

Agro-Entrepreneurship Startup in India

Case Bank

Envisioning Innovative Future for Indian Agriculture



Editors: Prof. (Dr.) Ravikant Swami
Prof. (Dr.) Poorva Ranjan
Dr. Khushbu Khurana

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First Impression: April 2023

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ISBN: 978-81-963113-6-0

Rs. 1000/- (\$80)

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Published by:
Nex Gen Publications

PREFACE

India is now developing towards a startup culture. The book "Agro Entrepreneurship Start-Up in India: Case Bank" equips budding entrepreneurs with the knowledge they need to launch and expand their companies. In this book, the reader may learn about the various entrepreneurs who have their start-ups in agriculture industry. They will get to know the entrepreneurs' working style, planning process, creative skills, and establishing a new firm.

The start-up ecosystem is playing a crucial role in India's agriculture sector's steady progress towards its digital transformation by bringing innovation and disruption to regions that need it. Without a doubt, startups have fueled development and transformed the agriculture industry.

The book will be beneficial for aspiring entrepreneurs who desire to succeed in agro entrepreneurship. The book largely focuses on how to overcome the difficulties faced by new agribusinesses in an efficient way. The book will serve as a helpful resource for everyone involved in the startup agri-preneurship community.

ACKNOWLEDGEMENT

Sh. Vipin Sahni, Mrs. Kiran Sahni and Mr. Aman Sahni, for their patronage;

Honorable Justice (former) Bhanwar Singh, for his tireless mentoring;

The Director, DME, for his infinite support and encouragement;

The Head of Department, DME Management School for her valuable opinions;

To the faculty contributors of Management School, for their analysis and elaboration;

To the students of Centre for Management Research for their continued collaboration and dedication;

To the publisher, for seamless coordination.

**Ravikant Swami
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S FARMS INDIA: AN ONLINE WEB APPLICATION FOR FARMERS

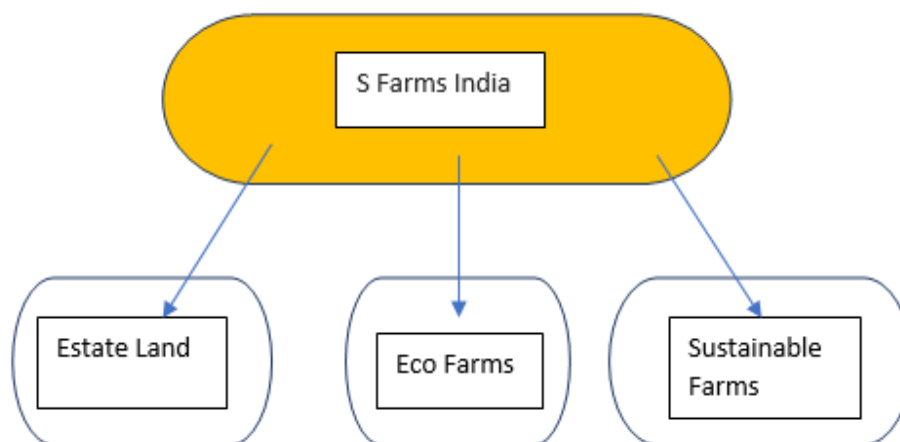
Prof. (Dr.) Ravi Kant Swami and Deepali Sharma

ABOUT THE ORGANIZATION

Due to a shortage of money, farmers and developers of agricultural real estate in India have trouble selling their agricultural land. In addition, HNIs are currently exploring investing in agricultural land as a potential alternative asset, but they are having trouble locating or searching for agricultural lands. The medium income group wants to purchase agricultural properties as well, but they are unable to do so because of a lack of financing options.

Although the majority of the real estate platforms currently in operation are devoted to selling urban properties such as houses or apartments, there is currently no liquidity platform to buy or sell agricultural lands. The market as a whole remains unexplored, and the majority of transactions are carried out by agents who earn enormous commissions and profits. SFarmsIndia - India's First Agri Land Marketplace was established to address these issues and take advantage of the market. The first Agri Land Marketplace in India is SFarmsIndia. It was created specifically to make it easier for both farmers and non-farmers to find, acquire, and sell estate lands, eco farms, and sustainable farms. Our ultimate objective of achieving client satisfaction and earning customers' trust from the beginning has been something we have consistently accomplished. The market size for agricultural lands is expected to be over \$15 billion.

Figure 1: Prominent elements of the company



Source: Author

ABOUT THE FOUNDER/ ENTREPRENEUR

The company's founder and CEO is Kamesh Mupparaju. Mupparaju earned a B. Tech in Electronics and Telecommunications before going on to Osmania University to earn an MBA in Finance. In addition to Padmakshi Financial Services Ltd., where he held the position of Manager of Commodity Operations and Analysis, Kamesh also held the position of Senior Research Analyst at True Infotech before beginning his career with Railgate Commodities as a Research Analyst. In Six Capital, SGX Centre 1, he eventually advanced to the position of FX Analyst and Dealer. After serving as a founding Board member of BTCXIndia (the first Bitcoin exchange in India) for more than 4 years, Mupparaju eventually made the decision to nurture his entrepreneurial potential and launched ETHEXIndia (India's first market place for Ethereum Tokens).

GROWTH OF THE COMPANY

A rise in the SFarmsIndia's homepage was initially designed with just three lines of plain text: "SFarmsIndia- India's First Agri Land Marketplace, More details coming soon!!" notifying me. They have been successful in gathering the emails of a few early adopters by using the "Alert Me" box.

Then, through agri land meetups, agri tech launch pads, agricultural events, etc., Kamesh directly approached customers to express his thoughts and ideas about the product and ask them to sign up for the beta launch. He subsequently made his way to his hometown to receive interested sellers onto the platform through direct contact.

Using email alerts, advertising in WhatsApp groups, and social media announcements, SFarmsIndia reached out to potential purchasers (who are early adopters and offer the email for notification) as it gained a respectable amount of seller/property listings on their network.

After reaching 100 signup points in an eco-farm in Hyderabad, SFarmsIndia organised a beta launch party to keep its consumers. The business invited all of its contacts, early signup consumers, etc. to the party. It was a gathering of sorts where SFarmsIndia gathered useful information about the agricultural areas that were open for use. Also, it launched a customer care centre and made cold calls to find properties. It began marketing simultaneously via the Google Ad network, the SMS network, and social media. SFarmsIndia has invested about \$2,000,000.

CONSUMERS REVIEW, EXPERIENCE

Buyers and sellers already love our listing platform. SFarmsIndia is an early-stage startup with good traction in place. We hope the future is bright for us since investment in agriculture lands is a good alternative asset class - Kamesh Mupparaju says

Being a pioneer in the industry, Kamesh is certain that agriculture-real estate has the power to drastically alter the Indian agricultural landscape. People, particularly HNIs, are choosing farm fresh food as a healthy option due to a change in consumer behaviour and a developing predisposition towards natural products, which is one of the factors driving demand for agricultural lands.

Buyers can find agricultural lands via the listing function, while sellers can offer their agricultural properties for sale or lease. It generates money for the purchase and sale of agricultural property. SFarmsIndia deals with lands of the following three sorts based on the land type and nature:

- **Agri Lands:** Farmland for fruit, non-cultivated land, and agricultural land
- **Estate Lands:** Estate Lands for Coffee, Tea, and Rubber
- **Little Farms:** The smallest percentage of land

Figure 2: Types of lands which the company deals



Source: Author

Agri land is divided using the liquidity function into small farms, which are the smallest dividable units. These little farms let the agro reality developers to sell off their large land tracts. Each agricultural property is divided into 5 to 8 fractions per acres and assigned with a seller contract. the purchasers

DISCUSSION AND CONCLUSION

With more than 5000 registrations, more than 1300 postings, and more than 200 transactions, SFarmsIndia has acquired popularity. Moreover, more than 2960 fractions totalling 1.48 acres have been supplied and transferred. It is the only platform in India that is solely dedicated to agricultural lands and allows for the listing and trading of

agricultural lands. As a result, SFarmsIndia has the chance to capture at least 10% of the country's estimated \$15 billion farm real estate market.

In the near future, SFarmsIndia wants to build a market that combines Agritech, Agri-Realty, and an online marketplace for buying and selling agricultural lands. This market will have the most listings on their listing platform for Agri-Realty. Long-term, SFarmsIndia hopes to establish itself as the industry's most reputable and dependable name for on-demand trading and liquidity solutions.

Agri land is only available for purchase and sale on SFarmsIndia in India. It was created specifically to make it easier for both farmers and non-farmers to find, acquire, and sell agri lands, small farms, and estate lands. Our primary goal is to acquire the trust of our customers. At SFarmsIndia, we are in favour of converting a wasteland into productive, priceless land that farmers can then sell as small farms. As a result, farmers are receiving higher prices when compared to selling their unused land.

2**KHETIGAADI: THE WORLD'S FIRST PLATFORM WHERE ONE CAN BUY,
SELL, RENT, COMPARE, AND REVIEW TRACTORS AND FARM
MACHINERY****Prof. (Dr.) Poorva Ranjan and Deepali Sharma****ABOUT THE ORGANIZATION**

India ranks second globally in terms of farm outputs, making it one of the top nations. 50% of the workforce in India is employed in the agricultural sector, which also accounts for 17–18% of the GDP. Our populace, especially our farmers, is heavily dependent on the agricultural sector. And our nation's farmers are in a worrying state of affairs. Farmers, their families, and the agriculture business as a whole suffer as a result of floods, droughts, low revenue, and the lack of financial resources. Farmers are supported in numerous ways by both governmental programmers and non-governmental groups. Yet, there is still much work to be done. Khetigaadi.com is a startup that has recognized these problems and stepped forward to further the mechanization of the agricultural industry.

The first website in the world to sell tractors and farm mechanization is Khetigaadi.com. The platform serves as a marketplace for the purchase, sale, and rental of agricultural equipment and provides farmers with knowledge-based advice as well as insurance and finance support for that equipment.

Private business Khetigaadi.com has been active in the sector for 7 years. Currently, the business focuses on the automotive and agricultural products sectors. Pravin Shinde is the Founder and holds the title. Pune, Maharashtra, IN is where its headquarters are situated.

The company is appropriately referred to as "Khetigaadi" because the platform works with agricultural (kheti) and vehicular (gaadi) equipment.

All manufacturers and dealers use Khetigaadi as a platform for advertising and marketing. The Khetigaadi business model is based on:

Figure 1: The Khetigaadi Business Model

Source: Author

ABOUT THE FOUNDER/ENTREPRENEUR

As the son of a farmer, Pravin Shinde personally experienced the challenges that the agricultural community faced. He wanted to deal with one of the biggest problems facing our nation. Pravin holds a diploma in agricultural technology and a degree in economics. He started his professional career by working for his family's chemical, pesticide, and fertiliser company. The first people to learn about his ideas and the inspiration for Khet igaadi were Pravin's family. He joined SAR Agrochemicals & Fertilizers Pvt. Ltd., which was established by his older brother Prashant Shinde, after getting some market exposure.

Nowadays, SAR Argo-chemicals & Fertilizers Pvt. Ltd. is one of the best importers, distributors, merchants, and manufacturers of a variety of organic and inorganic fertilisers. Vishnu's views about the need to further mechanize farming techniques and raising the farmers, our 'annadatas' on a respectable stratum of the society, were similar to Pravin's ideas and vision. In February 2018, Vishnu joined together to coordinate a successful event. There has been no turning back since that point. In June 2018, Pravin and Vishnu got married in a formal ceremony, and Mr. Vishnu Dhas joined Khetigaadi as its co-founder and executive director.

