

A Year of Change

Krishi Mangal

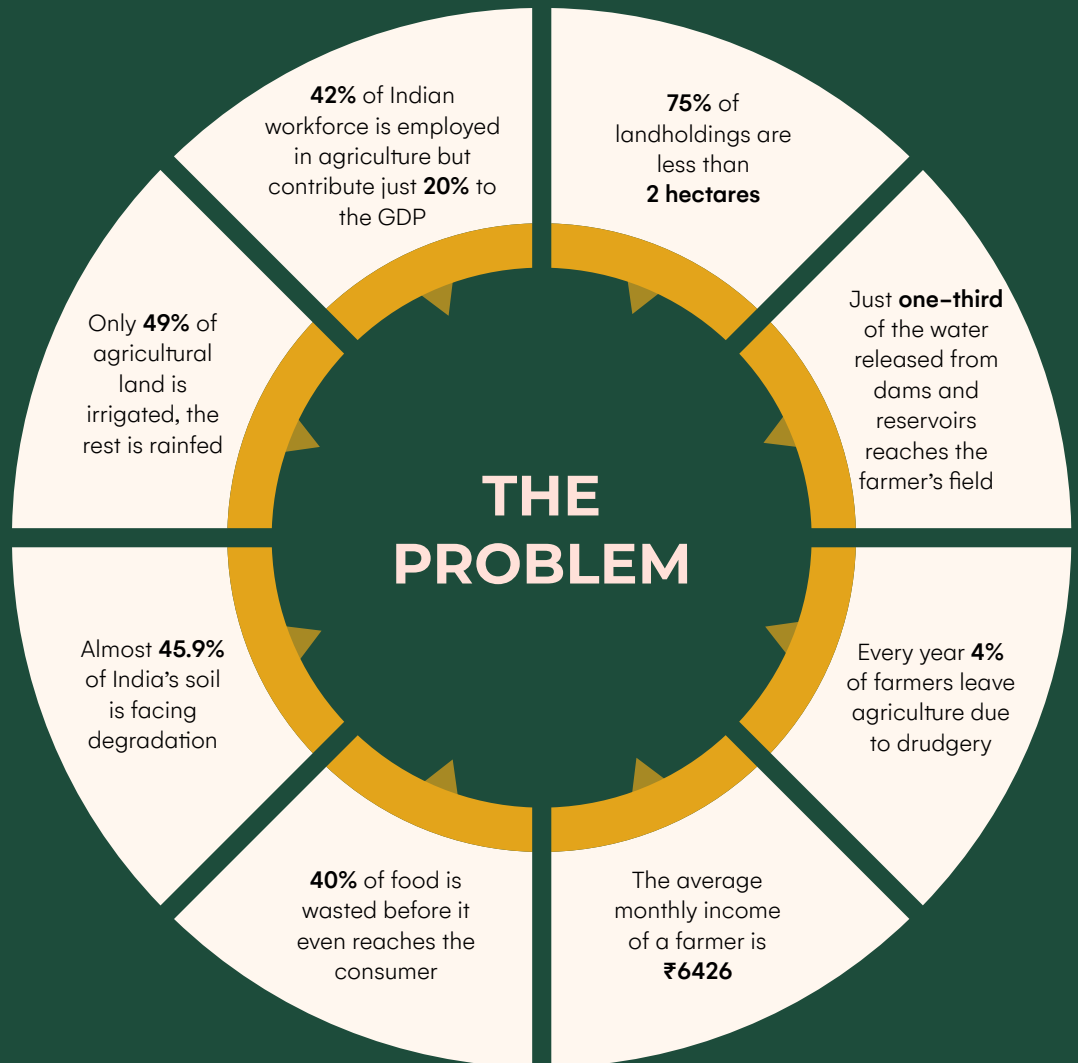
Impact Report 2022



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In India, smallholder farmers struggle with several issues that impact their livelihood, which lead to subsistence farming, low income, and increased debts. These include fragmented land, access to irrigation, unpredictable weather conditions, low productivity, etc.

These farmers have limited access to existing technological innovations due to a lack of awareness and restricted access to finance, exacerbated by the lack of an integrated approach and no incentivisation to adopt modern technologies and agronomic practices.

Krishi Mangal, a joint initiative by Cisco and Social Alpha, seeks to improve the lives of smallholder farmers by accelerating deep-tech innovations in the AgriTech sector.


KRISHI MANGAL

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A YEAR OF CHANGE

Cisco & Social Alpha come together to solve India's agricultural issues

In the last seven years, India has seen the birth of 1000+ AgriTech startups, developing solutions centred around big data, IoT sensors, farm management software, drone-based technologies, intelligent storage, traceability, and blockchain-based supply chain.

Although solutions exist, India's agricultural innovation systems still operate in silos — restricting the reach of these innovations to smallholder farmers.

Cisco, a multinational tech conglomerate, and Social Alpha, a multi-stage venture development organisation, launched the Krishi Mangal initiative in April 2021 to break this silo.

