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NABARD, Government of Karnataka and Cropin partner to create fair trade and easy market access for farmers of Karnataka

REGION: India, South Asia

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Digitization clears the path to fair trade and easy market access for Karnataka farmers

Agriculture and related activities support more than 50% of Karnataka's population. A majority of cultivators are small and medium farmers. Farming is mainly rainfed and variations in rainfall due to climate change has made it unviable. **Soil erosion, depleting groundwater, erratic rainfall and periodic droughts hamper agricultural productivity and lead to losses**. This forces farmers to borrow from moneylenders at high-interest rates and they get tangled in a vicious cycle that leads to a state of constant indebtedness.

Other challenges for farmers were lack of access to markets, transparent price discovery mechanisms and modern production, harvest and post-harvest technologies. **The National Bank for Agriculture and Rural Development (NABARD) partnered with the Government of Karnataka to digitize the value chain, offer support and advise farmers in Magadi taluk**.

Cropin was roped in for the project, which started in 2019. The partnership positively impacted 1,200 smallholder farmers.

The challenges that necessitated digitized farm-to-table supply chains

Agriculturists in Karnataka faced several challenges that impacted productivity and profits. Farmers had minimal or no support and limited access to modern agricultural practices and digitized farming methodologies.

The agricultural value chain was weak, and there was very little collaboration between the various stakeholders. Farmers lacked knowledge about advisories on weather and training in modern farming technologies and processes.

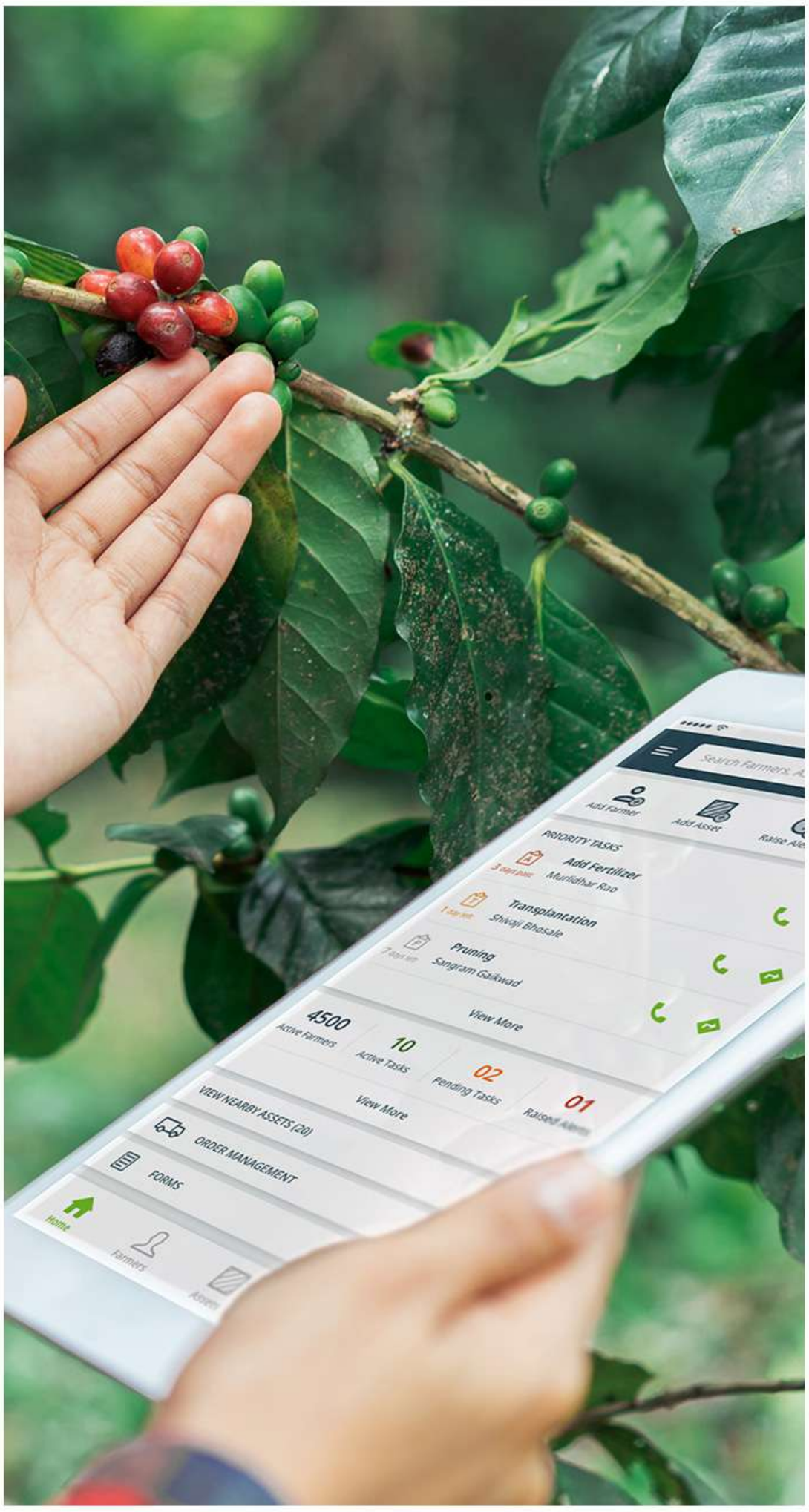
They also had no access to fair trade practices and prices. Loan disbursals and loan recovery were hampered because of irregular and incorrect field data collection.