GROWTH OF THE COMPANY

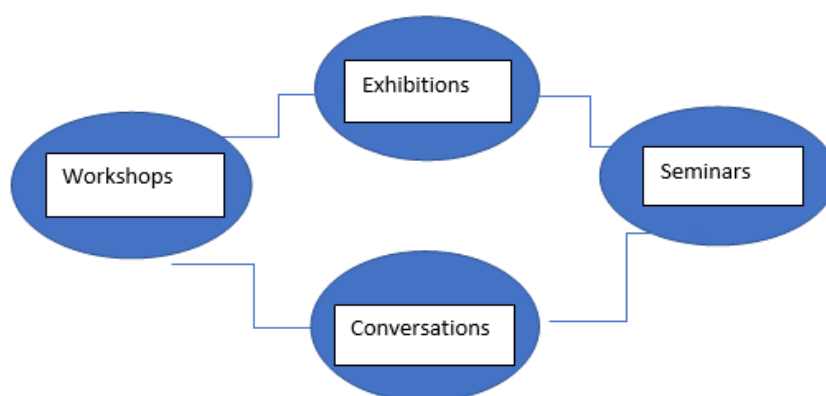
Village to village, the Khetigaadi team interviewed farmers. They met farmers one by one and discussed the idea of Khetigaadi, starting with Nashik in Maharashtra and Jalandhar in Punjab. Notwithstanding initial hurdles and scepticism, the farmers came around to Khetigaadi. These are the two cities where they first encountered about 15 customers.

Pravin and Vishnu also invested nearly a year in a variety of activities, including as exhibitions, seminars, one-on-one conversations, and workshops, to exchange knowledge and educate farmers on how to maximise production through mechanisation. They were able to expand their awareness campaign and reach more people thanks to social media sites like Facebook and WhatsApp. With the help of all of these, Khetigaadi was able to attract a sizable community of farmers to their platform.

Tractor Gyan and Tractor Guru are two Khetigaadi rivals that have lately joined the Indian market. Khetigaadi, on the other hand, stands apart from the competition since they offer guidance to farmers in addition to the buying, selling, and renting of farm equipment. Although there are platforms with a similar concept, the technology, knowledge, and information they give are unparalleled.

Every endeavour Mr. Pravin Shinde has undertaken has received the steadfast support of his family and friends. The team is eager to bring on board mentors with experience who can help them navigate the increasingly competitive industry.

Figure 2: Investment of the company



Source: Author

CONSUMER REVIEW/EXPERIENCE

"The most significant people are farmers; they are our "Annadata." The goal is to uplift them, make their position better, and integrate them into society. They merit attention, and I want them to understand how crucial they are to our lives. My mind is constantly

looking for fresh solutions to make things better for them. Pravin explains the founding principle of Khetigaad.”

“He cares deeply about farmers, the difficulties they face, the villages, and the potential of technology to transform the agricultural industry. Via Khetigaadi, he aims to use technology to connect with as many farmers as possible throughout the entire country of India.”

“The Khetigaadi crew spoke with farmers as they journeyed from village to hamlet. They met farmers one by one and discussed the idea of Khetigaadi, starting with Nashik in Maharashtra and Jalandhar in Punjab. Notwithstanding initial hurdles and scepticism, the farmers came around to Khetigaadi. These are the two cities where they first encountered about 15 customers.”

“Pravin and Vishnu also invested nearly a year in a variety of activities, including as exhibitions, seminars, one-on-one conversations, and workshops, to exchange knowledge and educate farmers on how to maximise production through mechanisation. They were able to expand their awareness campaign and reach more people thanks to social media sites like Facebook and WhatsApp. With the help of all of these, Khetigaadi was able to attract a sizable community of farmers to their platform.”

“I am constantly thinking about how else can I offer the farmers with solutions that will take away manual labour from their routine and at the same time fetch them good yield.”

Source: <https://www.sap.com/about/customer-stories/agco.html>

DISCUSSION AND CONCLUSION

By registering 30 lakh farming communities on the Khetigaadi platform, Khetigaadi just reached an important milestone. Also, they serve as clients for 8 well-known tractor brands.

In the future, their goal is to offer tractor and agricultural equipment brands a solitary platform where they can sell, service, and support their goods while also aiding them in company development. The goal of Khetigaadi is to introduce 10 million farmers to mechanized farming methods. Khetigaadi will also debut AI-based goods in the near future.

3**FARM 2 FARM: GROWS MICROGREENS FREE FROM PESTICIDES,
HERBICIDES, AND CHEMICALS****Dr. Shuchi Goel and Deepali Shama****ABOUT THE ORGANIZATION**

A firm in Mumbai called Farm2Fam cultivates microgreens that are delivered right to the customer's door without the use of pesticides, herbicides, or other chemicals. A rise in illnesses including cancer, diabetes, blood pressure, thyroid, migraines, sinusitis, etc. is a result of modern lifestyle. Considering this, the microgreens market is certain to expand rapidly. In a gourmet recipe, microgreens frequently take centre stage and are incorporated for flavour and presentation. Microgreens, on the other hand, are tiny gems packed with nutrients like lutein, beta-carotene, and multivitamins.

Due to the general public's lack of knowledge about microgreens, their uses, and advantages, the microgreens sector is now in its infancy. At the moment, only the USA and Europe are exposed to microgreens, yet the trend is slowly spreading worldwide.

Microgreens have higher nutritional value than their mature counterparts, according to research from the University of Maryland College of Agriculture and Natural Resources (AGNR) and the United States Department of Agriculture (USDA).

Recently, natural nutrition has come under more attention. A rise in illnesses including cancer, diabetes, blood pressure, thyroid, migraines, sinusitis, etc. is a result of modern lifestyle. Considering this, the microgreens market is certain to expand rapidly. In a gourmet recipe, microgreens frequently take centre stage and are incorporated for flavour and presentation. Microgreens, on the other hand, are tiny gems packed with nutrients like lutein, beta-carotene, and multivitamins. Urban farming will significantly expand as a result of the need for microgreens.

ABOUT THE FOUNDER/ENTREPRENEUR

KeyaSalot graduated from the Government Law College in Bombay with a law degree. Prior to founding Farm2Fam, she had experience working with reputable farms. She always wanted to start her own business, but before doing so full-time, she decided to study law to have a deeper understanding of the field from a different angle. She loves to refer to herself as a sustainable urban farmer as she is the founder.

Keya has long been interested in sustainable urban agriculture, which was essential for the conception of Farm2Fam.es

Keya reads vividly. She found sustainable urban agriculture to be fascinating and read a few articles on it. After conducting more research on the subject, she came to the conclusion that continued climatic deterioration and unchanging human behaviour will lead to a society where people would have financial resources but no access to food and water.

Fresh, wholesome live microgreens were introduced to Bombay by Farm2Fam, who also brought the idea of vegetable confetti from the west. Farm2Fam produces microgreens using a unique combination of conventional Indian agricultural practises and cutting-edge automation and insulation technologies. At the first phases of plant growth, Farm2Fam employs a certified organic soil-free potting mixture.

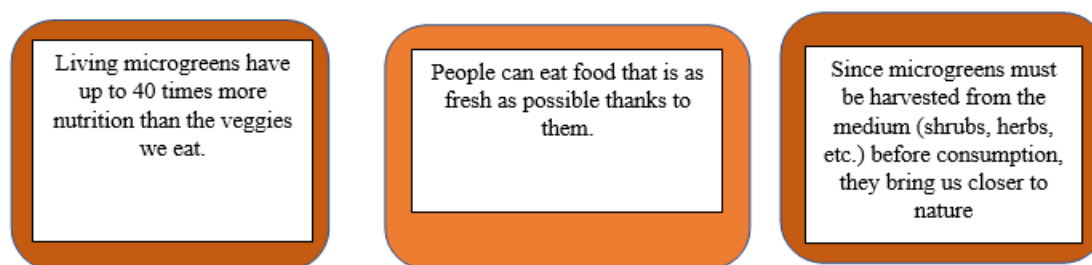
Access to more nutritious and recent foods can be made possible via sustainable urban agriculture. She therefore began her work in her favoured field, sustainable urban agriculture. In order to create a system that combines Indian farming techniques with the science underpinning insulation and automation, Keya worked with a number of industry professionals. Keya ultimately decided to launch live microgreens as her product for the following reasons:

Living microgreens have up to 40 times more nutrition than the veggies we eat, making them the ideal combination of flavour and nutrition.

People can eat food that is as fresh as possible thanks to them.

Since microgreens must be harvested from the medium (shrubs, herbs, etc.) before consumption, they bring us closer to nature.

Figure 1: Reasons of launching live microgreens



Source: Author

CONSUMER REVIEW

“Prior to its launch, Farm2Fam successfully designed a number of samples and tests. Customers have been drawn in and kept by the company's live microgreens' nutritional benefits. Many clients have enrolled to the company's services as of right now.”

“For live micro-table tops, Farm2Fam partnered with "Illuminati," a restaurant/bar in the Bandra Kurla Complex. The interaction with the customers was so positive that the orders doubled in size within two weeks.”

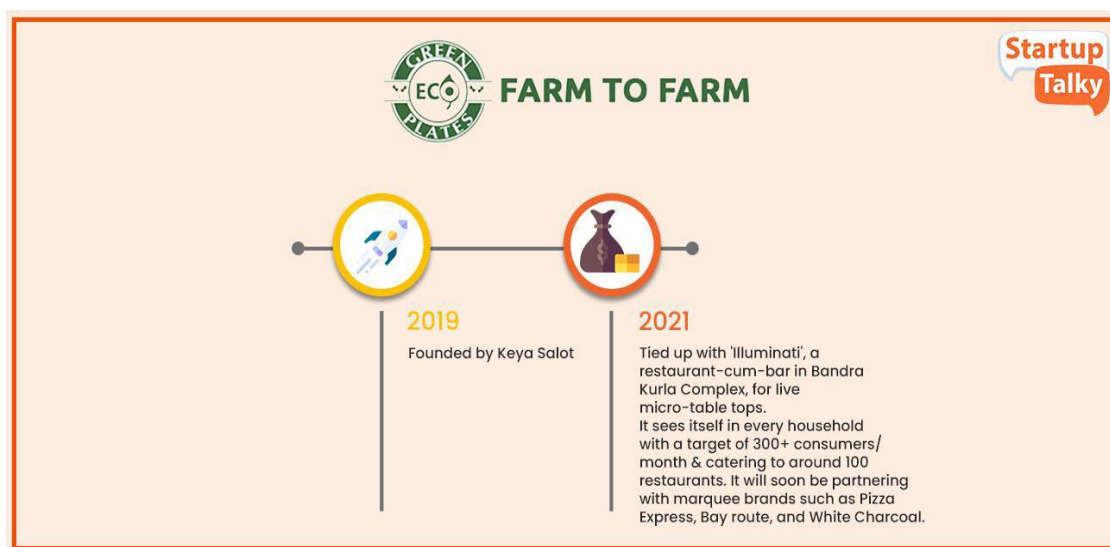
“Entering the realm of agriculture and nutrition without any prior experience, according to Keya, was a significant challenge for the Farm2Fam team. To overcome this obstacle, a year of research and plenty of effort were required.

Also, the Farm2Fam crew had difficulty creating an insulated atmosphere for farming because of the unpredictable weather. Another issue was finding the proper seeds and growth medium. The Farm2Fam crew had to go through numerous trials and errors in order to choose the proper seeds for the finished goods.”

Source: <https://www.jstor.org>

GROWTH OF THE COMPANY

Figure 3.2: Company's growth



Sources: Startup Talky

Beginning in January 2019, Farm2Fam. By offering microgreens with great nutritional value, the business has gained and kept a lot of customers and clients in a short period of time. Famous health coach Luke Coutinho, anti-aging expert Dr.Aalika Shah,

eminent cosmetologist Dr. Sonali Kohli, and numerous exclusive restaurants have all tested and enjoyed Farm2Fam's goods.

The business has also formed partnerships with well-known eateries like Punjab Grill, Taj Land's End, ITC, Four Seasons, Out of the Blue, and Sofitel.

Entering the realm of agriculture and nutrition without any prior experience, according to Keya, was a significant challenge for the Farm2Fam team. To overcome this obstacle, a year of research and plenty of effort were required.

Also, the Farm2Fam crew had difficulty creating an insulated atmosphere for farming because of the unpredictable weather. Another issue was finding the proper seeds and growth medium. The Farm2Fam crew had to go through numerous trials and errors in order to choose the proper seeds for the finished goods.

CONCLUSION/ DISCUSSION

Indians have never heard of microgreens before. The majority of the restaurants in Mumbai purchase their microgreens from Bangalore, as there are very few companies in India who grow microgreens and supply them to consumers and the hospitality sector. Also, the majority of Bangalore's players employ plant pads or hydroponics as medium for growth, which calls for the addition of organic nutrients or chemicals to the microorganisms.