Krishi Mangal seeks to enable farmers to deal effectively with occupational hazards and systemic inadequacies through innovation and entrepreneurship. The key is to provide an end-to-end solution.

In addition to building cutting-edge solutions, Cisco has brought together the ecosystem

players, paving the way for the digitisation of the farm sector.

The grant will help accelerate the adoption of breakthrough technology, products, and services that drive economic development to solve existing problems. Engagement with Cisco mentors during the program will mean that the organisations and entrepreneurs can benefit from domain expertise and strong market knowledge.

Social Alpha supports entrepreneurs through a network of innovation labs, startup incubators, accelerator programs, seed funds, and market access mechanisms.

Selected startups get access to infrastructure, a sandbox for pilots and validations, product management guidance, technical, business, and regulatory expertise, early-stage risk capital, and entrepreneurial mentoring. Social Alpha raises financial resources from several philanthropic, government, and corporate partnerships to support these programs.



MR. HARISH KRISHNAN

MD, Public Affairs & Strategic Partnerships
CISCO

A variety of digital solutions has already been provided to farmers, but the key is to provide end-to-end digital solutions. This is where Cisco and Social Alpha can act as a bridge to solve challenges. With innovation in AgriTech growing rapidly, we need to create maximum impact by increasing collaboration — the Krishi Mangal program is a way to achieve that goal.



MR. MANOJ KUMAR

Founder and CEO
Social Alpha

At Social Alpha, we have chosen to address the vulnerabilities of Indian farmers and are constantly scouting for startups that are working on breakthrough technologies for large-scale impact. Social Alpha's partnership with Cisco will help us scale high-impact solutions to reduce risk and increase the income of smallholder farmers.



WHAT IS THE KRISHI MANGAL AGRITECH SCALE UP ACCELERATOR?

Krishi Mangal follows a **two-pronged approach** to support deep-tech innovations — a **Scale-up Accelerator** for in-revenue AgriTech startups and promoting the **Agri Open Innovation Platform** to enable collaborations across the agriculture and allied value-chain.

As part of the Scale Up Accelerator, a request for proposal was sent to 35 startups from Social Alpha's portfolio for the first level of screening. Of these, 16 startups made it to the jury round.

THE JURY



MR. VIJAY RAJMOHAN

Director of Digital Agriculture & Trade
Chief Data Officer, Dept of Agriculture,
Government of India



MR. C M PATIL

CEO, Krishi Kalpa
Ex-CEO, Deshpande Startups



DR. SUDHIR KUMAR GOEL

Consultant, Agri-value chains
Retired IAS Officer



MS. GIRIJA SRINIVASAN

Senior Consultant, IFAD
Board Member, CmF



MR. LOKESH LOHIYA

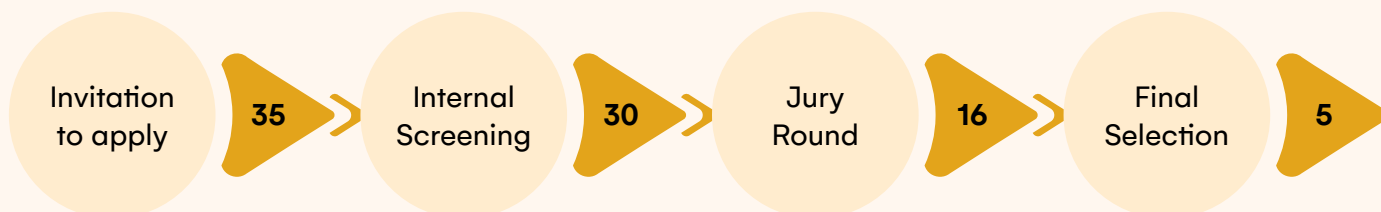
Director of Business Development,
Digital Transformation Office,
CISCO India



MR. GANESH NEELAM

Executive Director, CINI
Board Member, Social Alpha
Zonal Head, Tata Trusts

After two days of extensive jury presentations, five innovative in-revenue startups were selected to be a part of the Scale-up Accelerator.



KRISHI MANGAL PROGRAM OFFERINGS

In Krishi Mangal's one-year scale-up accelerator, the five startups received a **grant of ₹40 lakhs** to implement their solutions in a new geography or customer segment. Additionally, they also received support in market access, sales and distribution, and fundraising.



ON FIELD IMPLEMENTATION

- Grant of **₹40L per startup** for field implementation
- Milestone-based disbursements
- Thorough monitoring of on-ground progress, programmatic milestones, and financial utilisation



MARKETING SUPPORT

- Assessment of existing marketing collateral by in-house experts
- Professional support to develop marketing collaterals (**₹70,000**)
- Brand video/impact documentary (**₹1,75,000**) per startup



GO-TO MARKET SUPPORT

- Expert workshops to develop a coherent strategy
- Connects with customers/distributors
- Sponsored campaigns including a grant of **₹2,50,000** per startup for execution



FUNDRAISING SUPPORT

- Experts to support with pitchbook design, business plan finalisation, investor connects, negotiations etc.
- Support worth **₹1,00,000** per startup



CISCO MENTORSHIP ENGAGEMENT

- Engagement with experts from CISCO for support on the product/technology, GTM, Govt. connects, and HR/Org. development

PROGRAM JOURNEY

Krishi Mangal was launched on 27 April 2021 with Mr. Vivek Aggarwal, Additional Secretary, Ministry of Agriculture and Farmers Welfare, GOI, as the Chief Guest who spoke about the potential of public-private collaboration in taking agricultural innovations to the smallholder farmers.



