

Digital Communication Center for Rural Healthcare



Introduction

Bigwa Farm Ltd is committed to bringing evidence-based, quality healthcare information to rural communities around its farm in Tanzania. Through a **Digital Communication Center** initiative powered by technology, our goal is to overcome the barriers to healthcare information access and ensure that timely, life-saving information is made available even in the most remote locations.

Our journey began with a real-life experience—witnessing a mother helplessly watching her child suffer due to malaria in a rural village, a tragic and all-too-common occurrence in underserved communities. Driven by a vision of equitable information distribution, we set out to create a system where no emergency or health complication goes uninformed or untreated.

To achieve this, we've implemented a connected care ecosystem that includes IoT-enabled diagnostic devices and a mobile app designed for chronic disease information. The solution is bolstered by satellite connectivity, enabling real-time video consultations with district medical centers, empowering patients to receive expert care from near their home and without unnecessary, unaffordable travel.

While chronic diseases may not be fully curable, they can be effectively managed with regular monitoring and information about lifestyle adjustment. This requires continuous patient engagement and accessible support systems. Our solution supports this by enabling video communication with medical centers, compiling structured health data, helping doctors make faster, data-driven decisions and motivating patients to stay on track with their health goals.

Our Mission We aim to make health information accessible, affordable, and user-friendly for all, integrating technology to empower each person to lead a healthier life.

About Bigwa Farm Ltd Based in the Mkuranga District of Tanzania's Pwani Region, Bigwa Farm Ltd is an agricultural enterprise committed to social responsibility. As part of our mission, we are prioritizing healthcare access for rural populations living in the surrounding villages.

Use Case: Bridging the Healthcare Gap Bigwa Farm Ltd's Digital Communication Center will provide essential teleconsultation close to the farm, bringing essential healthcare to underserved rural communities.

Challenges in Rural Healthcare Communication

1. Limited network coverage in remote areas
2. Unreliable electrical power
3. Minimal healthcare infrastructure and access
4. Limited availability of doctors and medical staff
5. Logistical challenges in coordinating teleconsultations
6. Insufficient health data for informed intervention
7. Low affordability for patients, with travel to distant health centers proving prohibitive

Our Solution: Digital Communication Center



The Digital Communication Center includes a diagnostic kit with advanced, Bluetooth-enabled devices, including:

Blood pressure monitor, glucometer, BCA analyzer, true Hb meter, pulse oximeter, IR thermometer, digital stethoscope, ECG, HbA1c analyzer, and lipid profile tests.

With robust satellite Internet, the Digital Communication Center enables remote patients to access expert consultations without travel as far as possible. Solar power ensures continuous function, making

it sustainable in areas with unreliable electricity. **It is envisaged the Digital Communication Center will serve as an outpost to the Mkuranga Medical Center.**

Expected Outcomes

- Enhanced healthcare access for rural communities
- Increased patient engagement and satisfaction
- Empowerment of local healthcare workers
- Real-time insights for medical teams
- Reduced travel, cost, and inconvenience for patients

Potential Impact A similar project in India impacted over 900 lives in 2023, with 2,073 screenings identifying 60+ high-risk cases. This data-driven approach led to more timely interventions and significantly improved patient outcomes.

Bigwa Farm Ltd envisions similar success, paving the way for a healthier, more connected future for rural Tanzania.