



**stellapps**

Smart Systems, Stellar Applications.



# The Moo've to disrupt India's dairy industry

An IITMIC incubated startup case study





## Stellapps: An IITMIC incubated startup case study

Milk is the largest crop on this planet. Despite the massive numbers, there is a strong need for technology intervention, especially in the emerging markets where the yield per animal is low, traceability is inadequate, and quality is not up to the mark. Identifying this noticeable gap in the dairy segment paired with the advent of IOT as an emerging disruptive technology, a team of young technologists took the leap in 2011 to digitize the Agri-Dairy supply chain in India and unlock unprecedented value on a very large scale.

### The Stellapps Journey



**Sector:** AgriTech, IoT, Analytics, Fintech

**Headquarters:** Bengaluru

**Year of Incubation at RTBI:** 2011

**Founding team:** Ranjith Mukundan, Ravishankar Shiroor, Parveen Nale, Ramakrishna Adukuri and Venkatesh Seshasayee

**Website:** [www.stellapps.com](http://www.stellapps.com)

## Challenges

India, home to the largest bovine population in the world, ranks abysmally low (1/9th of the USA) in milk productivity/animal production profitability. Farmers income, profitability through dairying is low, traceability is inadequate, and quality is not up to the mark. Beyond these figures, there are also multiple psychological barriers at play.

*How do you explain technology and advisory to a set of farmers who have been in the same occupation for generations?*

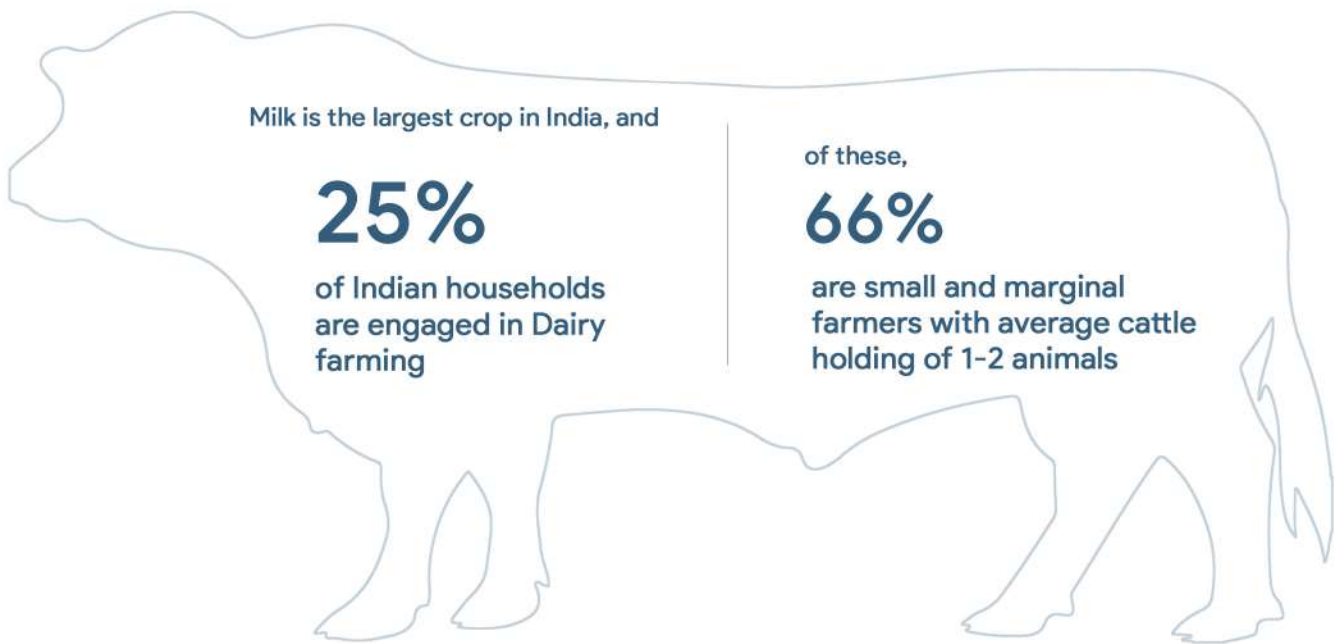
*How does one make them see value in tech?*