Over 12 months, 15 articles were published in YourStory to cover startup journeys under Krishi Mangal and the key highlights from their field implementations.

AGRICULTURE


Warming up to decentralised cold storage solutions

By [Social Alpha by @Tech Toxin](#)
July 29, 2021, Updated on: Aug 14, 2021, 2:29 PM GMT+5:30

TECHNOLOGY

Scripting the development story through the Open Innovation Platform

By [Jacob Poudyal](#)
April 12, 2022, Updated on: Apr 12, 2022, 7:01 AM GMT+5:30



INSPIRATION

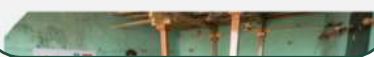
How Jaljeevika is enhancing the income, livelihood, and productivity of inland aquapreneurs

By [Nishith Patil](#)

FOODTECH

How TraceX Technologies is building trust in India's food supply chains with FOODSIGN


By [Mayuri Ramanan](#)
June 10, 2022, Updated on: Jun 10, 2022, 2:43 PM GMT+5:30



AGRICULTURE

How this Bengaluru-based organisation is leveraging big data to help farmers with crop advisories


By [Mayuri Ramanan](#)
March 25, 2022, Updated on: Mar 25, 2022, 3:15 PM GMT+5:30



INSPIRATION

Empowering rural women through goat trading


By [Mayuri Ramanan](#)
December 8, 2021, Updated on: Dec 8, 2021, 10:51 AM GMT+5:30



AGRICULTURE

Decoding Agriculture 4.0: Growing more with less

By [Siddharth Bhattacharjee](#)
June 29, 2022, Updated on: Jun 30, 2022, 12:04 PM GMT+5:30



INVESTOR SHOWCASE



An offline investor showcase was held in Bangalore for the selected startups on 23rd March 2022. 11 mainstream and impact-focused VCs/Funds and Angels attended this event. All five startups received further interest from investors.

FIELD VISITS



The Social Alpha and Sattva team made field visits to the implementation location independently and together.

WHAT IS THE AGRI OPEN INNOVATION PLATFORM (OIP)?

The OIP is a democratic way of solving problems, mindful of India's rich diversity and the plurality of cultures.

OIP's crowdsourced curation model enables people to create value for themselves and their communities. It has onboarded



140+ PROBLEM STATEMENTS



60+ SOLUTIONS



200+ COLLABORATORS

Launched by Social Alpha and Cisco CSR, it aims to unite multiple stakeholders across the Agri value chain on a single platform to enable collaboration and co-creation of solutions for India's agricultural problems. Through the OIP, the stakeholders can discover problem statements and solutions

resonating with their geography and ensure these solutions are adopted. It addresses systemic gaps through transparency and a trust-driven approach where stakeholders onboard information that can be viewed and utilised across the platform.



THE STARTUPS



CENTRE FOR AQUATIC LIVELIHOOD
JALJEEVIKA

CISCO MENTORS



ANITA KUMAR

Manager
Government Affairs



LOKESH LOHIYA

Director
Sales Business Development



DINESH PAL SINGH

Tech Lead
Digital Transformation Office



RAVISHANKAR RAO

Leader
Strategy & Planning Engg, India



SIRISHA PALEPU

People Consultant

PASHU BAJAAR

Pashu Bazaar is building a transparent and efficient livestock product market to transform livestock rearing-based livelihoods for small, marginal, and landless farmers. They have created an e-commerce platform for livestock, enabling consistent supply with unmatched quality and better price realisation for goat rearers. It allows them to increase herd size and improve goat quality, unlocking sustainable livelihoods within the goat value chain.



SANJEEV KUMAR
Founder

PILOT LOCATION

UTTAR PRADESH

Sitapur Lucknow Barbanki Fatehpur

IMPACT SUMMARY



Pashu Bazaar has worked with **1000+ goat farmers** and increased their earnings by **₹1000 – 1500 per goat**

Provided employment opportunities to **50 Pashu Sakhis** Trained in best practices such as weighing, disease management, etc, to help the goat farmers

Started initiatives such as livestock health camps, artificial insemination awareness camp, and live bodyweight pricing innovation which increased the rate of goats from **₹240/kg to ₹290/kg**

Established **50 Village Level Trading Centres (VLTC)** allowing farmers to purchase inputs and sell livestock within their neighbourhoods

Brought down goat mortality from **30% to 6.5% (2 goats saved per year)** and the mortality of kids from **48% to 8.5% (2 kids saved per year)**, with the help of Pashu Sakhi's, leading to an average increase in **income of ₹15,555 per farmer**

5 Cluster Level Trading Centres (CLTC) were established, **one for every 10 VLTC's**, which acted as a collection unit from all the VLTC's and was instrumental in creating an effective supply chain.