With its conviction that plants should receive nutrition naturally, Farm2Fam is unique. The microorganisms are grown in a potting media that contains more than 40 substances, including coco peat, vermicompost, neem powder, etc.

Farm2Fam plans to be in every home by 2024, serving about 100 restaurants and aiming for 300+ monthly customers. It plans to introduce more goods over the next five years, including blueberries, raspberries, live saffron, etc. In the near future, Farm2Fam will collaborate with well-known companies like Pizza Express, Bay Route, and White Charcoal.

CRO FARM: THE PLATFORM HAS OVER 10,000 FARMERS ON ITS NETWORK

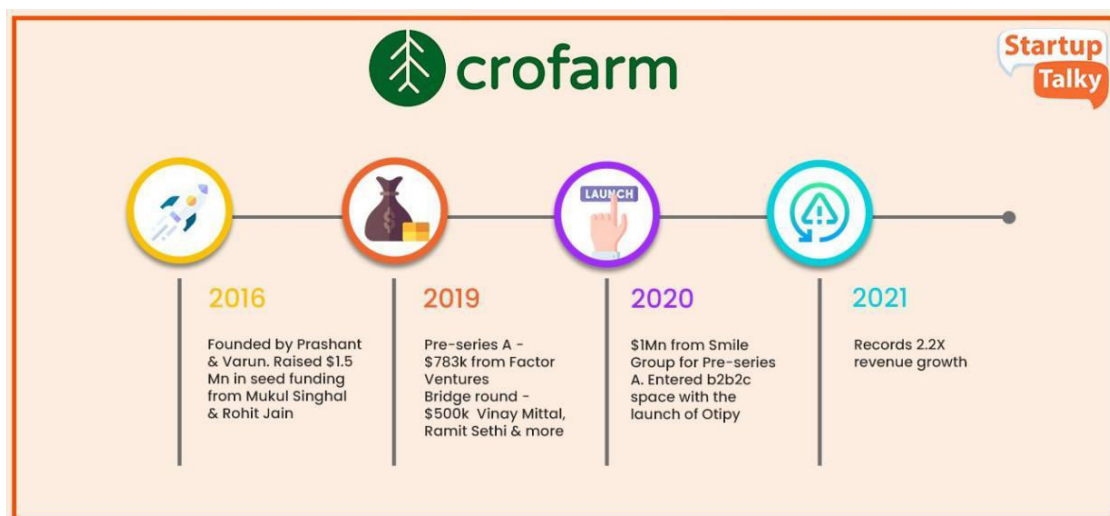
Dr. Shalini Gautam and Deepali Sharma

ABOUT THE ORGANIZATION

Crofarm, an agricultural supply chain business with offices in Delhi, purchases fresh produce and fruits directly from growers and efficiently distributes them to online and offline shops. India's agriculture supply chain is exploitative and characterized by inefficiencies at all levels. According to a recent government estimate, there are 20 million tonnes of foodgrains lost after harvest that could have been avoided. This percentage equals 10% of the overall crop output. For perishable farm products like fruits and vegetables, the number of losses is significantly higher. The existence of multiple intermediaries who work to prevent farmers from receiving a fair price for their goods makes everyone's problems worse. Being aware of the enormous losses caused by the chaos in Indian agriculture's logistics.

Varun Khurana founded Otipy in 2016, and it focuses on on-demand harvesting in accordance with anticipated demand in order to minimise wastage through cutting-edge technologies utilised for procurement, distribution, and delivery. Farmers in Haryana, Uttar Pradesh, Delhi, Gujarat, Himachal Pradesh, Karnataka, Rajasthan, and Maharashtra are the source of Otipy's fresh products.

Otipy is the first social commerce network in India that links end users with farmers via a community of resellers, most of whom are female. It is creating a scalable, demand-driven, and technologically enabled fresh produce supply chain that gets fruit from the farm to the table in under 12 hours, providing consumers unrivalled freshness. We closely collaborate with 5000+ dealers around Delhi-NCR and are already providing fresh products to over 3 Lakh customers at their doorstep. Otipy obtains fresh produce from more than 10,000 farmers worldwide.

Figure 4.1: The Timeline of the company

Source: Startup Talky

ABOUT THE FOUNDER/ENTREPRENEUR

With more than 20 years of expertise in technology, startups, and general management, Varun has been an entrepreneur three times. He was chosen as one of India's top 3 young entrepreneurs in 2011 by the Businessworld magazine.

He is currently the founder of Crofarm/Otipy, a firm that aims to enhance the fresh produce supply chain through community group buying. Prior to this, he served as CTO at Grofers, India's top on-demand grocery delivery service that connects customers with neighbourhood businesses. Prior to that, he co-founded Mygreenbox, which Grofers purchased. He had previously co-founded Wirkle Technologies, a leader in location-based services and a Silicon Valley startup that was later bought by Location Labs. Crofarm, an agritech firm, has raised \$1 million in a new fundraising round that was spearheaded by Smile Group. As noted by Entrackr, since its Rs 3.8 crore bridge financing in early January, Crofarm has raised Rs 14.5 crore, according to regulatory records. After four years of operation, Crofarm has joined the business-to-business-to-consumer (B2B2C) market.

Varun Khurana and Prashant Jain founded Crofarm, an agritech startup with offices in Gurugram, with the goal of creating a supply chain that helps farmers and gives businesses access to the freshest fruit in the most effective way.

GROWTH OF THE COMPANY

Crofarm, a farm to retail agritech firm, is steadily making progress after changing its appearance. Originally a farm to retail enterprise, the Gurugram-based organisation

shifted course to become B2B2C platform Otipy in early 2020. Otipy is a platform that links customers, retailers, and farmers to deliver fresh produce to doorsteps.

Since refocusing, the social commerce platform with WhatsApp integration says it now serves over 5,000 orders per day from one lakh clients who have enrolled across NCR. The business claimed to have a long-term strategy to reach 300 million first-time internet buyers in tier II and III cities. The technologically advanced platform has begun offering services in Bhiwadi. Crofarm has managed to boost its sales roughly 2.2X to a little over Rs 24.4 crore FY20 from the sales of around Rs 11.26 crore it made during FY19. However, the efficacy of its new business strategy won't be known until the end of the current year.

Regarding Crofarm's spending for FY20, the company spent over Rs 30.72 crore overall, an increase of 86.8% from the sum of Rs 16.4 crore for FY19. The cost of buying farm products from farmers accounted for about 72.21 percent of total costs, increasing by 2.15X from Rs. 10.31 crore in FY19 to Rs. 22.15 crore in FY20.

In addition, employee benefit costs increased by 47.4% from Rs 2.5 crore in FY19 to about Rs 3.7 crore in FY20, while other operational costs increased by additional Rs 4.44 crore over the same time period.

During the fiscal year that ended in March 2020, Crofarm's losses increased by 23% to just over Rs 6.3 crore, though its EBITDA margins improved by 2000 BPS, going from -44% to -24%, along with a 2X increase in the size of its operations.

In response to Entrackr's inquiries about its B2B2C business model, the company stated that it intends to expand its services to the next-tier cities after seeing success in Delhi-NCR. A Crofarm spokeswoman said, "For the rapid expansion, we are in negotiation with venture firms to raise at least \$10 million. We have received \$2 million from the Smile Group and Inflection Point (IP) Ventures for Otipy last year.

CONSUMER REVIEW/EXPERIENCE

Crofarm wants to create an efficient supply chain that helps farmers and gives companies access to the freshest produce possible. With Crofarm, one gains practical experience and skill development in an environment that prides itself on being a perfect fusion of cutting-edge technology and actual field work dedicated to the improvement of Indian society.

Source: <https://www.ambitionbox.com/reviews/crofarm-reviews>

CONCLUSION AND DISCUSSION

The Indian SaaS market is anticipated to reach \$35 billion in annual recurring revenue in 2027, according to Bain & Co. Start Insights raised Rs 52 lakh in a pre-seed investment round in January 2023, driven by angel investors from former employees of Microsoft, GE Digital, and other companies. However, by using its SaaS platform to completely digitise the process and make angel investments freely available. In addition to its 90-day cohort programme, the business hopes to develop a more long-term end-to-end platform for startups where it will assist founders from ideation to winning venture capital fundings.

BOMBAY HEMP COMPANY: RESEARCH AND PROMOTE INDUSTRIAL HEMP

Dr. Rashmi Chawla and Deepali Sharma

ABOUT THE ORGANIZATION

A social venture called BOHECO, or the Bombay Hemp Company, was established in Mumbai in 2013 with the goal of studying and promoting industrial hemp. Their activities include market development, market creation, promotion of Indian industrial hemp both domestically and abroad, research, cultivation, harvesting, processing, manufacturing, trading, wholesaling, and retailing.

In the industrial and medical hemp sector for health and wellbeing, BOHECO is quickly rising to the top. "Finding someone who has flourished in the legal North American Hemp business while also having a solid grasp of Indian values and the historical significance of Ayurvedic medicines is unusual and exceptional. We are overjoyed to be able to make use of Sikka's experience in order to establish a presence for our products in Canada and Europe while growing our holistic wellness offerings in India ", said Avnish Pandya, co-founder and CRO of BOHECO.

Cannabis-based items like Bhaang have been a part of Hindu festivals, culture, and social norms for a very long time, yet there is a very fine line between use and abuse.

Cannabis was denied its rightful place in India's medical and wellness industries due to the abuse narrative. The startup idea of seven students from Mumbai's HR College of Commerce and Economics — Avnish Pandya, Chirag Tekchandaney, DelzaadDeolaliwala, Jahan PestonJamas, Sumit Shah, Yash P Kotak, and Sanvar Oberoi — was however inspired by the same hemp or cannabis.

They established Bombay Hemp Company in 2013. (BOHECO). The idea was to establish a vertically integrated company that uses hemp to produce building materials, textiles, and Ayurveda health and wellness products.

Figure 5.1: The Promotion Activity

Source: Author

In order to create an industrial hemp ecosystem, Bombay Hemp Company uses public-private partnerships, contractual cultivation and processing, subsidiaries, and collaborative research models.

Argo-based company Boheco is reimagining agriculture and sustainable living in India through the perspective of hemp. By promoting industrial hemp and its advantages for society, the start-up uses the power of agriculture.

ABOUT THE FOUNDER/ENTREPRENEUR

Jumper.ai, the first automated social and messaging commerce platform that enables companies to sell direct to consumers on social media platforms and messaging applications, was co-founded and is led by Yash Kotak. Yash thrives on the web, dabbles in artificial intelligence, and develops machine learning for a network of faultless, unified platforms. He has more than 20 years of expertise designing ecommerce solutions for brands and businesses worldwide. More than 22,000 websites have been constructed and designed by Yash. His first work included creating the first film magazine for Yahoo! in India. His love for AI and IRC (Internet Relay Chat) Networks, which has defined his professional life, began with the creation of automated bots in 1995.

Ratan Tata, the chairman of Tata Trusts and Chairman Emeritus of Tata Sons, and Rajan Anandan, the former managing director of Google India and current managing director of Sequoia Capital and Surge, were among the investors in Bombay Hemp's seed round.

In 2017, Bombay Hemp Company won two awards: the Social Innovation Leadership Award at the Social Innovation Conference Awards on World CSR Day and the second runner-up spot at the Tata Social Business Challenge, a collaborative project of the TATA group and the Indian Institute of Management (IIM).

GROWTH OF THE COMPANY

BOHECO is one of the most well-known hemp businesses in India, having made a name for itself as a champion of sustainability. According to the brand's slogan, "Educate. Cultivate. Motivate," Cannabis, a wondrous plant native to the Himalayan region that dates back approximately 9,000 years, has been transformed into a sustainable powerhouse for the future.

In every sense, the business is all about the expression "farm to table." By using the best seeds and growing methods, BOHECO helps the local farmers grow the crop. This helps BOHECO to continue operating in a way that has positive effects on the environment, the economy, and society. Visit their website to learn more about their incredible collection of nutrition and health items as well as some incredible discoveries from their hemp textiles and fabric lab.

The leading industrial hemp and medical cannabis company in India, Bombay Hemp Company (BOHECO), recently celebrated ten years of promoting consumer wellbeing with hemp-based products that are supported by research and innovation. The brand, which recently celebrated its tenth anniversary, underlined its dedication to patients by introducing a line of cutting-edge products made from cannabis leaves that have undergone clinical testing and are intended to treat a variety of chronic pain and mental health issues.