*How can farmers get benefitted by innovation?*



## Milking Market Opportunities

By leveraging futuristic technology to create a digital dairy ecosystem that promotes partnerships across the dairy value chain, Stellapps realised that it was possible to improve farm productivity (i.e., farm income), milk quality, bring traceability in a completely offline supply chain, and thus, help unlock significant value for smallholder dairy farmers.



Incubated in 2011 at the IITM's Rural Technology Business Incubator (RTBI), Stellapps began their ambitious journey towards:

- Creating market linkage, monetising the output in fair and transparent manner
- Providing quality dairy and agri inputs to the farmer to improve productivity
- Creating access to financial resources to help farmers increase their herd size
- Providing scientific advisory to the farmers to improve cattle/farm productivity
- Creating an end-to-end supply chain stack which covers cattle monitoring to grading and pricing to chilling centre and cold chain management so that consumer receives quality output and farmer receives the right remuneration

## From a full stack technology provider to an integrated food value chain platform

Stellapps started out by building the foundational parts of its Digital Access Network (DAN) and as an entry strategy, providing end to end digitized supply chain solutions. Leveraging advanced analytics and artificial intelligence through its full-stack IoT platform, they began to enable dairy ecosystem partnerships with financial & insurance institutions, veterinary services, cattle nutrition providers, agro-input providers etc., and create significant value for each stakeholder including smallholder farmers.

They started out by building the foundational parts of Digital Access Network (DAN) and in the next few years they had the Full stack IoT platform for Dairy supply chain digitisation, expanding on value added services aimed at improving farmer profitability and farm productivity.



**“Our vision is to significantly improve farm profitability via value added, technology led platform services , sustainably”**



**Ranjith Mukundan**  
CEO, Stellapps Technologies

“Our dairy-led food value chain platform helps significantly improve productivity, quality and traceability in the value chain. In line with our farmer first approach, we provide multiple tech-led services to a farmer in a village, hyper-locally. This includes productivity improvement, farm extension services, market linkages leveraging our procurement, cold chain & processing infrastructure, Agri input services, financial services and farm advisories. The 3 patents that we have been granted in the AgTech space recently, is a testament to our innovation centricity in realizing our vision.”, says Ranjith.

Within 3 years of its operation, Stellapps began driving products for different parts of supply chain, amplifying the three pillars of the value chain “Productivity, Quality and Traceability”. There were enablers which took data from different parts of the supply chain and put it on to the cloud to correlate data and build robust analytics for all stake holders.

**“Stellapps used IOT, Cloud, Machine Learning as tools to build products to track Cattle Health, Productivity, Milk Quality and Traceability. Not only did these products enable Digitalization of various parts of Dairy Supply Chain but enabled the data from the farms and villages to be accessed from anywhere in the world in near real-time. This gives a lot of insight for enhancing Productivity, Quality and Traceability.”**

**Ravi Shankar Shiroor**  
Co-founder and COO, Tech business.



Today, Stellapps is leveraging the same to realize an end-to-end food value chain platform and providing value added services like dairy market linkages, agro-inputs and financial services for small holder farmers.

# The SmartMoo™ IoT Platform



*The journey of close to 12 years and a close interaction with farmers has sharpened our insights about the gap and opportunities to make a difference in the Agri/Dairy space through creating a “string of pearls” approach, says Ranjith Mukundan.*

Realising that market linkage is the biggest enabler in ensuring a stable income stream for the farmers, Stellapps started productivity led, market linkage service: mooMark, built on the premise of demand backwards, region agnostic approach. The strong market linkage network is backed with a solid farm intervention team that works closely with the farmers to help them implement modern methods of dairy farming. Today this value-added service is poised to provide 2.5 lakh litres of high-quality milk every day to D2C/FMCG/Dairy companies and is expanding its footprint nationally.