KRISHI MANGAL PROGRAM SIGNIFICANCE

As the startup focused on value-chain business, it received significant marketing support. The startup tested new product variations, started in a new geography and trained rural youth in new domains like rural livestock trading and business development. Along with the impact we've covered above, it also demonstrated that Pashu Sakhis are a

sustainable business provider. It offered an opportunity for launching meat sales and fine-tuning the goat supply chain model, and helped provide market linkages to leading meat startup companies like Tender Cuts. Finally, the fundraising service helped raise funds for the app.



MAYADEVI
Pashu Sakhi

CASE STUDY

Mayadevi is a Pashu Sakhi, who was trained in 16 best goat-rearing practices as part of the program, including medical treatment and identifying common diseases. That helped to increase the goats' weight and keep them healthy. Mayadevi now owns 22 goats and

can use her learnings to improve the health of her goats. She has sold 42 goats throughout the year and has earned ₹5 per kilo as commission from Pashu Bazaar. Mayadevi now earns extra income by producing goat feed and selling it to farmers in her village.

TAN90 THERMAL SOLUTIONS

Tan90 has developed portable cold storage solutions to enable seamless, efficient and cost-effective transportation of perishable goods from farm to fork through its patented PCM (Phase Change Materials) technology. Tan90 products include - Portable Cold Storage Boxes, Portable Cold Storage Bags and EVAP90 (Evaporative Coolers).



DR SOUMALYA MUKHERJEE
Co-founder



RAJNIKANT RAI
Co-founder



SHIV SHARMA
Co-founder

PILOT LOCATION	
ANDHRA PRADESH	TELANGANA
Nellore Vizag Chittoor	Hyderabad Karimnagar Nalgonda Medchal
Srikakulam Vijayanagar	Warangal Mahbubnagar Siddipet

IMPACT SUMMARY



Tan90s' solution included cold chain infrastructure, mobility solutions, plus market linkages

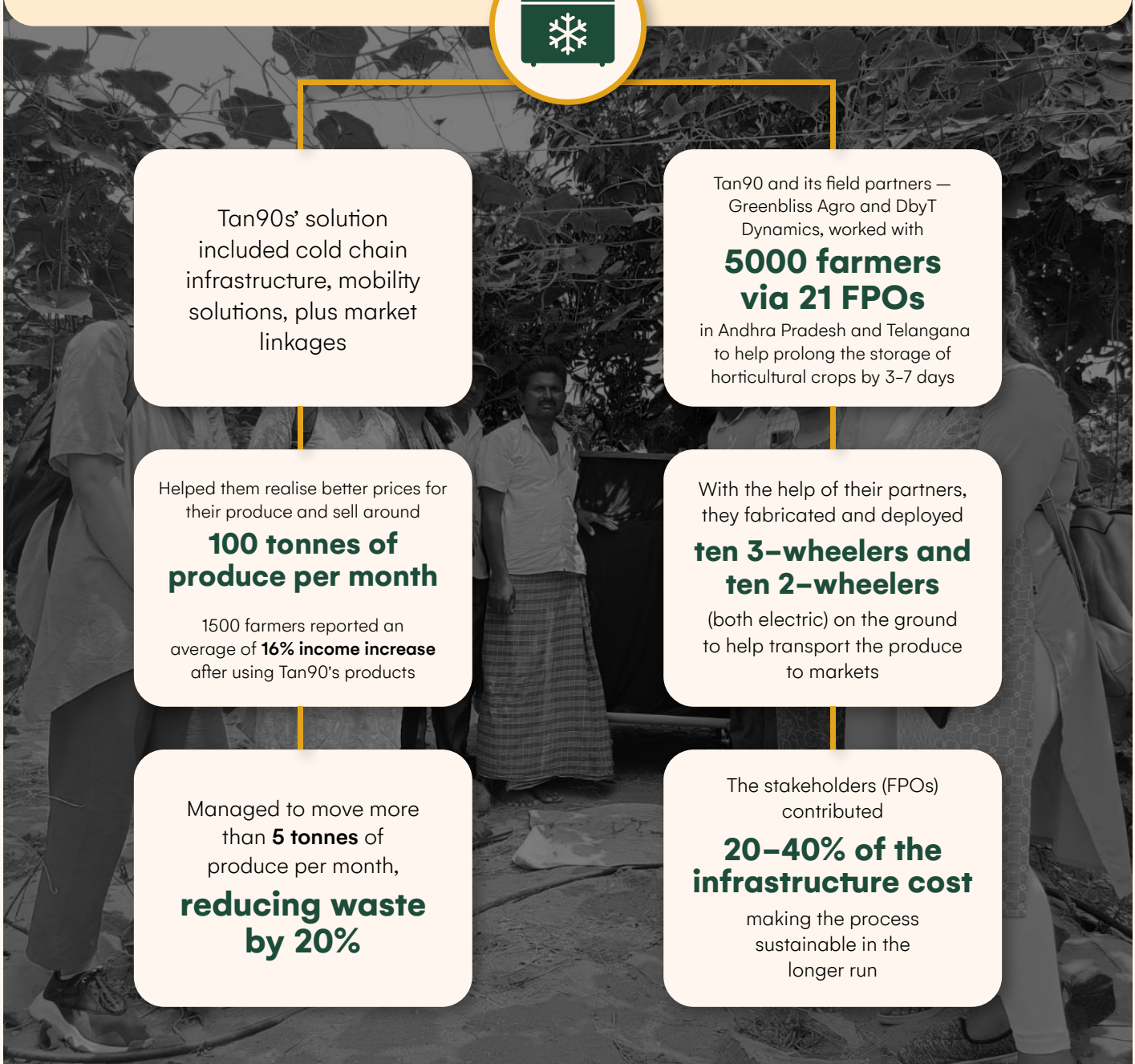
Tan90 and its field partners — Greenbliss Agro and DbyT Dynamics, worked with **5000 farmers via 21 FPOs** in Andhra Pradesh and Telangana to help prolong the storage of horticultural crops by 3-7 days