In order to harness the potential of hemp and make a significant impact on communities, the ten-year-old vertically integrated company collaborates with several farmers and FPOs situated in Bageshwar, Uttarakhand, as well as 500+ medical professionals from Ayurveda and Modern Medicine. Currently, BOHECO closely collaborates with the medical community, which has also promoted BOHECO goods to a larger community of doctors, numbering over 5000.

CONSUMER REVIEW/EXPERIENCE

"Cannabis plants that are grown locally are harvested for the raw material, which is then sent to be processed, manufactured, and sold. Similar to this, BOHECO collaborates with rural stakeholders and local vendors to obtain hemp leaf (bhaang) for use in developing patented Ayurvedic medicine formulations "Yash adds."

"Medium-term objectives of the firm include starting to provide cultivable and standardised hemp seed kinds to bigger agricultural communities, as well as starting BOHECO's commercial hemp growing in several states. In terms of vertical integration,

this will aid in bringing the supply of raw material production to a larger scale. Currently, the business collaborates with about 100 farmers.”

“500+ partners and 1 Lac+ customers make up the current clientele of BOHECO. According to Yash Kotak, co-founder and chief marketing officer of the Bombay Hemp Company, "We, as a country, have come full circle with our perceptions about hemp" (BOHECO). The acceptability of cannabis leaf-based medications has become increasingly widespread as a result of growing knowledge about how medical cannabis might aid in pain treatment. Having said that, there are a number of other medical uses for this amazing plant that have been overlooked. The main goal of our "Heal With Hemp" campaign is to educate the public about how medicinal marijuana can enable users to effectively treat their symptoms, according to Yash Kotak, co-founder and chief marketing officer of the Bombay Hemp Company (BOHECO). “

Source: <https://www.glassdoor.co.in/Reviews/Bombay-Hemp-Reviews>

CONCLUSION/ DISCUSSION

In order to convey a multi-stakeholder strategy to turn India's cannabis problem into a potential moon-shot opportunity, BOHECO engaged with the entire hierarchy of bureaucrats, politicians, scientific researchers, and farmers in various north and central Indian states. This allowed BOHECO to find a solution to the problem. This was done with the knowledge that marijuana grows naturally or in the wild in at least 60% of Indian areas.

The company intends to emphasis on patient centricity through the medicinal cannabis lens in the future. In order to do this, they are now developing high-quality, professionally tested pain treatment and mental health wellness solutions that will hit the market in the upcoming quarter. In addition to working with governments to develop policy frameworks towards favourable regulatory pathways for the clinical trials & prescription-based distribution of Cannabis-based medicines, BOHECO also exports hemp-based products to a number of international locations, including South Korea, Malaysia, and the Middle East.

6

**AARAV UNMANNED SYSTEMS: DRONE STARTUP THAT
MANUFACTURES UNMANNED AERIAL VEHICLES****Dr. Pooja Sharma and Deepali Sharma****ABOUT THE ORGANIZATION**

AUS is a start-up that had its beginnings at IIT Kanpur in 2013 and is now based in Bengaluru. It produces survey-grade drones and offers end-to-end integrated managed solutions based on drones for use in urban planning, industrial regions, smart cities, micro-irrigation, watershed, mining, power, and infrastructure.

The solutions from AUS are 10 times faster and produce data that is a million times richer, which makes it easier to construct intelligent analytics and help organisations make wise decisions. Expense reductions and revenue growth come naturally.

Due to enormous efforts in design innovation, data analytics, and data democratisation, drone solutions at AUS are continually setting top-tier technological benchmarks. AUS is now the market leader for commercial drones in India after serving important clients from several verticals. For several projects, AUS has mapped more than 55 Lac Acres of land.

Founded on September 26, 2013, Aarav Unmanned Systems Private Limited is a non-governmental organisation. It is categorised as a "company limited by shares" and is a private, unlisted firm.

The authorised capital of the company is Rs 9.26 lakhs, and its paid-up capital is Rs 6.58 lakhs, or 71.08664% of that amount. On September 28, 2017, Aarav Unmanned Systems Private Limited had its most recent annual general meeting (AGM). According to the Ministry of Corporate Affairs, the company last updated its financial information on March 31, 2017. (MCA).

Throughout the past 10 years, Aarav Unmanned Systems Private Limited has mostly operated in the Manufacturing (Machinery & Equipment's) industry. There are currently nine board members and directors: ***Ravi Balasaheb Thakur, Vipul Singh, Suhas Banshiwala, Nikhil Sunil Upadhye, Yaritha Yeswanth Reddy, And Bollempalli Venkata.***

ABOUT THE FOUNDER/ENTREPRENEUR

Industry veteran and co-founder Vipul Singh, CEO of Aarav Unmanned Systems, predicts that the market will reach \$5 billion in five years, growing at a compound annual growth rate of 50%.

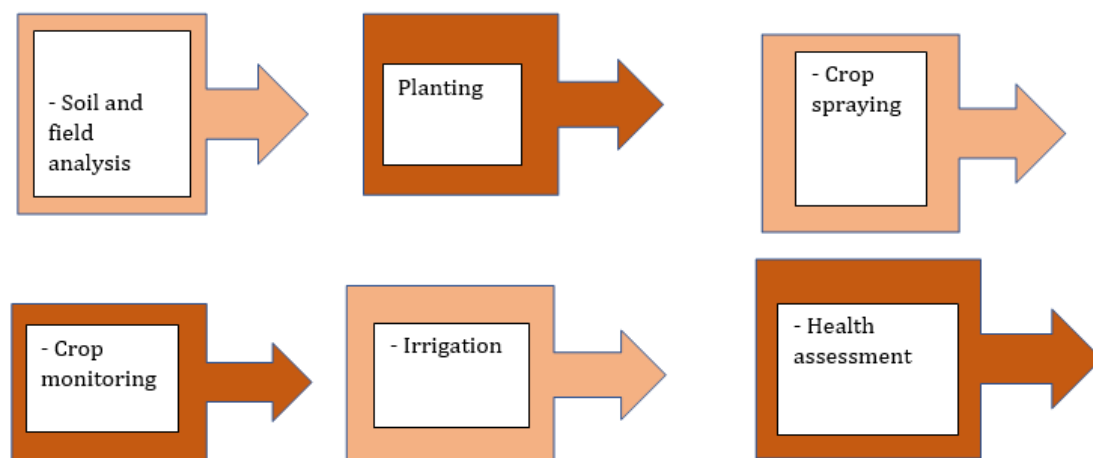
According to Singh, India might evolve into a drone manufacturing hub if the government encourages skill development and assures the smooth application of the rules.

Under the SVAMITVA programme, a 20-crore rupee contract is being used to deploy about 80 drones throughout four states. The agreement is for a year, and we started carrying it out in November. Most of the deployments will take place in Uttar Pradesh.

GROWTH OF THE COMPANY

Drones (UAVs) present a variety of fascinating opportunities for enhancing the management of cattle, fisheries, forests, and other natural resources as well as crops and other resources. The use of UAVs in agriculture provides access to up-to-date information on farms. It can be applied at several times during the cropping cycle:

- **Soil and Field Analysis** - After obtaining accurate 3D maps of the soil, plantation, and nutritional needs of the crop, future activities can be planned based on the analysis.
- **Planting** - UAVs may launch seeds that have nutrients in the soil with an average absorption of 75%, lowering planting costs.
- **Crop Spraying** - Drones' promise extends beyond crop monitoring via high-resolution imagery to include spraying seeds and administering insecticides, among other inputs.
- **Crop Monitoring**: By using these remote sensing data, the laborious process of conducting crop inventory and yield estimates can be sped up.
- **Irrigation** - Drones with thermal, multispectral, or hyperspectral sensors can spot dry patches of a field and indicate where irrigation is needed.
- **Health Assessment** - The most popular use of drone-acquired image data is to evaluate the crop vegetation's health. Using a drone with infrared cameras, the Normalized Difference Vegetation Index can be created (NDVI). The early identification of illnesses, pests, and infestations is made possible by this level of information.

Figure 1: The Cropping Cycle

Source: Author

CONSUMER REVIEW/EXPERIENCE

"Drones are being more widely employed in a wide range of industries, including agriculture, construction, and many others. They are no longer merely research tools used in science labs. The drone business in India is expanding quickly, and the "Drone Regulations 2021" issued by the Indian government have given it even more momentum. The new regulations are intended to lessen reliance on imports and encourage the growth of a domestic unmanned aerial vehicle (UAV) market. We will present a thorough overview of the leading drone firms in India, their services, and their distinctive offerings in this article.

the market for the previous eight years, but we've only recently begun village mapping. In addition, we have collaborated with a few state governments on urban planning and real estate taxes.

In addition to Tata Steel, Adani, Hindalco, NTPC, and Coal India, our clients are in the mining, infrastructure, roads, railroads, ports, smart city projects, urban planning, irrigation, and renewable energy sectors. We have a lot of optimism about agriculture.

We are actively looking for partners outside of India as we prepare to grow outside of that country the following year. To obtain about \$10 million through an equity infusion, conversations are already underway. The government wants to encourage not only drone production in the nation, but also drone software development, under the PLI plan.

The programme will assist Indian businesses in producing drones for both domestic and foreign markets. In addition to the PLI programme, the government has given Indian

businesses contracts to produce drones and drone parts domestically. Over the past 1.5 years, the demand for drones in India has surged by roughly 15 times. Components for the drone market are already being developed by manufacturing firms. A solid and competitive alternative will be available in another six to twelve months.”

Source: <https://www.g2.com/products/testlify/reviews>

CONCLUSION AND DISCUSSION

Aarav Unmanned Systems (AUS), a drone solutions company based in Bengaluru, has been awarded a contract to deploy drones throughout four states as part of the SVAMITVA programme of the Indian government. The business will use a competitive bidding process to distribute 80 drones around Uttar Pradesh, Madhya Pradesh, Maharashtra, and Rajasthan as part of the deal. SVAMITVA is a central sector programme of the Ministry of Panchayati Raj, according to the official statement. The plan uses drone mapping to clearly verify property ownership in populated rural areas. In fact, along with the provision of legal ownership cards to the property owners, it also gives a "Record of Rights" to village household owners.

In India, there are about 40 schools authorised by the Directorate General of Civil Aviation (DGCA) to provide drone pilot training.

There are a lot more schools being built. The nation now has a shortage of more than 1,000 pilots. In the next two months, Aarav Unmanned System plans to hire at least 75 pilots. Drone applications in the commercial sector were not discussed or even known about when we began in 2013. In a limited way, drones were being employed for internal security and defence purposes. They weren't used for industrial and domestic purposes like we are today.

People just began discussing the use of drones for various purposes, such as remote sensing, drought monitoring, and event management, in 2016.

When someone made an advertising depicting drone delivering pizza in Mumbai in 2016–17, the regulator started to have serious doubts about the usage of drone technology. The perception of a threat led to the necessity for regulation. The regulatory body decided to outlaw drones because it believed they could endanger national security.

AIBONO: FARMING- RELATED INTELLIGENCE, TECHNOLOGY, EXPERTISE, AND GADGETS TO FARMERS

Dr. Navya Jain and Deepali Sharma

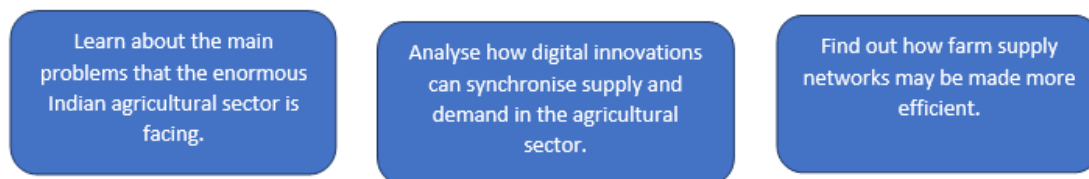
ABOUT THE ORGANIZATION

IIT Madras alumnus Vivek founded Aibono, which was once known as Air Wood Aerostructures and is now known as Aibono and offers farmers information, tools, and technologies connected to farming.

The start-up offers advice to farmers on how much input they should use to get the best possible output. They got their start in the specialised field of offering "Farm Management as a Service," which allows a farmer to delegate all of his measuring, production management, and decision-making functions to a Service.