*“mooMark is committed to improve the incomes of farmers with special emphasis on women farmers by providing targeted extension and financial services using our patented technology. It will be expanding its geographical footprint by setting up village level collection centres with chilling and quality assurance centres in proximity of village. We will augment procurement clusters with processing capacity to create superior quality, traceable value-added products for its customers,”*

Ramakrishna Adukuri  
Co-founder and CEO, mooMark



A key component in helping the farmer improve the quality and quantity of milk is through increasing the nutrition support for the cattle. This understanding led to rolling out of their other value-added service on top of the DAN farm input services: mooGrow.

mooGrow currently offers cattle feed, feed supplement, milking machines, generic medicines and biodigester under the dairy category. Under the Agri category, farmers are sourcing hand implements, sprayers, pheromone traps, drip pipes, vegetable transplanter, solar torches, and value-added dairy products.

Through mooGrow, farmers gain hyper-local access to high quality agro-inputs and farm equipment on-the-go through smartFarms app and the village level collection centres known as smartMoo centres. These physical village level anchor points allow the farmers to engage and access different products and services as well as scientific advisory. Farmers also engage through the smartFarms app and smartMoo call centre.

With the vision of building a holistic farmer offering, mooPay was set up to cater to the financial needs and economically empower small holder farmers. Today, they are proud to be serving more than 65% of its customers who are farmers who have never taken a loan from a regulated entity (finance company or bank).

MooPay has also developed an alternative creditworthiness score, called mooScore. mooScore enables mooPay to provide loans to 'new-to-credit' / subprime farmers where they can avail different loans based on their requirements. The lending products include, small/sachet loans, cattle loans, farm improvement/farm equipment loans and other credit products.

mooPay is slated to touch an AUM of \$10m shortly. Farmers are also accessing different financial services like Aadhar based payments, domestic money transfer, bank account opening from the smartMoo centres. By March 2023, the payment gateway/platform of mooPay will be transferring INR 50 crores to the farmers bank account every month against the milk procured.

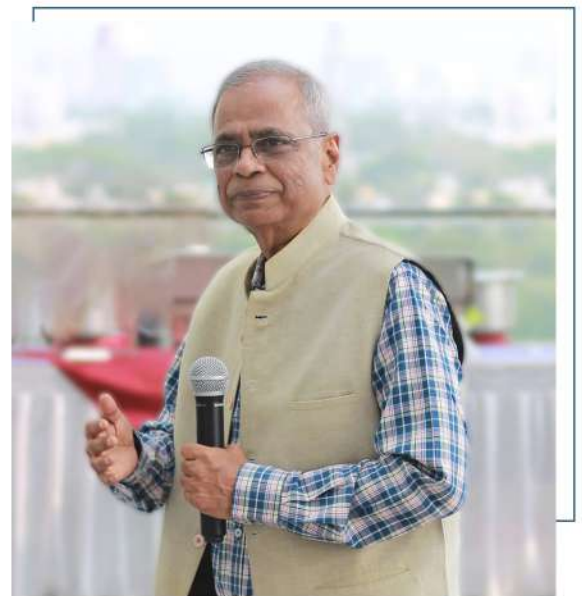


“When Stellapps approached RTBI seeking incubation in 2011, they were a young group of technologists who had just quit their comfortable jobs at Wipro with a dream to do something truly impactful for rural India. Leveraging the strength of IOT in an otherwise traditional dairy chain process was a truly game-changing move for sustainable growth of the Indian dairy market. Today, I am so proud to see the growth that they have witnessed in these past few years.