Helped them realise better prices for their produce and sell around **100 tonnes of produce per month**
1500 farmers reported an average of **16% income increase** after using Tan90's products

With the help of their partners, they fabricated and deployed **ten 3-wheelers and ten 2-wheelers** (both electric) on the ground to help transport the produce to markets

Managed to move more than **5 tonnes** of produce per month, **reducing waste by 20%**

The stakeholders (FPOs) contributed **20-40% of the infrastructure cost** making the process sustainable in the longer run



KRISHI MANGAL PROGRAM SIGNIFICANCE

Thanks to the program, Tan90 could take its products to the grassroots level, particularly with the marginal farmers. They tested new business models with FPOs, validated them in the field, and enabled data collection on the amount of food loss/wastage prevented. The program also helped create direct connections with the farmers. Learnings on the business model are being taken forward for implementation with other partner FPOs in India.

While the initial focus was on horticulture items, their products were also a good fit for mushroom storage and transportation. Alongside infrastructure support, the program helped with market linkages and mobility solutions. Tan90 could demonstrate off-grid cold storage solutions, when coupled with green mobility solutions, pave the way for sustainable post-harvest management.



BHOOPESH

CASE STUDY

Bhoopesh has been using Tan90 products to store milk, flowers, and vegetables for over two years. He tells us that the storage bags are especially useful for farmers and can hold around 50-100 kgs of flowers. The farmers have seen significant savings due to reduced

transport costs coupled with a 20% reduction in waste. Farmers have been able to sell their produce at higher prices, e.g., Jasmine has seen a 20-25% increase in its selling price. Overall, the product has been beneficial for reducing waste and increasing income.

SATYUKT ANALYTICS

Satyukt Analytics provides farm-specific dynamic crop advisory and early warning of risks based on remote-sensing technologies. They use multi-satellite image processing, remote sensing, and data analytics for Agri-ecosystem players, including farmers, Agri enterprises like input companies, output companies, banking and crop-insurance companies, and more.



DR. YUKTI GILL
Co-founder



DR. SAT KUMAR TOMER
Co-founder

PILOT LOCATION			
UTTAR PRADESH		TAMIL NADU	
Bijnor		Salem	
KARNATAKA		TELANGANA	
Hassan	Davanagere	Koppal	Adilabad
Belagavi	Hosadurga		Nizamabad

IMPACT SUMMARY



Satyukt on-boarded
9000+ farmers
to use their application 'Sat2Farm', which uses multi-satellite data to extract real-time and historical information on crop health, soil moisture, soil macronutrients, etc