For roughly 140 farmers, the Agri tech company has assisted in raising yields by close to 50%. It operates in Tamil Nadu's Nilgiris Hills. Its data scientists and agronomists enable centrally managed Data Science and Recommendation Engines to provide precise day-to-day interventions to farmers, which produces a 30 to 50% improvement in yield. Aibono Smart Farming Pvt. Ltd. has received \$2 million (about Rs 14.6 crore) in new finance to support its artificial intelligence-driven platform for aggregating fresh foods.

Lessing Artha, a division of Rianta Capital, Mitsui Sumitomo Insurance Venture Capital, and venture capital firm Rebright Partners provided the money. Vivek Rajkumar, the founder of Aibono and a graduate of IIT Madras, was quoted in The Press Trust of India as saying that the company would utilise the money to expand. In order to assist farmers in using analytics, the Internet of Things, and data science to boost yield, Aibono launched operations in 2014. Since then, the company has increased the range of services it offers, integrating just-in-time harvesting with real-time demand and precision farming. The approach synchronises the farm's predictive harvesting system with the cropping matrix.

Figure 7.1: Objective of the company

Source: AIBONO: Using AI to Aid Precision Farming (icmrindia.org)

ABOUT THE FOUNDER/ENTREPRENEUR

In the past, Procter & Gamble employed Vivek as a project manager. Since May 2011, he has worked as a farmer on his own, and in November 2013, he established AIBONO. IIT Madras is where Vivek earned both his Bachelor's and Master's degrees in engineering design. Vivek created a drone that could photograph the crops and the landscape in various wavelengths. The company was formerly known as Air wood Aerostructure before changing its name to Aibono. He started Aibono with the straightforward intention of helping farmers by offering real-time precision agriculture.

According to Rajkumar, Aibono has employed 1,000 farmers and sells to around 800 shops. Aibono raised \$2.5 million in a pre-Series A investment round in March of last year, with the help of social impact investor Menterra Venture Advisors. Among others, Rianta Capital and Rebright Partners had also taken part in that investment round.

GROWTH OF THE COMPANY

The \$250 billion fruits and vegetable chain is being transformed by AIBONO, the country's first-ever AI-powered aggregator of fresh produce, thanks to its innovative Seed-to-Plate™ platform. By providing them with precise insights derived from AI & shared farm intelligence on what to produce and how to produce it, this enables communities of farmers to achieve two times the yield, two times the income, and less than half the wastage as before. It also enables retailers & consumers to source super fresh farm produce all year round from a traceable aggregated source.

The Agri-tech startup Aibono has raised \$2 million (about Rs 15 crore) from investors to support expansion plans and commercial growth. The end-to-end aggregator platform firm, founded in Bengaluru, links premium perishable veggies from farm to fork. Aibono helps farmers in the Nilgiris and other Tamil Nadu villages grow quality perishable vegetables and herbs with higher yields thanks to its AI-powered full-stack farm services and demand-supply synchronising technology. In addition to providing inputs, it also offers these farmers a buy-back guarantee. The business buys farm products from farmers and sells them to merchants in Bengaluru. "We have 1,000 farmers signed up for our platform.

STRATEGIES HE COMPANY

By giving farmers access to real-time precision agricultural services and coordinating real-time market demand with precision agricultural practises, Vivek founded AIBONO in 2014 with the goal of increasing agricultural output and farmers' revenue. The company's business model was split between the ground (where field agents assisted farmers in going digital and agriculture experts conducted research in labs to confirm the newest farming practises) and the cloud (where data crunching took place). In order to support farmer collectives that the company aggregated, AIBONO provided smart farming services, staff, and equipment such as sensors, farm equipment, tech support, farm experts, data, and intelligence, and farm managers. The business asserted that both technology and people were at the centre of its business strategy.

FUTURE PLANS

Early in 2020, according to Vivek, AIBONO's partner farmers reported 1.5–2 times higher yields and 1.3–2 times higher incomes than farmers who used traditional farming methods. Farmers that worked with AIBONO made INR 500,000 on average per acre. In the Nilgiris region, AIBONO has partnerships with over 1,000 farmers as of September 2020, and it was supplying perishable fruits and vegetables to about 800 shops, largely in Bengaluru. The business intended to collaborate with younger farmers who were more educated than their parents and experienced with utilising computers and other technology. The business claimed that the younger, internet-savvy farmers will reduce the workload of the field employees by utilising sensors to collect data and upload it to the cloud themselves.

CONSUMER REVIEW/EXPERIENCE

The seed-to-plate idea, which was invented by Vivek Rajkumar and introduced by Aibono in 2014, enables farmers to boost agricultural productivity while also selling their produce to shops. The company gathers farm data using soil sensors, IoT devices, and imaging drones, then uploads it to their cloud platform where it is used by predictive analytics to assist the farmers in increasing their yield. Rajkumar reported that Aibono has hired 1,000 farmers and is already implementing. Agri-tech-related firms have recently raised money through financing rounds

Big Haat Argo Pvt. Ltd., which runs an online portal for agricultural products, received more than \$2 million in pre-Series A funding last month.

Confinity Agro2o Pvt. Ltd., situated in Delhi, secured money from the Mumbai Angels Network in June. The startup's main goal is to increase small farmers' and commercial institutions' access to hydroponics-based farming.

Startup Eggoz, which specialises in poultry farming, raised Rs 2.5 crore in May from a number of investors, including Tracxn Labs, Angellist, Tri-Deep Capital, and the creators of Lets Transport.

Agri-tech firm Intello Labs Pvt. Ltd., which focuses on artificial intelligence, announced a Rs 45 crore Series A fundraising round in May.

Source: <https://www.glassdoor.co.in/Reviews/Aibono-Reviews>

CONCLUSION/ DISCUSSION

Aibono Smart Farming Private Limited was established on November 19, 2013, and is a private company. It is registered with the Registrar of Companies in Chennai and is categorised as a Non-Government Company. Its paid-up capital is Rs. 9,420,955 and its authorised share capital is Rs. 10,262,400. It is involved in horticulture, market gardening, and crop growing.

The most recent Annual General Meeting (AGM) of Aibono Smart Farming Private Limited took place on November 30, 2021, and its most recent balance statement was submitted on March 31, 2021, according to MCA data.

8**AGRICXLAB: ASSESS THE QUALITY OF AGRI-PRODUCE THROUGH ITS
MOBILE APP****Dr. Khushbu Khurana and Deepali Sharma****ABOUT THE COMPANY**

Ritesh Dhoot and Saurabh Kumar established the Thane-based online B2B platform Agricx Lab to link operators of cold storage facilities with large-scale consumers of agricultural products. Via its mobile app, which applies artificial intelligence and computer vision to photos to provide objective, accurate, and quicker quality assessments of agri-food, they employ smartphone imagery to evaluate the quality of produce.

Ankur financing, an early-stage venture financing firm, led the \$500,000 (Rs 3.2 crore) seed round raised by Agricxlab, an agricultural technology company that employs smartphone imagery to evaluate the quality of agricultural produce. The Centre for Innovation Incubation and Entrepreneurship (CIIE), an incubator turned investor at IIM Ahmedabad, also took part in the round. According to a release, the business would utilise the money to improve product development and expansion.

Agricx is a mobile application that assesses the quality of agricultural products using computer vision and artificial intelligence on photographs. It was founded in 2016 by Saurabh Kumar and Ritesh Dhoot. The Thane-based firm provides a service to enterprises and warehouses, and it intends to broaden its quality criteria to cover a wider range of crops along the entire food supply chain.

ABOUT THE FOUNDER/ENTREPRENEUR

Ritesh is a seasoned engineer with more than 19 years of expertise developing difficult high-tech products. He is also capable of building and managing geographically dispersed teams and has start-up experience. He has expertise dealing with both Enterprise and Service Provider clients and is customer-focused. Before to AgricxLab, he worked for a number of big corporations, including TCS, Cisco, Riverbed Technology, etc.

Ritesh has expertise envisioning and delivering products utilising a variety of technologies and quality standards. He can construct and lead large teams across geographical boundaries and perform end-to-end project management, custom

designing solutions, training, and talent development. He is skilled in creating embedded, networking, optical, and packet optical products, starting with requirement analysis and ending with cost-benefit analysis and solution architecture.

GROWTH OF THE COMPANY

Despite making up 14% of the GDP, the agricultural industry is in dire need of improvements. They assist large-scale consumers of agricultural products in correctly, affordably, and quickly determining the quality of their purchase. The supply chain and market linkages are thought to be the area that needs disruption the most urgently. Farm product has been of sub-optimal quality, sold for a cheap price, and wasted a lot as a result of a convoluted and fragmented supply chain, an opaque price discovery process, and insufficient forward integration. Simply put, customers are paying up to 400% more for vegetables than what was paid at the farm gate.

Agricx aims to simplify the procedure by creating unique technology that enables judging the size and quality of product simpler and more reasonably priced, as well as ensuring wider access to information about output.

In a word, Agricxlab plans to revolutionise the way agricultural procurement specialists around the nation source their needs in the most effective manner possible through the use of technology. A number of agriculture technology businesses have recently received venture capital funding. Most recently, agrochemicals major Syngenta AG and the Indian divisions of Swiss incubator-cum-investment firm Pioneering Ventures contributed \$3 million to FarmLink, a provider of end-to-end logistics solutions for supplying fruits and vegetables.

Farm equipment and vehicle company Mahindra & Mahindra and early-stage venture firm Infuse Ventures provided \$2 million in seed capital for Gold Farm, an app-based platform for renting farm equipment, in October of last year.

COMPETITOR OF THE COMPANY

In India, there are roughly 450 active agri-startups. Many of them are already engaged in efforts to address the current issues, it was said.

The report found that agri-tech startup enterprises have increased 25% year over year. Since 2014, they have garnered \$545 million in venture capital funding. 330 million US dollars come from this in 2019.

Agri-startups can provide aggregation and distribution of agricultural produce from point of collection to consumption centres, according to the report, which highlighted agri-tech solutions.

Figure1: Few of the startups in this field



Source: Author

Startups like Intellolabs, Agricxlab, Zense, Raav Tech, Occipital, Amvicube, and Nanopix are seeking to address the issue of standardising through mobile photography and digitalization in order to provide quality assaying of agricultural commodities.

According to the survey, some firms are working on close-to-farm, flexible, and reasonably priced storage and processing solutions to address post-harvest difficulties.

Instead of immediately or in a distressed manner following harvest, these storage facilities are meant to allow farmers the chance to sell their produce at the right time and the right price. According to the survey, firms like Agrostar, BigHaat, BehtarZindagi, Unnati, Gramophone, Freshokartz, AgriBolo, DeHaat, Bharat Rohan, and Bharat Agr are providing solutions to maximise the usage of agricultural inputs and make delivery to farmers possible in order to ensure the smooth operation of kharif sowing.

Agri-startups are working to develop business plans that will enable them to connect with farmers directly, both online and offline in the villages. According to the report, such companies can be crucial in ensuring that farmers receive the needed inputs on time.

Some start-up businesses, like Sickle Innovations, Distinct Horizon, Tractor Junction, Khetibadi, and J Farm Service, are providing mechanisation solutions for sowing and harvesting in an effort to minimise personnel costs.

Additionally, several of the firms have concentrated on establishing data-driven controlled irrigation models and accurate and timely assessments of soil moisture. According to the report, startups in this area consist of Satyukt Analytics, Flybird, Kritsnam, Agrirain, and Manna Irrigation.

In addition to institutional loans and crop insurance, some agritech businesses can offer farmers advice for crop monitoring.

CONSUMER REVIEW/EXPERIENCE

Agricxlab has an Ambition Box employee rating of 4.0 out of 5 after 1 review. Work Security, which is rated at the top and given a rating of 5.0, is well-known for Agricxlab. Pay & Benefits, which received the lowest rating of 3.0, can be improved. Read in-depth reviews in the reviews area based on various job profiles, departments, and regions to get a first-hand account of what it's like to work at Agricxlab.

