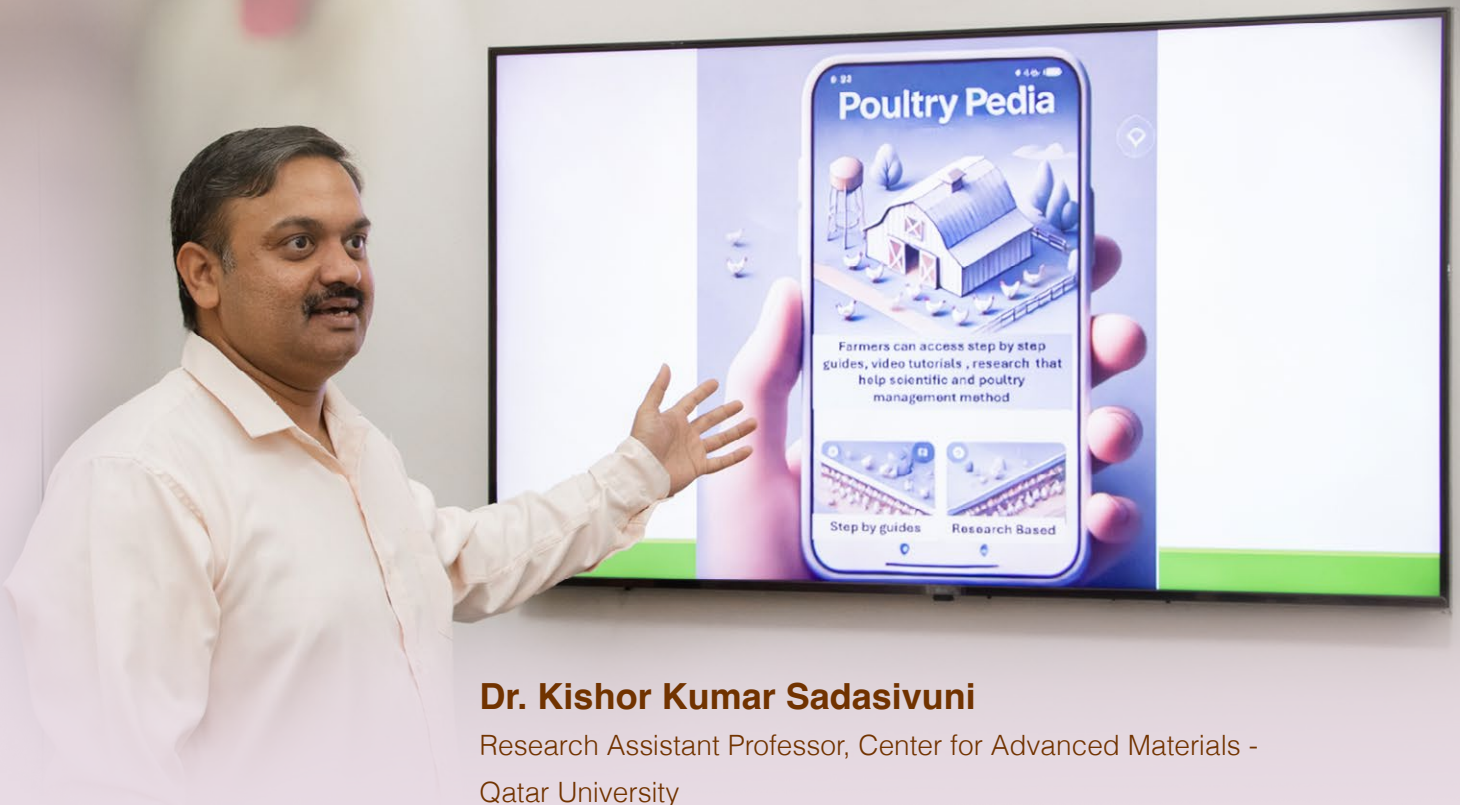


Thinking of Starting a Poultry Business?

Here's the Ultimate Digital Solution!