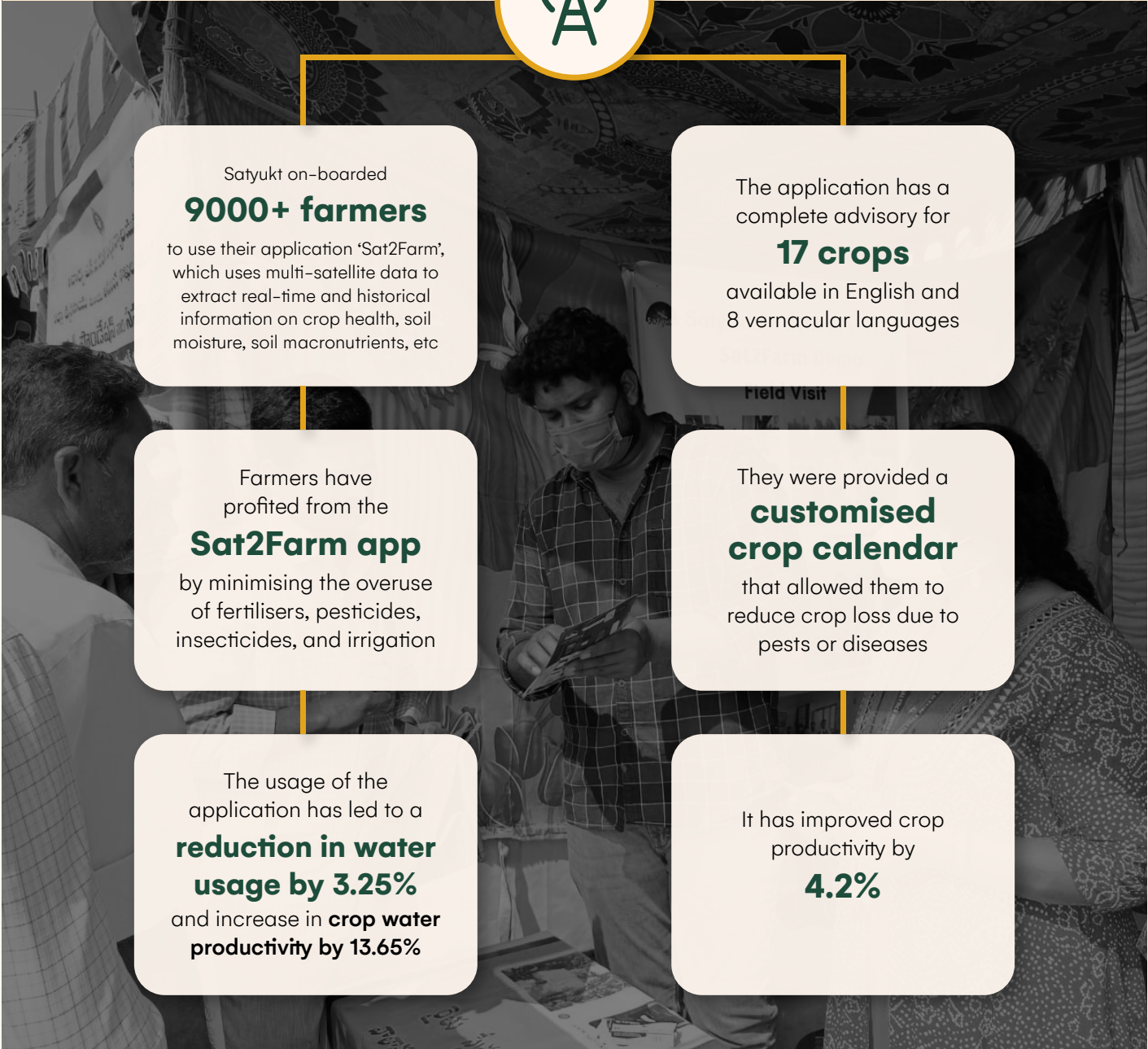
The application has a complete advisory for
17 crops
available in English and 8 vernacular languages

Farmers have profited from the
Sat2Farm app
by minimising the overuse of fertilisers, pesticides, insecticides, and irrigation

They were provided a
customised crop calendar
that allowed them to reduce crop loss due to pests or diseases

The usage of the application has led to a
reduction in water usage by 3.25%
and increase in **crop water productivity by 13.65%**

It has improved crop productivity by
4.2%



KRISHI MANGAL PROGRAM SIGNIFICANCE

The program helped Satyukt to expand across different geographies by providing support to rural youth and effective outreach via word of mouth. It helped develop a wider footprint and reach the rural market with the help of market research by understanding the unique needs of the rural population.

The mentorship service helped address issues faced by end-users with the UI. Through this pilot, Satyukt could onboard more farmers with financial and logistical assistance and provide them with advisory services to boost crop productivity.



DR. PRABHUDEVA

CASE STUDY

Dr. Prabhudeva lives in Bengaluru and has a farm in Thammenahalli, Ramanagera district. He has been using the Sat2Farm application since January 2022. The satellite data such as crop health and soil moisture helps him guide their farm manager and supervise the farm better.

For example, when the drip irrigation filter malfunctioned, they were able to identify the problem remotely by looking at abnormal soil moisture behaviour. The analytics on the app has helped optimise irrigation water usage as well.

TRACEX TECHNOLOGIES

TraceX leverages blockchain to enable multiple stakeholders across the food and Agri supply chain to exchange data securely via a shared digital ledger. It helps to build climate-resilient and sustainable supply chains, which enhances trust, transparency, and traceability for long-term value creation. TraceX's blockchain-enabled proprietary platform digitises the end-to-end process of the supply chain.



SRIVATSA SREENIVASARAO

Co-founder



ANIL NADIG

Co-founder

PILOT LOCATION

KARNATAKA
Belagavi

IMPACT SUMMARY



TraceX, through its proprietary Blockchain-enabled application, **Foodsign**, worked closely with **950 farmers** to track and democratise data across the value chain.

The app is available in **8 languages** and provides PoP (Package of Practices) based on the type of produce.

Foodsign includes a **systematic crop calendar** that takes the farmer step-by-step from seed planting to harvesting.

The app is also used as a **record-keeping mechanism**, tracking the quantity harvested, the price of the sold harvest, and the expenses incurred, enabling the farmer to compare details across years.