CONCLUSION AND DISCUSSION

The \$250 billion fruits and vegetable chain is being transformed by AIBONO, the country's first-ever AI-powered aggregator of fresh produce, thanks to its innovative Seed-to-Plate™ platform. By providing them with precise insights derived from AI & shared farm intelligence on what to produce and how to produce it, this empowers communities of farmers to achieve two times the yield, two times the income, and less

than half the wastage as before; while also enabling retailers & consumers to source super fresh farm produce all year round from a traceable aggregated source.

A large portion of the world's product originates in regions where organised players are underrepresented, farming methods and seed varieties are diverse, and there are multiple links in the value chain. The importance of evaluating quality objectively at all points increases. A crucial transparency in food chains that is now difficult to assess is provided by technology that is simple to use and can be put along the entire chain. This market could be disrupted by Agricx, according to Ritu Verma, managing partner at Ankur Capital.

CROPIN: BUSINESS INTELLIGENCE ACROSS RURAL INDIA

Ms. Pooja Tripathi and Deepali Sharma

ABOUT THE ORGANIZATION

In order to create Cropin Cloud, a multi-tenant, secure, scalable, adaptable, and intelligent agricultural cloud platform, Cropin has pooled its more than 12 years of experience in the worldwide agribusiness.

With this ground breaking industry platform, they want to offer a full range of agriculture-specific capabilities with the express purpose of accelerating company growth and bringing about a quick and profound digital revolution throughout the agri-ecosystem. CropIn is a user-friendly, perceptive, and self-improving technology that offers the entire agricultural industry farming solutions that are prepared for the future. It provides agribusinesses with decision-making tools that increase consistency, dependability, and sustainability.

CropIn is digitising every farm while data-managing the entire ecosystem thanks to its cross-geography live reporting, analysis, interpretation, and insight capabilities. Their most intelligent agricultural solutions are real-time powered, allowing users to record patterns, forecast trends, and create business blueprints for the future.

CropIn boosts productivity by streamlining data collection with a smartphone app that logs actions and accomplishments. providing your field agents with improved visibility, more cost-effective operations, and efficient operations at all times. Farm management firms are able to scale productivity through in-the-moment actionable insights, allowing them to make deliberate and timely business decisions. By meeting today's agri-needs while preserving resources for the future by fostering a healthy environment, economic profitability, and social and economic equity for all, the predictability of quantity and quality of yield combined with lower operating costs results in higher productivity for the businesses. By giving businesses access to actionable insights and providing farmers with guidance and alerts, we are empowering the agricultural sector within the agri-ecosystem.

ABOUT THE FOUNDER/ENTREPRENEUR

Cropin, a leader in Agtech, has created Cropin Cloud, the first industrial cloud for agriculture, and Krishna Kumar is its co-founder and CEO. Before the phrases

"agritech" or "agtech" were popularised or widely understood, Krishna created Cropin in 2010. In order to handle the growing food demand and disruptive climate changes, the 10,000-year-old agriculture sector was aiming to modernise and become a digitally linked business when he launched Cropin. With its business customers across the world, Krishna has been a leader in the development and implementation of digital technologies and predictive intelligence to revolutionise the agriculture ecosystem for the past 12 years.

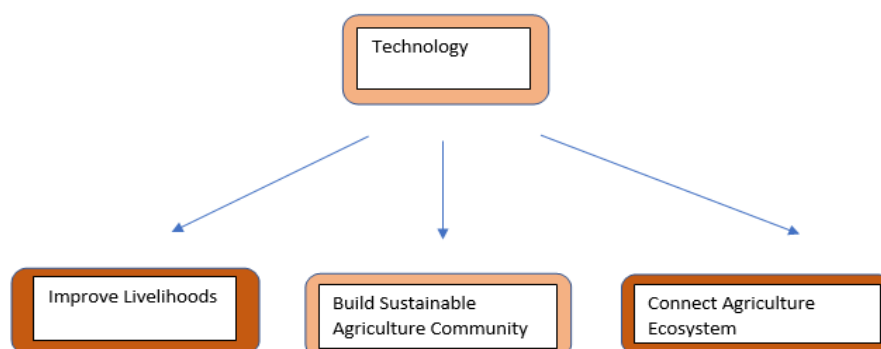
Krishna and his team have so far digitised over 16 million acres of farmland, enhancing the lives and enhancing the livelihoods of nearly 7 million farmers across 56 countries with Cropin's field-tested farm-to-fork automation and predictive intelligence-based solutions portfolio that are crop and location agnostic.

Krishna is dedicated to creating a platform for global ag-ecosystem knowledge that will enable every stakeholder to maximise per-acre value while ensuring farm traceability. He has played a crucial role in Cropin's ongoing investment in developing top-notch AI capabilities that may aid in resolving pressing issues facing the agricultural sector. Krishna has worked hard to create the farm ecosystem's "connected future" along the way.

Krishna worked for General Electric before helping to create Cropin. As part of their information management leadership programme, he transitioned from a technical job into a leadership capacity, and during this time, he worked for GE Appliances, GE Industrial, and GE Energy. He graduated with an engineering bachelor's degree from Visvesvaraya Technological University. Krishna participates on the National Startup Advisory Council, which was established by the Indian government, in an unofficial capacity. Krishna enjoys travelling and reading in his spare time in addition to working at Cropin to solve planet-scale issues.

GROWTH OF THE COMPANY

In order to create AI and data-driven solutions that accelerate scientific discovery and address pressing challenges confronting the agriculture industry, we mix ag-sciences, research, engineering, and analytics. Driving social good is an essential purpose of the company therefore, the company has use technology to improve livelihoods, make the agricultural community sustainable, and connect the agriculture ecosystem.

Figure 1: The ideology of the company

Source: Author

People from all backgrounds make up Cropin's welcoming and collaborative atmosphere. In order to learn, laugh, and grow together, we appreciate and encourage our colleagues' viewpoints while embracing our own differences. We are the impact-makers of today and the trailblazers of future because of our shared passion, unrelenting pursuit of our purpose, growth and innovation attitude, and culture of invention.

CONSUMER REVIEW

Since the first GM crops were released twenty years ago, there have been heated discussions about the potential uses of gene editing. Currently, a wide range of new legal, ethical, and economic issues in agriculture have been brought up by the creation of GM crop varieties. A rising collection of writing on the socio-economic and environmental effects of GM crops tries to question their utility for farming systems. While organic crops are marketed in rich nations as ecologically friendly goods, they have sparked a great deal of debate in underdeveloped nations that struggle with food security and low agricultural output. When organic farming was offered as an alternative practise, debate was especially heated. In truth, there are a few trade-offs in developing nations.

CONCLUSION AND DISCUSSION

Cropin provides farming businesses with the most precise and useful data so they can make strategic decisions. Our solutions enhance field officer efficiency, input consumption, and farm operation visibility—everything you need for a bumper crop!

We offer information on acreage patterns so that agricultural business decision-makers may be ready before embarking on their next endeavour or just looking back at prior triumphs for direction as they plan ahead. No detail is overlooked when analysing and calculating yields thanks to our powerful analytics platform, which is driven by machine learning algorithms based on field data from your farms.

10**FASAL: AI-POWERED PLATFORM FOR THE AGRICULTURAL ECOSYSTEM****Ms. Roli Wadhwa and Deepali Sharma****ABOUT THE ORGANIZATION**

Fasal got its start by eliminating farming's element of speculation. Farming is difficult and fraught with uncertainty. The majority of these choices are made by farmers based on their own experience, wisdom from their elders, or suggestions from other farmers. But The farmers are now faced with a situation where everything around them, such as the soil, agrochemicals, seeds, and fertilisers, has changed while their methods of decision-making have stayed the same. Fasal believed that a significant change in the way the farmers make choices at the farm level was necessary. There cannot be any element of speculation in these selections.

Fasal observed that these uncertainties were on farmers' minds constantly while the crop was standing in their fields, not only at particular phases. Fasal understood that only data-driven farming could eliminate farming's element of guessing by identifying precisely what works and what doesn't.

With only four team members when we began in 2018, Fasal is now well on its way to having a significant impact on Indian agriculture. Through our AI-powered platform for horticulture, which provides farm specific, crop specific, crop-stage specific, actionable guidance, Fasal has since its beginnings assisted its numerous farmers in reducing cultivation costs and increasing quality and production. We promote sustainable agriculture, and our remedy has an effect on

ABOUT THE FOUNDER/ENTREPRENEUR

Ananda is a member of a farming family from Azamgarh, which is close to Varanasi, and he has witnessed his father lose a crop due to inaccurate weather predictions and a lack of knowledge. He continues, "And this difficulty is not only with him; every farmer suffers the same dilemma of not having enough information to make a judgement. Ananda realised he could address this guesswork problem utilising technological advancements in the Internet of Things and machine learning after receiving his degree from IIIT Bangalore and spending more than five years working in the IT software sector (ML). He founded Fasal with co-founder Shailendra Tiwari as a result of this blending of agriculture and engineering.

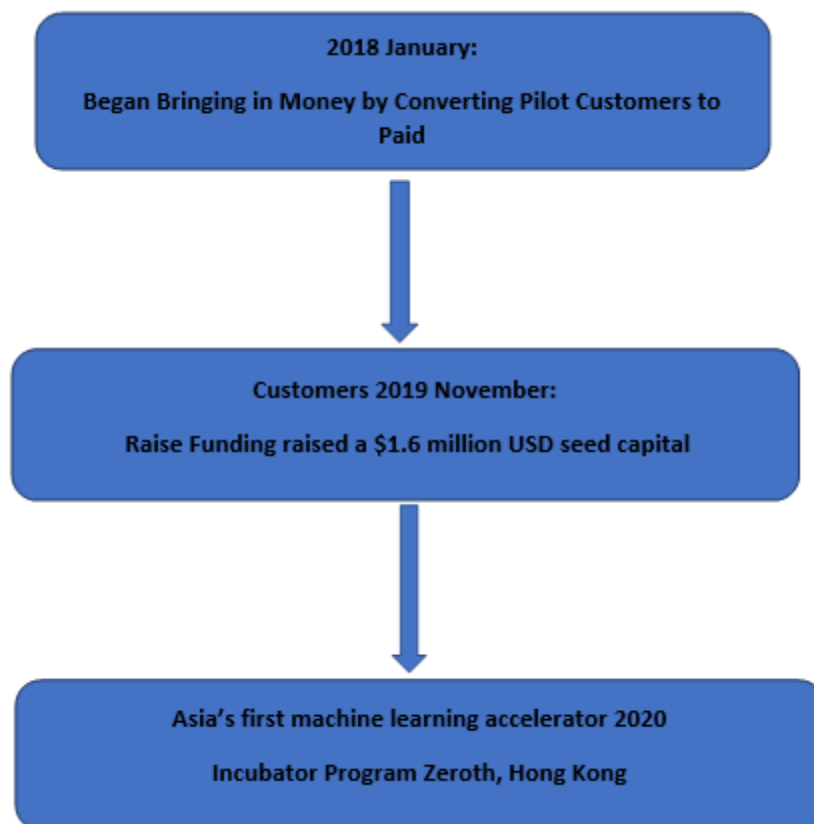
One of the biggest vineyards in India, Grover-Zampa, is a client of Fasal. Ananda states that by using Fasal's technology to control water stress level, they have greatly reduced the cost of reactive sprays and increased the quality of wine grapes. "One of Durg's powerful vegetable producers learned that he had been over-irrigating his land, where water is scarce. As an example of how Fasal's innovation is assisting on the ground, Ananda states that the man is currently saving 50% on watering costs. In order to use Zeroth's AI knowledge into their product, Ananda is currently in Hong Kong. "In order to construct our product, we included IoT and AI technology. Agricultural factors are monitored in real-time using IoT, and microclimate weather is predicted using AI.

"My brother Arpit and his closest buddy, Adarsh, are the owners of the media start-up Fossbytes, and they provided us with the money to begin our job. Later, my classmate Vaibhav also donated money to help us support and expand our team," he says. They have grown to a six-person staff in just three months. The two founders received an offer from four different accelerators around the world while actively seeking pre-seed investment and acceleration support. Because Zeroth.ai is a well-known AI accelerator in Asia and has already supported a few AI businesses in India, we chose them. We received \$120,000 from Zeroth," says Ananda.

GROWTH OF THE COMPANY

It keeps track of many aspects of the farm's growth circumstances, utilises artificial intelligence and data science to develop predictions about those conditions, and then delivers the insights to anyone, anytime, using any device, including Android, iOS, tablets, and the web.