What we have always aimed to do is to create a platform where young people can dream big, solve grassroot challenges and create great impact that transcends geographical boundaries. We are extremely proud to have Stellapps stand as a strong testament to this vision. I wish them well and anticipate even greater things to come in their journey.

Stellapps has done it and many more are in the process of doing it. This will truly transform India and reinforce our stance as a global technology leader.”

**Prof. Ashok Jhunjhunwala**  
Institute Professor, IIT Madras, India  
President, IITM Research Park, IITM Incubation Cell and RTBI



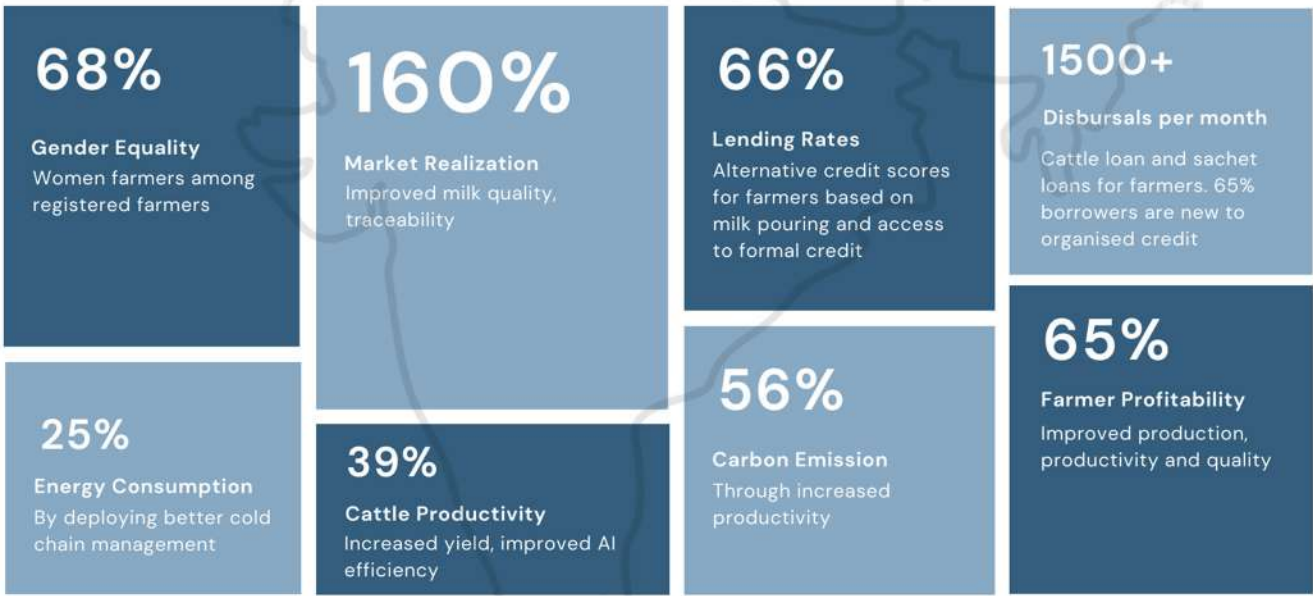
41,000

villages across India

700+

passionate team members

## Impact



## Journey Ahead

The journey of growth and expansion has always been driven by the underlying ethos of making a difference to rural economy with 100% commitment towards sustainable development goals.



With initiatives like fully solar powered milk chilling plant and Electric Vehicles, Stellapps has also been working consciously towards reducing carbon footprint.

Despite amassing a wealth of impact, Stellapps does not rest on its laurels. The team continues to committedly work towards the mission of improving income levels of the Indian farmer and fostering rural entrepreneurship with its technology led innovative solutions while reducing the environmental impact.



## **IITM Incubation Cell**

Module 2, D Block, Third Floor  
Phase II, IIT Madras Research Park  
Kanagam Road, Taramani  
Chennai - 600113, Tamil Nadu, India