Dr. Kishor Kumar Sadasivuni

Research Assistant Professor, Center for Advanced Materials -
Qatar University

Poultry farming is a key component of Qatar's food security strategy, yet farmers often face critical challenges, including disease outbreaks, nutritional imbalances, and breeding-management complexities. A team of researchers from Qatar University's Center for Advanced Materials—Ms. Mizaj Sha (PhD Student at QU), Mr. Jai Ramesh (Undergraduate student), Mr. Hanish Abdulla (Undergraduate student), Mr. Nihal Ashik (Undergraduate student), Dr. Muni Raj (Research Associate), and Dr. Kishor Kumar Sadasivuni—collaborated with Prof. Somaya Al-Maadeed from the College of Engineering to address this issue through developing The **PoultryPedia**

Qatar application (**Figure 1**). Funded by the Qatar National Research Fund (Grant No. MME03-1226-210042), this cutting-edge mobile application provides real-time insights on disease prevention, nutrition, and farm management. PoultryPedia Qatar is designed to empower poultry farmers, veterinarians, and researchers by combining expert knowledge with digital technology to optimize productivity and promote healthier flocks. By bridging the gap between scientific research and practical application, this innovative tool is set to transform Qatar's poultry industry, reinforcing the nation's commitment to sustainable agriculture.

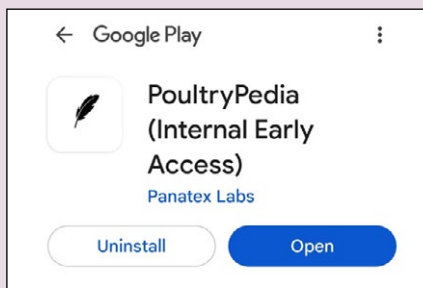


Figure 1: Google Play Store window of the PoultryPedia Qatar application.

A Smart Solution for Poultry Disease Management



Figure 2: PoultryPedia Qatar app showing its comprehensive disease database.

One of the biggest challenges in poultry farming is disease control. Viral, bacterial, and fungal infections can spread rapidly, causing significant economic losses and threatening the sustainability of farms. PoultryPedia Qatar includes a comprehensive disease database that offers in-depth information on the most common poultry diseases, their symptoms, potential causes, prevention measures, and treatment options (**Figure 2**). This feature allows farmers to identify symptoms early, take preventive measures, and respond quickly to outbreaks before they escalate. The database is continually updated with scientifically validated information, ensuring that users have access to the latest research and veterinary recommendations.

The application also provides real-time alerts and notifications about disease outbreaks in specific regions, helping farmers stay informed and take necessary precautions. By leveraging data analytics and user reports, PoultryPedia Qatar can track disease patterns and provide insights to mitigate risks. This proactive approach reduces poultry mortality rates and

minimizes economic losses, contributing to a more resilient poultry industry in Qatar.

Optimized Nutrition and Feeding Strategies



Figure 3: PoultryPedia Qatar app showing the nutrition module with tailored feeding.

Proper nutrition is fundamental to poultry health, growth, and egg production. However, many farmers struggle to create balanced diets due to a lack of accurate information. PoultryPedia Qatar features an advanced nutrition module that provides customized feeding recommendations based on poultry breed, age, and growth stage (**Figure 3**). The application considers essential factors such as protein intake, vitamins, minerals, and energy requirements, ensuring that farmers can optimize their flocks' nutrition for maximum productivity.

Additionally, this mobile application suggests dietary adjustments during critical growth phases and environmental changes, such as extreme heat, which can affect poultry metabolism and feed efficiency. By following scientifically backed feeding protocols, farmers can enhance weight gain, improve egg production, and maintain healthier flocks, ultimately increasing profitability.

Comprehensive Farm Management Tools

Managing a poultry farm efficiently requires careful record-keeping and structured planning (**Figure 4**). PoultryPedia Qatar serves as a digital assistant, enabling farmers to maintain detailed records of their poultry stock, vaccination history, health status, and productivity trends. This application simplifies farm operations by providing integrated tools for flock monitoring, vaccination schedules, and production analysis. Users can track the number of birds, their growth progress, and health conditions, while automated reminders ensure that important vaccinations

are never missed, minimizing the risk of disease outbreaks. Additionally, it helps analyze egg production and meat yield trends, allowing farmers to make data-driven decisions that enhance farm efficiency. By streamlining these tasks, PoultryPedia Qatar reduces the manual workload and boosts overall farm efficiency and profitability.

