

Financial/ Banking

Financial Literacy – Banking the Unbanked

Enhancing Operational Efficiency with
HFCL's Access Solutions



Background

Given the pivotal role that NABARD plays in fostering rural development, promoting financial literacy, and supporting government initiatives aimed at uplifting rural communities, the importance of an upgraded Wi-Fi infrastructure cannot be overstated.

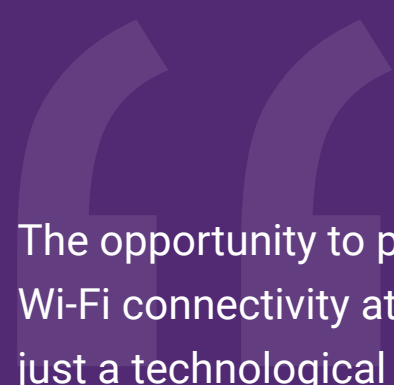
Recognizing the growing importance of state-of-the-art Wi-Fi infrastructure, NABARD proactively chose to upgrade its existing network with a Make in India Wireless Access Solution. This forward-looking approach not only addresses current operational needs but also responds to the concerns expressed by employees and visitors due to the limitations of the outdated, wired network characterized by low bandwidth and unreliable connectivity.

The enhanced Wi-Fi system has now become an indispensable component of its operations, serving as the digital backbone that underpins its multifaceted mission. The robust Wi-Fi infrastructure acts as a conduit for seamless communication, efficient data sharing, and rapid access to critical information. It connects various departments, branch offices, and customers, fostering efficient collaboration and expediting decision-making processes. This connectivity improvement is particularly crucial given the dispersed nature of NABARD's operations, spanning diverse geographical areas, and serving rural communities.

The upgraded network doesn't just enable NABARD's day-to-day operations; it also catalyzes the realization of its digital initiatives, including online banking services, digital platforms, and technological advancements. These initiatives rely heavily on high-speed internet connectivity, and the enhanced Wi-Fi infrastructure ensures their effective execution. Furthermore, it plays a pivotal role in bolstering security measures, a paramount requirement in the financial sector, safeguarding confidential and sensitive data from potential threats.

Beyond these operational advantages, the Wi-Fi infrastructure is instrumental in facilitating educational and training programs. These initiatives empower rural communities with vital financial knowledge and skills, contributing significantly to their socioeconomic upliftment, and aligning seamlessly with NABARD's core mission. In addition, NABARD's collaborative efforts with institutions like Jan Shikshan Sansthan (JSS) to provide high-speed internet connectivity to remote tribal hamlets in the Nilambur forest demonstrate NABARD's commitment to extending the benefits of enhanced connectivity and digital resources to underserved populations. In essence, the upgraded Wi-Fi infrastructure is a strategic investment that empowers NABARD to fulfill its critical role in advancing rural India's prosperity and equitable development.

India's digital lending stood at US\$ 75 billion in FY18 and is estimated to reach US\$ 1 trillion by FY23 driven by the five-fold increase in digital disbursements.¹



The opportunity to provide high-speed Wi-Fi connectivity at Char Dham was not just a technological challenge; it was a chance to enhance a deeply spiritual experience for millions. We're incredibly proud to have partnered with the administration and local authorities, implementing a solution that has transcended traditional connectivity to create a seamless, enriching journey. This project has solidified our commitment to deliver technology that resonates with human values and needs

Manish Gangey
Executive President, HFCL

Overview

The National Bank for Agriculture and Rural Development (NABARD) plays a pivotal role in the economic and social development of rural India. Established as the apex body for rural and cooperative banks in the country, NABARD's responsibilities extend far beyond.

This institution is entrusted with the critical tasks of formulating policies, strategic planning, and implementing operations related to credit disbursements for agriculture and various economic activities in rural regions of India. NABARD serves as a financial backbone, ensuring that the credit needs of farmers, rural industries, and artisans are met effectively.

It promotes sustainable agricultural practices, encourages the growth of cottage and village industries, and strives to bring financial inclusion to the remotest corners of the nation. With its multi-faceted role, NABARD plays a vital part in nurturing rural development, spreading financial literacy, and providing essential support to government initiatives geared towards the betterment of rural communities, making it an indispensable force in the nation's progress toward a prosperous and equitable rural India.

NABARD disbursed 158905 crore and Rs 10,7015 crore for supporting ST and LT financing by banks, respectively, during the year 2022-23.²

UNDP India and NABARD have partnered to enhance and disseminate digital public goods like DiCRA (Data Climate Resilient Agriculture). DiCRA serves as an open-access platform that provides crucial geospatial datasets relevant to climate-resilient agriculture. This initiative is to co-create data-driven innovations in agriculture and food systems to support smallholder farmers.³

Challenge

NABARD, with its operations spread far and wide and running multiple critical projects, was facing several challenges with legacy network, resulting in connectivity issues, low bandwidth, and frequent disruptions, thus impeding employee mobility and operational efficiency. Moreover, NABARD's digital initiatives, integral to its mission, struggled due to the inadequate network, hindering customer experiences and impeding progress in digital transformation.