The past 12 months of on-ground implementation helped TraceX create **26 microentrepreneurs** or Farmer Interest Groups (FIGs)

FIGs played a vital role by supporting the transactions between farmer and FPO for mutual benefit, and building long-term loyalty and sense of ownership of farmers with the FPO under the program

Farmers report a reduction in cost, an improvement in yield, the quality of produce, and an **increased income of approx. 8%**

Trace X has also managed to establish market linkages with **Roquette** a global leader in the food industry

KRISHI MANGAL PROGRAM SIGNIFICANCE

The program allowed Trace X to test Foodsign on the ground, helping them finetune the product. They worked with more than 950 farmers on-ground, tested the product, and proved the efficiency at scale. Trace X was able to build a value proposition for the FPOs through reduced input cost and higher productivity. They used marketing and fundraising support to create collateral for social media

promotions and the valuation report, which helped facilitate fundraising. The adoption of technology by FPOs and farmers to make better data-driven decisions and optimise the usage of inputs, which led to cost savings, worked in Trace X's favour. It also led to better communication between the FPO and the farmer, thanks to improved documentation.



ANAND BHIMAPPA LAMANI

CASE STUDY

Anand is a young farming member of Laxmivenkateshwar FPO, Dadibhavi FIG LT3, Belgaum. He holds a total 3.5 acre of farmland in Dadibhavi village, growing various crops based on the season and geographic conditions. TraceX's digital platform FOODSIGN has enabled the FPOs to keep a closed loop communication with their farmers during production and sales processes to realize the potential of a federated structure.

Anand gets a digital identity after he is onboarded to the TraceX blockchain platform. The crop management gets organized and easier to manage. The package of practices configured enables him to optimize his crop inputs including pest management, that helps him to plan his future crop activities.

JALJEEVIKA INFOTECH

Jaljeevika has built a collaborative platform to instill the value of integrated aquaculture models. They have developed a sustainable value chain for the growth of the rural economy, empowering micro-entrepreneurs and scaling impact through a data-driven decision-making system. The platform provides end-to-end solutions for fish farmers and fishing trainers (Matsya Sakhis) by providing digital training (Aquaschool), input supply, real-time advisory through IoT, and market linkages.



NEELKANTH MISHRA

Founder

PILOT LOCATION

MAHARASHTRA

Ralegaon

IMPACT SUMMARY



Jaljeevika managed to onboard

576 fish farmers

with the help of **15 Matsya Sakhis** who were trained in basic pond management, communication skills, technical understanding of fish farming, and data collection on the app

60 Aqua Education videos

were created under this program which helped in knowledge sharing

Jaljeevika also tracked farmers' rise in income, an average income per household touched

₹69,000/year

Micro-entrepreneurship model

was built to ensure sustainability of the program and future support to the fish farmers

117 different sets of micro-entrepreneurs

work on input supply-related activities like seed supply, seed rearing nursery, fish feed supply, netting services, etc.

Jaljeevika was able to provide over **1600+ manual soil water testing kits**

under the program which improved farmer learning on water quality-based advisory processes

Jaljeevika's breakthrough innovation, its affordable, portable IoT device measuring pond water quality, was able to reduce the investment quantum incurred by small and marginal fish farmers.

20 IoT devices

were deployed under the program

KRISHI MANGAL PROGRAM SIGNIFICANCE

Krishi Mangal helped test the entire process with fish farmers for integrating digital services for small holders. It also provided visibility of solutions, course correction and linkages with other expert agencies. Leveraging government programs was one of the most helpful learnings. Through the program, the start-up realised the value of business operations and social value generation towards creating more

prosperity for farmers. Following success in Maharashtra, Jaljeevika leveraged other CSRs to extend the micro-entrepreneurship model in Madhya Pradesh, Uttar Pradesh and Bihar. The revised solution developed for land-based RAS (Recirculatory Aquaculture System) will be piloted by the Madhya Pradesh government.



DIGAMBAR VASUDEV GAJARKAR

CASE STUDY

Digambar, from Vanoja, fished in a 30 x 60 mt small-sized pond till last year and earned ₹23,000 from fish farming. This year, through the support of the Krishi Mangal program, he produced 600 kg of fish worth ₹80,000, a significant improvement in his annual income. His success incentivises many other farmers to shift their farming practices in the coming years.

MENTOR QUOTES



MR. DINESH PAL SINGH

on Satyukt

Through the Krishi Mangal program, I got an opportunity to connect with Dr. Sat and his team from Satyukt, which built the Sat2Farm application. The app provides detailed analytical insights to farmers, decision makers and advisors, but the biggest challenge was farmer engagement on the application. With the extensive efforts of the Satyukt team, we were able to address this challenge by making changes to the application in a way that made it easier for the farmers to adopt, which resulted in greater onboarding of farmers (over 7000) and an overall seamless experience for them.



MS. SIRISHA PELAPU

on Jaljeevika

Neelkanth, who leads Jaljeevika, recognized early on that for any organisation to be successful, it is important to focus on its core resource - its people. Along with Neelkanth and his team, we were able to lay down a set of HR policies, get the management committee to discuss strategy and plan for recruitment, communication, and learning and development — with an intent to ensure higher quality of hiring and creating a great and inclusive workplace.