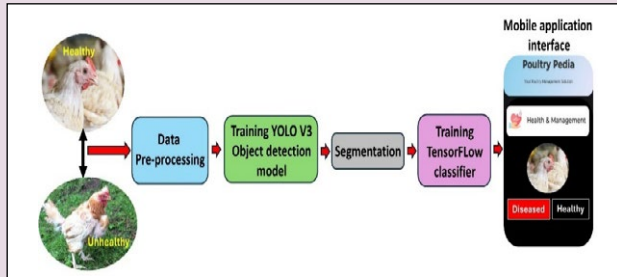


Figure 4: PoultryPedia Qatar app illustrating the process of managing poultry farm records.

Bridging the Gap Between Farmers and Experts

Another standout feature of PoultryPedia Qatar is its ability to connect farmers with poultry health experts and veterinarians. Often, small and medium-scale poultry farmers do not have direct access to professional veterinary services, which can lead to improper disease management and financial losses. The app's teleconsultation feature enables farmers to seek professional advice, share health reports, and receive expert recommendations without needing to travel. This feature is especially valuable in remote areas, where veterinary services may be limited. By providing instant access to expertise, PoultryPedia Qatar ensures that farmers receive timely interventions, improving poultry welfare and minimizing losses.

Interactive Learning and Sustainable Farming Practices

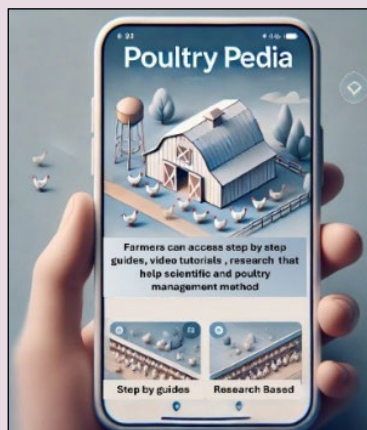


Figure 5: PoultryPedia Qatar app featuring educational modules on the farming practice guidelines database.

Education is a cornerstone of successful poultry farming. PoultryPedia Qatar enhances this by offering interactive learning modules on best farming practices, biosecurity measures, sustainable techniques, and modern breeding strategies. Farmers can access step-by-step guides, video tutorials, and research-based articles to implement scientific and sustainable poultry management methods effectively (**Figure 5**). Beyond education, the application provides a comprehensive guide on profitable poultry marketing, helping farmers identify the best locations and platforms to sell their chickens and eggs within Qatar. Additionally, it includes essential healthcare resources, ensuring farmers have access to expert guidance on maintaining flock health.

Success Story in Digital Agriculture

PoultryPedia should be widely adopted by poultry farmers, industry professionals, and researchers across the country. Its impact has been transformative, providing users with data-driven insights, disease prevention strategies, and optimized farm management solutions. By combining research-backed knowledge with an intuitive interface, the application empowers farmers to improve poultry health, increase productivity, and enhance food security in Qatar. The success of PoultryPedia Qatar is a testament to Qatar University's commitment to technological innovation and agricultural sustainability. It showcases how digital tools can revolutionize traditional farming practices, making them more efficient, informed, and resilient. By utilizing smart solutions like PoultryPedia, Qatar is taking significant strides toward achieving self-sufficiency in poultry production while ensuring a sustainable future for the industry.

PoultryPedia Qatar stands as a shining example of how digital transformation can address real-world agricultural challenges, ensuring a brighter future for poultry farmers in Qatar and beyond. Looking ahead, PoultryPedia Qatar will integrate AI-powered features using camera technology, allowing farmers to diagnose poultry health issues in real time. Through integrating artificial intelligence, the application offers instant analysis, early disease detection, and tailored recommendations, revolutionizing poultry management in Qatar.

PoultryPedia Qatar is now available for all users and can be downloaded by scanning the QR code.