To date, FASAL has helped preserve close to 3 billion litres of freshwater. An agritech business plans to end FY21 with 10,000 acres of land under its control and 1,000 farms. Also, it aims to reach a \$1 million annual revenue run rate.

Figure 1: Timeline of the company: Fasal

Source: Author

CONSUMER REVIEW/EXPERIENCE

An agritech ecosystem powered by AI is called Fasal. Its IoT platform captures many aspects of farm growth, generates predictions about farm conditions similar to weather forecasts, and provides farmers with insights and suggestions to increase crop yield. Fasal has so far worked with 1,500 farmers in India. It received \$1.6 million in seed investment last year from VC companies Omnivore in Mumbai and Wavemaker Partners in Los Angeles.

FASAL, a Centre of Entrepreneurship (CoE) for IoT in Agriculture established by STPI at Dr. Panjab Rao Deshmukh Krishi Vidyapeeth with specialised state-of-the-art incubation facility and physical laboratories for start-ups in the area of Agri Tech / Smart Agri where the highest-standards and best-practices in terms of infrastructure, technology, leadership, mentoring, training, research & development, funding, networking for the given focus area is made available.

Cotton is grown in the famously referred as "white gold district" of Maharashtra State, Akola. The most significant cash crop in the western Vidarbha region is cotton. In eight

of Vidarbha's eleven districts, the main crop is cotton. Farmers in the western Vidarbha districts of Yavatmal, Akola, Amravati, Wardha, Buldhana, and Washim rely heavily on the cotton industry. It is crucial to be aware of sustainable resource management practises while creating a holistic approach to sustainable development. By utilising untapped prospects in domestic and international markets, innovations in agriculture are expected to turn the current downturn in agriculture into a lively and competitive environment. Agriculture-related innovation, research, and development are thought to raise farmers' incomes, create jobs, protect natural resources, encourage exports, and boost value addition for more robust agricultural growth.

Figure 2: Employee retention



Source: Apollo.io

CONCLUSION AND DISCUSSION

Ananda, who at first was hesitant to pursue a career in farming, later decided to study engineering at IIIT Bangalore and started a job in the IT industry. Yet over time, his genes began to dominate. Ananda purchased a small acreage near Mysore in 2017 with colleague techie Shailendra Tiwari in order to produce "coloured capsicum" (bell peppers) as a weekend respite from their busy city lives. "Shailendra also comes from an agricultural family. We looked into the requirements for growing fruits and vegetables since we had a common interest, he says. The two soon realised that horticultural crops require more upkeep than rice, wheat, and grains, which makes them more difficult to maintain.

In India, Fasal faces off against companies like Yuktix and Exabit Systems, while CropX, Pycno, The Yield technological Solutions, and other startups also compete internationally. "Managing the operations presented one of our largest difficulties. They have offices in three states and have remote installations of equipment on the farm. Making the farmers grasp the technology becomes very difficult, adds Ananda. They have appointed their product engineers to manage operations in addition to having distribution partners to address this issue

11

**GOLD FARM: MOBILE APP TO PROVIDE AGRICULTURE FARM
EQUIPMENT'S THROUGH BOOKING FROM AGENTS**

Ms. Shanu Jain and Deepali Sharma

ABOUT THE ORGANIZATION

Aggrotech startup Gold Farm, situated in Bangalore, was established in 2012, and it offers agricultural farm equipment through booking farm agents. Abhilash Thirupathy was the one who started it.

In areas of our nation with a lack of power, they provide solar water pumps for farmers. Using its contact centre and mobile app, Gold Farm offers farmers the chance to reserve farm equipment.

Presently, Gold Farm has 500 tractor owners connected to their mobile app, in addition to over 250 booking agents. By arranging productive ecosystems through innovation and technology, they want to improve the development and sustainability of farmers. The firm has received \$3 million in total investment.

According to co-founder Abhilash Thirupathy of the startup, Mahindra & Mahindra, a maker of farm machinery and automobiles, and early-stage venture catalyst Infuse Ventures have invested \$2 million (about Rs 13 crore) in agricultural technology platform Gold Farm. According to VCCEdge, the data research division of Circle, Infuse Ventures, which is located at IIM Ahmedabad's Centre for Innovation Incubation and Entrepreneurship, has also taken part in a \$560,000 round at the company in June 2014. According to Thirupathy, the business would utilise the money to hire more employees, enhance its technology, and offer more services throughout Karnataka. A portion of the funding will also go towards outreach initiatives for farmers.

Figure 11.1: The Timeline of the company

Sources: Startup Talky

ABOUT THE FOUNDER

Abhilash Thirupathy is a successful serial entrepreneur with a strong background in agriculture. Healthcare magic, his first venture into internet healthcare, was bought out in 2014 for \$18 million in cash. Gold Farm was his next agribusiness venture. In four years, we established a \$3 million revenue company with funding from Mahindra & Mahindra, the world's largest producer of farm equipment in terms of output. His third business endeavour, Agrifi, is built on a thorough grasp of the agro environment and the problems that farmers face. He has been a Kundalini Yoga practitioner for the past 20 years, and he enjoys spending time with his family.

Thirupathy and Karthik Ravindranath established AK Surya Power Magic Pvt. Ltd. in Bangalore, which manages Gold Farm, in 2012. In the past, Ravindranath and Thirupathy co-founded the aerospace engineering services company Sakthi Aerospace while they were co-founders of the healthcare venture Rx Health care Magic Pvt. Ltd.

GROWTH OF THE COMPANY

There are six locations in Gadag, Karnataka, and eleven locations around Kolar where Gold Farm rents out equipment. Farmers who live within a 30-kilometer radius of these centres can reserve tractors and other equipment by using the Gold Farm app or by calling the contact centre.

A variety of tools are available from Gold Farm, including rotavators, disc harrows, rotary tillers, and MB ploughs. The services are provided for an hourly rate, according to the tariff decided by a local panel made up of representatives from the District Agricultural Department in particular.

Venture capital has recently made significant investments in the farm-tech sector. The early-stage fund Been next, located in Singapore, provided an undisclosed sum of pre-Series A capital to the agri-tech company Crop In last month. Farmers and retailers may now interact through Crofarm, which raised \$783,000 in a pre-Series A investment headed by US-based venture capital firm Factor[e] Ventures. On-demand farming equipment and service provider EM3 Agri Services Pvt. Ltd., based in Noida, raised \$10 million in a Series B financing headed by London's Global Innovation Fund. FarMart, a platform for renting farm equipment, is situated in Gurgaon and was the recipient of an undisclosed investment from Indian Angel Network in March. Paalak.in's owner and operator, Delhi-based VDSS Agri Tech Pvt. Ltd., raised an unknown sum in seed capital from a slew of angel investors in February. RML AgTechPvt. Ltd., a Mumbai-based company that offers mobile-based support services to farmers, secured \$4 million from its current investor, IvyCap Ventures, in January.

CONSUMER REVIEW/EXPERIENCE

"From a farmer's standpoint, they realised very early on that this specific service is more expensive if they are referring someone and earning money from it. As a result, it worked against us since customers thought the service was pricey. It's a pretty odd realisation. We didn't anticipate that.

The farming community is horribly neglected, which makes it easier to keep them pleased, according to Abhilash's second point. In contrast to other marketplaces, where a lot of promotion and incentives are needed to "sell" the product, farmers join up as soon as they recognise the commercial advantages.

Gold Farm offers farmers an app-based platform for renting agricultural machinery, such as tractors, water pumps, and other irrigation equipment. For the aggregation of farm equipment, its own programme Honey Bee offers end-to-end solutions, from booking and scheduling to dispatch and operation monitoring. Currently, the startup serves about 25,000 farmers.

CONCLUSION/ DISCUSSION

One of the economies in the world that is expanding quickly is India. Indian economy has a demographic edge over others due to its size and growth. Improvements in food production must be made on both a qualitative and quantitative level due to economic expansion and population increase. This is a serious obstacle for the Indian agricultural industry. The aforementioned circumstances also provide enormous opportunity to companies that serve the agricultural industry. Micronutrients serve as the body's vitamins.

To further highlight how spicy chilli is, the red colour of an apple and delectable things in the paddy will only appear if the necessary plant vitamins are given at the right moment. Micronutrients will boost the plant's metabolic activity, strengthen the stem and other components, and speed up the growth. All of them will boost the yield and bring in more money for the farmer. This boosts the country's economy overall and the farming community's economy specifically.

NINJA CART: AGRICULTURE SUPPLY CHAIN COMPANY**Mr. Bhupinder Singh and Deepali Sharma****ABOUT THE COMPANY**

The largest fresh fruit supply chain firm in India, Ninja Cart, is using technology to address one of the most difficult issues in the world. Using internal systems that power end-to-end operations, we directly connect food farmers with merchants, eateries, and service providers. Now, our supply chain is able to transport 1400 tonnes of perishables daily, in less than 12 hours, from fields to companies.

Agriculture was created ten thousand years ago, and we then began to systematically produce food. It helped human culture advance by enabling clans and tribes to remain in the same place for multiple generations. Agriculture mostly gave rise to what we are now, including trade, culture, and cities. They first overcame hunger, established local communities, safeguarded them, gathered money, gathered even more wealth, and then became enraged. We misplaced the food in the midst of all of this. Ecologically, economically, and politically (BTW, nothing is more political than food!) food has gotten riskier for humans today. additionally, it is no longer SAFE TO EAT.

Food safety is the only factor that matters when it comes to consumption. In the society we live in, while shampoo is completely chemical free and has a shelf life, food does not. Food itself no longer holds as much importance as the trade that surrounds it.

ABOUT THE FOUNDER/ENTREPRENEUR

Co-founder and CEO of Ninja Cart Thirukumaran Nagarajan said on the social networking site LinkedIn that the agritech behemoth will aid entrepreneurs in the industry in obtaining seed funding in as little as two days. "Do you want to own an idea that you can use to tackle large-scale issues? We'd want to work with you as a team. Even if you lack an idea but are passionate and determined to find solutions on your own, we still adore you "he stated. The only way to create a scalable solution, he said, was through technology. It will be an easy procedure. The startup will have two calls: a screening call and an assessment call. After the initial contact, it will take two days for the ninja cart team to respond with a yes or no.

GROWTH OF THE COMPANY

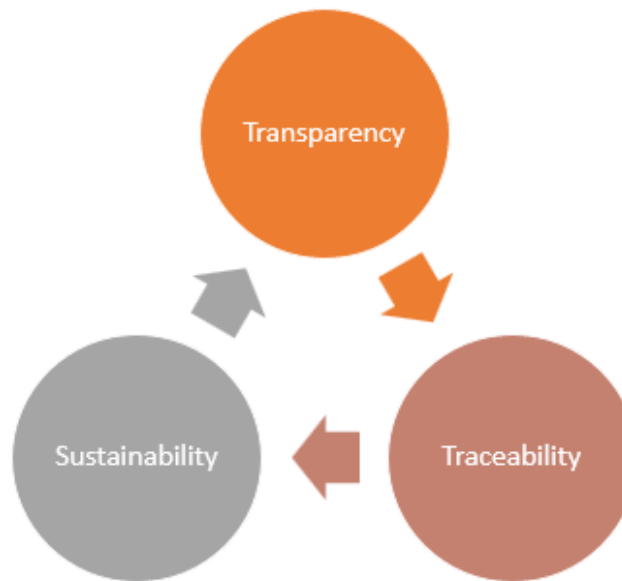
The ninja cart, which has its headquarters in Bangalore, was continually innovating for greater capacity utilisation, warehouse tracking, automated sorting and picking of fresh food, and route planning while increasing its procurement and fulfilment engine. Ninja Cart was able to grow by another 3.5X thanks to funding from Tiger Global Management, reaching Rs 469 crore in operational revenue in FY20. As a result, it worked with 44,000 producers of fruits and vegetables and sold fresh food to more than 60,000 stores and restaurants throughout seven cities. Consumer demand and awareness have recently compelled many nations to take systematic steps to make food safer. Agriculture has advanced in many ways to provide high-quality, sustainable, safe, and economically viable food. To ensure that the food they eat is safe, consumers in industrialised countries take Good Agricultural Practices (GAP) and Maximum Residue Limits (MRL) seriously. Farmer accountability is enforced.