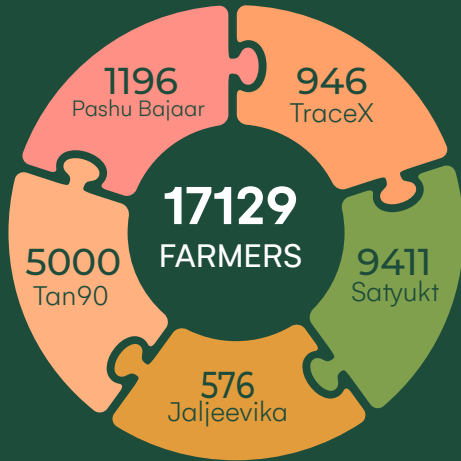
KRISHI MANGAL IMPACT

STATES COVERED

Karnataka, Telangana, Andhra Pradesh, Maharashtra, West Bengal, Tamil Nadu & Uttar Pradesh



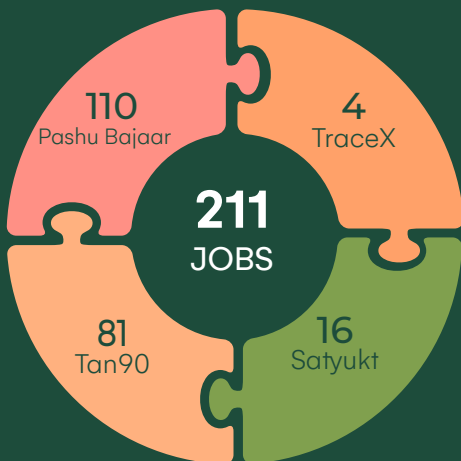
FARMERS REACHED



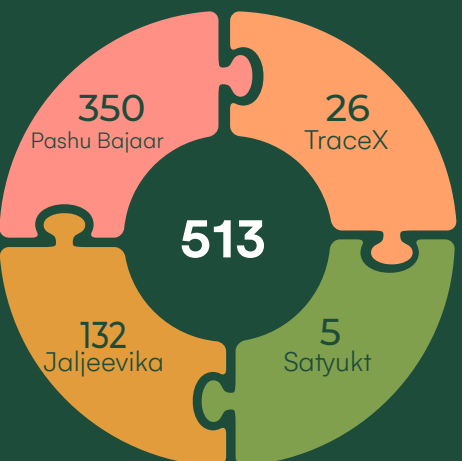
FPOs ONBOARDED



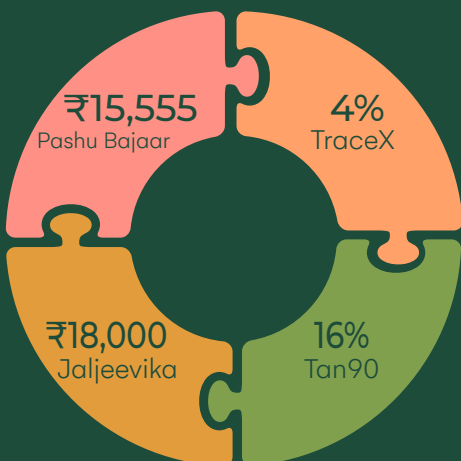
JOBS CREATED



MICRO-ENTREPRENEURS FACILITATED



INCOME INCREASE



LEARNINGS



The onset of the Covid-19 second wave led to a severe delay. However, the startups managed to change their on-ground strategy to continue the implementation seamlessly. Future focus should be on building resilient supply chains and omnichannel networks to mitigate the risks.



While the service offerings were apt, the design needed flexibility to allow startups to choose service offerings based on specific need assessment.



Incorporating awareness/educating campaigns for farmers/beneficiaries about the latest technologies and practices is imperative for large-scale adoption of solutions and sustained impact.



Demonstrating value to the farmers/FPOs is the most effective strategy for ensuring technology adoption and needs to be practised more.



Market access and transparent supply chains act as a strong catalyst in attracting and retaining customers and are critical for the overall growth of the agriculture sector.



Post-sales support and advisory are necessary to retain farmer connections and sustainable growth and should be prioritised.



Limited access to finance for end consumers is a barrier to large-scale adoption and implementation of technologies; blended finance structures need to be integrated with the existing solutions to create impact at scale.

TEAM

The program team working on this program
in the last 18 months included

CISCO

Rohini Kamath
Hemalatha Kunjithapatham
Aishwarya S

SOCIAL ALPHA

Nikhita Nadkarni
Jacob Poulose
Sravya Kolanupaka
Ranjan Pandhare
Pariket Thakkar
Piyush Golecha
Mamatha K

The Monitoring and Evaluation partner

SATTVA

Sruthi Ganguly
Eliza Anjum
Ritchika Dsouza
Harshini Chandrashekar

A report by
SOCIAL
alpha

www.socialalpha.org/krishi-mangal