Improving smallholder farmer access to technology – the key to agricultural progress

NABARD is an apex regulatory body for the overall regulation and licensing of rural and apex cooperative banks in India. The mission of NABARD is the promotion of sustainable and equitable agriculture along with the development of rural India. It aims to achieve this through participative interventions in financial and non-financial sectors, as well as innovations, technology and institutional development to drive prosperity.

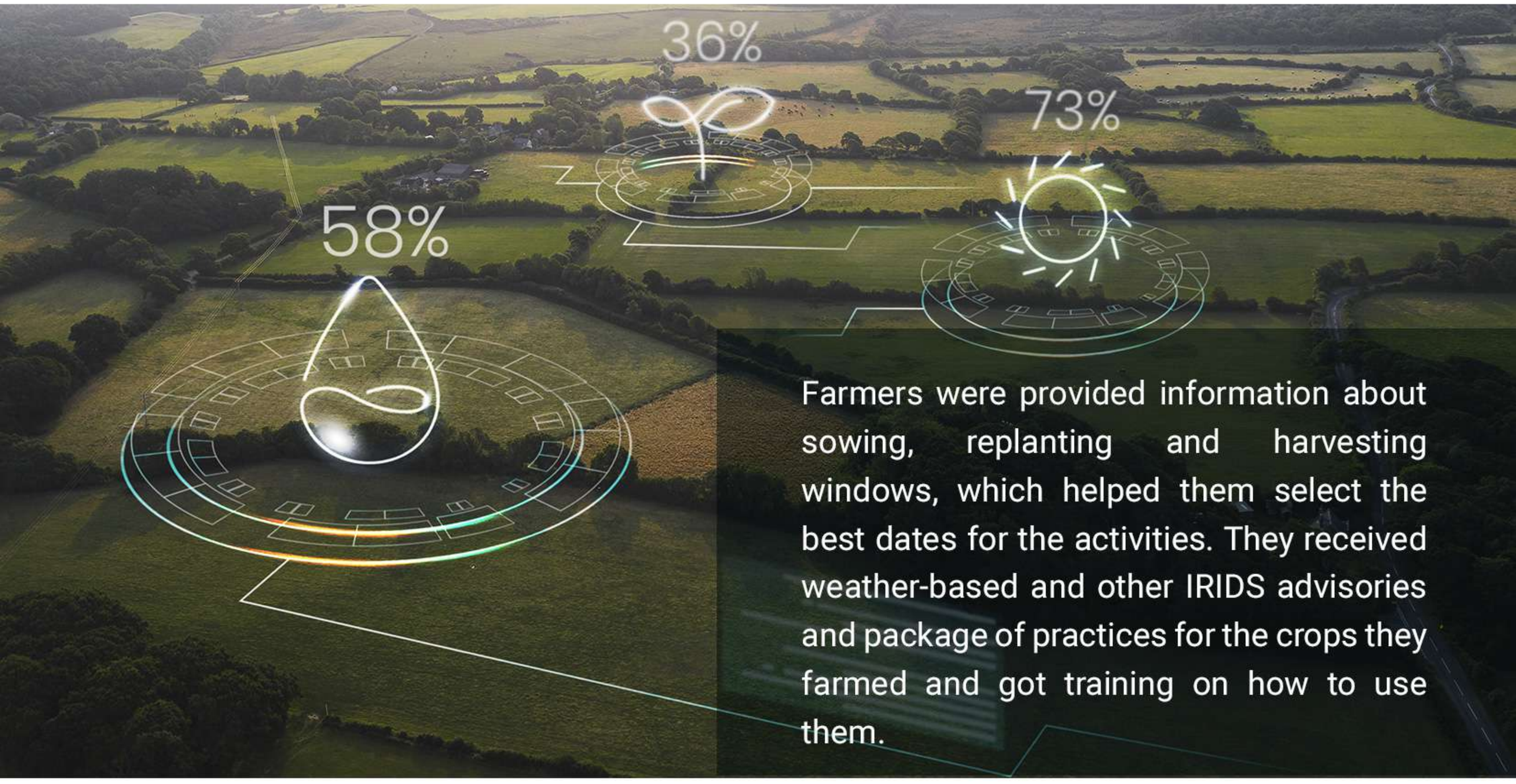
The focus of the NABARD-Government of Karnataka-Cropin project was to provide access to markets and fair-trade practices for farmers. The partnership digitized the value chain and helped farmers to profit from agriculture and escape indebtedness.