Solution

To address NABARD's connectivity and security challenges, the HFCL team after having a complete understanding of the existing deployed network infrastructure, implemented a robust network solution transforming the organization's digital landscape. The well-thought-out deployment encompassed cutting-edge technology components and meticulous integration with the existing network, aimed at delivering high-speed, secure, and scalable Wi-Fi connectivity while fortifying network management and security. We deployed a network of 156 high-performance Wi-Fi 6 indoor access points strategically throughout NABARD's premises. Built on the latest Wi-Fi 6 standard, it offers significant improvements in data transfer speeds, capacity, and performance compared to earlier Wi-Fi standards.

These access points are equipped with advanced technologies such as MU-MIMO (Multi-User, Multiple Input, Multiple Output) and OFDMA (Orthogonal Frequency Division Multiple Access) to efficiently handle multiple devices and high-density network environments. They also support features like WPA3 security encryption for enhanced data protection. To optimize network traffic and device connectivity, we implemented 8 fully managed Layer 2 switches.

These switches enhance data flow efficiency and enable remote configuration and monitoring for seamless network management. As part of the solution, we introduced a centralized dashboard equipped with AI-powered analytics. This dashboard provides NABARD with a comprehensive view of the network's health and performance. The AI capabilities help in real-time monitoring, proactive issue detection, and data-driven decision-making.

Since meeting the security standards of banking was critical, we integrated our highly scalable Cloud Network Management System (cNMS) with NABARD's existing Network Access Control (NAC). This integration ensures efficient network management, scalability, and robust security, allowing authorized users and devices to access the network while keeping potential threats at bay. To fortify our network security, we introduced a new firewall and seamlessly integrated it with NABARD's existing firewall infrastructure. This dual-layered firewall system significantly enhances our defense against unauthorized access and potential cyber threats.

To further strengthen our security posture, we have also implemented a fully integrated and highly secure AAA+ Captive portal. This advanced portal extends beyond standard authentication and access control, ensuring that only authorized users can access the network. User permissions are clearly defined, and all activities are meticulously tracked for both security and management purposes. To enhance user convenience, we configured two separate SSIDs to cater to different needs.

The EAP-based SSID offers secure access, requiring authentication for authorized users. Simultaneously, the open SSID provides convenient access for guests and devices that don't require authentication while maintaining network security. To further bolster security, we implemented a fully integrated and secure AAA+ Captive portal that goes beyond the basic authentication and access control. To ensure only authorized users can access the network, with permissions clearly defined and activities tracked for security and management.

Solution Deployed

Indoor Wi-Fi



ion4xi-Wi-Fi 6

MU-MIMO high-capacity indoor Access Points

Managed Switches



8-Port L2 Switches

Network Management



cNMS

Cloud network management for a single window view of the entire network

- Carrier-grade Indoor Wi-Fi 6 Access Points
- Fully Managed 8-Port L2 Switches
- Centralized dashboard with AI- Powered Analytics
- Seamless integration of Highly scalable Cloud Network Management System – cNMS with NABARD's existing Network Access Control (NAC)
- Established a new Firewall and integrated it with NABARD's pre-existing Firewall system.
- Configured two distinct SSIDs- One EAP-based SSID and another Open SSID.
- Fully integrated and secure AAA+ Captive Portal

Result

- 01** The deployed Wi-Fi solution has boosted employee productivity by 2x and increased employee participation in training programs.
- 02** The solution significantly reduced network downtime, resulting in a 3x decrease in disruptions. Additionally, the impressive acceleration of online application processing times led to a significant increase in digital transactions and reduced overhead costs. This comprehensive improvement boosts productivity and generates significant cost savings, thereby bringing in 360-degree operational efficiency.
- 03** Additionally, the Wi-Fi solution has not only driven a threefold increase in digital transactions due to faster internet speeds but has also facilitated swift decision-making through real-time data processing and enhanced business intelligence activities, making operations three times more efficient. There has been a significant reduction in customer service response times, leading to a marked improvement in customer retention and satisfaction.

Conclusion

The strategic implementation of our comprehensive network solution has played a pivotal role in unlocking a multitude of benefits. This solution has effectively provided an enhanced and resilient network infrastructure upgrade. The integrated approach not only meets current network needs but also lays a foundation for future scalability and security, ensuring a seamless network experience for all.

Vasudhaiva Kutumbakam (One Earth, One Family, One Future)

Over the years, NABARD has diligently expanded and shaped the ecosystem for formal credit, microfinance, and cooperation in rural India with support from governments, the Reserve Bank of India (RBI), partner agencies, and other stakeholders. To strengthen rural financial institutions (particularly cooperatives) and make them impactful, it is imperative to embrace digitalization. Digitalization can help secure higher agricultural earnings by reducing information asymmetry across farmers, suppliers, retailers, consumers, bankers, and other stakeholders in a cost-effective manner. In this direction, NABARD, in collaboration with the Government of India (GOI), is implementing the centrally sponsored scheme for the computerization of 63,000 primary agricultural credit societies over the next 5 years to facilitate the adoption of core banking solutions by cooperatives, faster transactions, unhindered access to payment services and more effective supervision. Furthermore, this year NABARD has successfully set up its own enterprise data warehouse to store data generated within the organization and derive detailed analytics-based insights to cater to the diverse needs of rural India.

Excerpt from the Chairman Annual Report 2022-23

Shaji K. V. Chairman

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