Cropin's intervention provided piloting and scaling of digital solutions and their adaptability to the local context, advisory services, capacity building and training, and knowledge management.



A QR code solution to track traceability throughout the crop lifecycle and beyond was part of the solutions that were piloted and scaled. Multilingual support ensured the adaptability of the application to the local context.

Digitization was launched with the registration of farmer details on the application. **Plots were geo-tagged with location-specific information such as longitude and latitude for easy identification**. The area of agricultural plots was audited and documented. The Indian Rural Integrated Development (IRIDS) team collected data from the fields and uploaded it to the app to generate precise reports. Geospatial imaging of the agricultural plots and artificial intelligence and machine learning-powered predictive modeling provided banks with accurate data to sanction loans. It was a huge relief for farmers who, till then, were dependent on unscrupulous moneylenders for finance.



Farmers were provided information about sowing, replanting and harvesting windows, which helped them select the best dates for the activities. They received weather-based and other IRIDS advisories and package of practices for the crops they farmed and got training on how to use them.

Farmers also received training to access online markets and benefit from the information on mandi prices shared by the platform. It also connected them to buyers willing to pay the best price in the market for their produce. After rolling-out digital solutions, capacity-building programs were conducted for the adoption of the application. **Training programs were conducted for field officers to speed up product adoption, and data collection was monitored to check activation**.

The two-way communication enabled by the app helped drive farmer engagement.

Logical knowledge management ensured that data organization on the platform was configured for easy access. The product user manual and product feature updates were shared with the field officers as part of knowledge management

Putting farmers on the track to prosperity

The NABARD-Government of Karnataka-Cropin project was spread across 112 villages in Karnataka. The project, now complete, targeted farmers who grew crops like flowers, vegetables, fruits and pulses across villages in the Hujagal and Kalari watershed area of Magadi taluk.

The initiative saw 1,104+ farmers adopt digital farming technologies, 1,215+ plots registered, and 817+ acres of land audited. It shared 92,667 messages with farmers that provided daily market price updates. The project positively changed the farming cycle of 21 crop varieties and with it, the lives of 1,200 smallholder farmers.

The digital application connected farmers to agri-input companies that provide fair prices for seeds, fertilizers, pesticides, and agricultural loans. It enabled farmers to access buyers who offered competitive prices for their produce through transparent price discovery mechanisms. Buyers could also reach out to growers who met their requirements. Accurate reports on field data ensured that farmers' insurance settlements were cleared without delay.

Cropin Company Profile

Founded in 2010, Cropin is a global Agtech pioneer who has built the world's first purpose-built industry cloud for Agriculture - Cropin Cloud, an Intelligent Agriculture Cloud.

Cropin Cloud enables various stakeholders in the agri-ecosystem to leverage digitization and predictive intelligence to make effective decisions that increase farming efficiency, scale productivity, manage risk and environmental changes and enhance sustainability. Cropin has been instrumental in creating the global Agtech category and bringing advanced technologies together to transform farmers' lives worldwide through partnerships with agri-businesses, governments and development agencies across 56 countries. They helped the ecosystem to eliminate the uncertainties associated with farming and made it predictable, traceable, and sustainable.

Cropin Cloud combines cutting-edge technologies, including artificial intelligence, machine learning, data science, satellite imagery, and remote sensing. It helps derive real-time actionable insights to build a connected and sustainable agri-ecosystem that can benefit farmers, farming companies, agri-input providers, food processing companies, retailers, financial service providers, governments and development agencies.

Cropin has partnered with over **250 B2B customers** and **digitized 16 million acres of farmland, improving the livelihoods of more than 7 million farmers**. Our work over the last decade has enabled us to spearhead a global 'Ag-intelligence' movement with a crop knowledge graph of **488 crops and 10000 crop varieties in 56 countries** that powers the Cropin Cloud. Cropin Cloud's Intelligence platform has already computed and **provided predictive intelligence for over 0.2 billion acres of farmlands** across the globe.

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