Consumers in India, meanwhile, believe they have few options, and farmers believe there is little demand. It was surprised to observe that while producing for exports, many Indian farmers followed GAP & MRL, but not when producing for domestic consumers. India's largest threat after independence was food security. We were on the verge of having to rely on other nations for food because we were not producing enough to sustain our expanding populations, despite the fact that agriculture was India's primary industry. We were able to achieve food security thanks to the Green Revolution, which changed the way food was produced. The only noteworthy occurrences following the green revolution, however, were debt forgiveness, subsidies, and giveaways. There is no substantial innovation.

CONSUMER REVIEW/EXPERIENCE

The ninja cart company sources fresh fruits and veggies from farms to stores, upholding the values of transparency, traceability, and sustainability. Ninja Cart was founded to protect farmers' livelihoods by assisting them in getting the most value out of their agricultural output while delivering the highest quality yield to the final customer.

Ninja cart has changed the lives of both farmers and retailers over the past six years. Ninja Cart maintained a steady supply of high-quality food that satisfies consumer demand by working closely with the farmer partners. We assisted farmers in gaining access to data-driven crop recommendations and gave them sound advice on pre-harvest price and demand patterns. Farmers were able to focus on farming and pick up new growing techniques. The net realised revenue of our farmers has increased by 20%.

Figure 12.1: The Values of the company

Source: Author

Most significantly, Ninjacart helps farmers save the time and effort they would otherwise spend negotiating with several intermediaries. We provide them the authority to deal with intermediaries in the supply chain who are undervaluing the food and not appropriately compensating the farmers for their labour.

Retailers, on the other hand, don't have to worry about early morning market trips because fresh, high-quality product is hygienically delivered right to their door. Retailers may buy a variety of quality-graded fruits and vegetables at the greatest prices for their stores, increasing their profit margin. Other benefits for merchants using Ninjacart include regular sales and discounts. To cut down on inventory holdings and speed up processing, they might periodically restock their inventory.

CONCLUSION AND DISCUSSION

The goal is to provide healthy food to "billions of people in India," with efficiency and quality given first emphasis. To do this, we've set up a traceability infrastructure in the food supply chain that enables us to keep an eye on fresh fruit as it moves through various facilities at all levels. The epidemic has increased the need of recognising the value of technology in the agricultural sector. We are making significant investments in cutting-edge technology that will facilitate farmers' procurement processes by enabling them to use applications to monitor their lands and harvests. As they work together to find a solution to India's disjointed food supply chain, our goal is to learn and develop.

Agritech company Kilo farms have partnered with us. Together, we produced the first batch of residue-free tomatoes, and by the end of the year, we intend to add another 18 fruits and vegetables. In order to help farmers, grow the finest quality fresh produce using residue-free techniques and utilising one another's technical skills, we have created tech-enabled approaches like drip irrigation.

The company support teaching farmers and providing them with the tools they need to work with emerging technology ideas like sensors, data analytics, applications, and a range of other tools that can improve their output. In the future, we intend to cooperate with businesses who prioritise expansion and sustainability and welcome more farmers to the Ninjacart family. The platform's major focus is still on utilising its advantages and knowledge to create new product categories and customer segments while also dealing with challenging supply chain problems. Nagarajan predicts that more farmers will use technology in the future to reduce losses.

"Technology is being used in Indian agriculture to implement smart agricultural techniques. Young people are drawn to the area, which is also opening up work chances, according to the CEO of Ninjacart.

"A lot of companies are heavily investing in technology to bring traceability infrastructure to capture end-to-end transparency in the supply chain, which will help consumers trace fresh produce back to its origin," the expert continued.

From the standpoint of the customer, Indians' habits around food consumption are likewise evolving throughout time.

According to Nagarajan, the deployment of technology has benefited Ninjacart since it allows shops, restaurants, and Kirana stores to evaluate the quality and freshness of produce right at their door without having to go to the market.

"Earlier, there was poor quality management, thin margin, and almost no data-driven supply chain due to the engagement of multiple layers of middleman," he said.

Radio frequency identification (RFID) technology is used by the platform to track deliveries. According to Nagarajan, the platform has previously used deep machine learning to boost forecasting accuracy to 97% and lower overall wastage to 4%.

Additionally, Ninjacart provides farmers with specialised apps to assist them with demand forecasting, harvest planning, and determining.

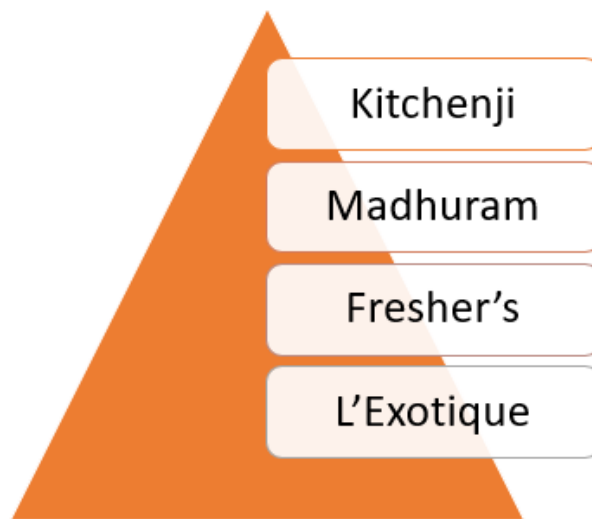
13**WAY COOL: FOOD DISTRIBUTION COMPANY THAT HAS NETWORK OF
35,000 FARMERS****Mr. Swaraj Manchanda and Deepali Sharma****ABOUT THE COMPANY**

Unlisted private firm Way Cool Foods and Products Private Limited was established on July 1, 2015. It is based in Chennai, Tamil Nadu, and is categorised as a private limited business. Its entire paid-up capital is INR 1.07 billion, and its authorised share capital is INR 1.25 billion. The operational revenue range for Way Cool Foods And Products for the fiscal year ending on March 31, 2022, is over INR 500 cr. EBITDA has dropped by -151.58% compared to the prior year. Its book net value has also improved by 293.43% over this time.

The business offers services for both retail and wholesale grocery items Fruits, vegetables, nuts, spices, sauces, dairy products, baked goods, as well as grocery products are stored, packed, repackaged, transported, and traded

According to our data, Waycool Foods and Products Private Limited's most recent recorded AGM (Annual General Meeting) took place on December 14, 2022. Our records show that its most recent balance sheet was created for the period ending on March 31, 2022.

Way Cool's in-house brands are created from the ground up with strict quality control from the manufacturing process to your door. Take advantage of the best-in-class consistency and diversity across all product categories, including staples like fruits and vegetables and staples like staples like pastes, purees, and batter.

Figure 1: Way cools dealing partners

Source: Author

ABOUT THE FOUNDER/ENTREPRENEUR

The co-founder of Way Cool, Sanjay Dasari, was searching for answers to the nation's supply instability and agrarian poverty. Karthik's aptitude and interest in the topic led him to contact him. As a result, the startup was founded. The demand for food in India is not elastic. Farmers' growth habits are influenced by a variety of circumstances, thus the amount of food they produce doesn't always correspond to the level of demand.

Sanjay Dasari cofounded Way Cool Foods, an Agri-technology business and social enterprise, in Chennai in 2015. His business today works with 45,000 farmers to send 200 tonnes of produce each day between 13 cities to more than 15,000 customers, sourcing 76% of its produce from marginal farmers with two acres or less of farmland. Within three to five days, the farmers get paid in full digitally. Investors interested in impact and consumer products contributed more than \$60 million to the investment of Way Cool Foods & Products. Sanjay is now enrolled in Harvard Business School's class of 2022 to pursue an MBA.

GROWTH OF THE COMPANY

The company specialise on food production, processing, and distribution as the only full-stack tech-led supply chain operator in India, utilising cutting-edge technology to grow and run a convoluted supply chain from fork to farm. They have created a "phy-gital" business model that connects farmers, processors, distributors, and retailers while increasing profitability for all parties involved. Fresh fruits and vegetables, basics, nuts & spices, dairy, and value-added goods are just a few of our offerings.

Waycool Foods and Products, an Indian company, was founded with the goal of organising India's farm-to-fork supply chain in order to provide consumers with cleaner, fresher, and better products, increase farmer returns, and decrease loss and inefficiency. Waycool plans to accomplish this by creating effective connections between farmers and customers on the one hand and by utilising both physical and information technology on the other. The company's leadership team is made up of aggrotech specialists as well as veterans with extensive experience in a variety of industries. The business currently has over 50 wholesale customers and is quickly expanding. Additionally, Way Cool distributes goods to 12 retail locations under the "Sunny Bee " brand.

The emphasis on technology over the past 10 to 15 years has either been on demand or supply aggregation or on discovery between demand and supply orchestrators, but at Way Cool, technology plays a different role. The main functions of technology in this context are operational enablement and governance. Way Cool makes supply chains more effective by using technology to predict retailers' last-minute purchases, choose the best mill or collection point to buy from, and compile data to determine the target pricing.

CONSUMER REVIEW/EXPERIENCE

Food is supplied in India via a push supply chain. Waste happens when people produce something that the supply chain then pushes on the consumer. Nevertheless, in a pull-based supply chain, supply and demand are determined by data rather than by forecasting or aggregating demand. "You may have incredibly efficient supply chains, meaning there is less inventory and less wastage, but customer responsiveness will be low. Perhaps the fill rates aren't particularly high. In the end, however because you're carrying a lot of inventory and other factors, you might have very high fill rates.

But if you have a supply chain that is driven by demand, you can have little waste and inventory while still having great responsiveness, and that is exactly what we are trying to do," he adds. Way Cool offers contract manufacturing services for customers' private brands in addition to selling goods to Services customers and distributing them to retail by managing the full procurement, cleaning, grading, packing, and branding of raw materials in unique packs. It improves the responsiveness of the customer's supply chain. Businesses of all sizes can use contract manufacturing for a variety of product categories, bulk purchases, and private labelling.

Figure 13.2 Diverse Product Categories

Source: Author

Private Labelling – Way Cool delivers a worry-free and integrated sourcing experience to the majority of retail chains, supermarkets, and online direct to consumer enterprises through its network of high-end integrated packaging centres.

Bulk Procurement- It is a commercial solution that satisfies the bulk raw material needs of food processing and manufacturing facilities at competitive prices and with guaranteed quality. Way Cool provides services to procure more than 200 goods across pulses, rice, spices, dry fruits, sugar, and other grocery brands. spicmanufacturers, snack makers, exporters, re-packers, and other grocery brands.

CONCLUSION AND DISCUSSION

Agri-commerce company Way Cool worked covertly for six years to integrate itself into the intricate supply lines of India's agricultural industry. Hence, when it raised \$117 million in January, one of the greatest amounts in Indian aggrotech history, there was clearly a commotion among observers who may have overlooked its ascent. With revenues of Rs 1,274 crore from DeHaat and Rs 967 crore from Ninja cart, which is supported by Flipkart, emerged as the top two companies in the sector in FY22, Way Cool took the third spot with Rs 927 crore in gross revenue.

According to its consolidated annual financial records filed with the Registrar of Companies (RoC), Way Cool's revenue from operations increased 2.4X to Rs 927 crore in FY22 from Rs 382 crore in FY21. WayCool asserts that it works with more than 100,000 clients who purchase dairy and agricultural products from the company and more than 150,000 farmers. The revenue from the sale of these goods increased by 143.5% to Rs 924.7 crore in FY22 from Rs 379.8 crore in FY21, accounting for 99.8% of total revenues.

Given the breadth of the industry and the flexibility with which it may be organized, the strong top line performance of agritech companies is not surprising, but businesses cannot continue to operate in the red for long. The agricultural sector may have lower margins, yet it can be exceedingly challenging to turn around subsidised or loss-making businesses by moving to "viable" margins in this industry. As practically every agritech never fails to tell stakeholders, even tom-timing your "impact" on the industry will be of limited assistance at that point. When India's agritech companies need to demonstrate is that the industry produces substantial and long-term rewards, there is too much discussion of "impact" that aims to give the business an unnecessary tint.

INTELLO LABS: QUALITY ASSESSMENT OF FOOD COMMODITIES USING COMPUTER VISION AND AI

Ms. Priyanshi Jain and Deepali Sharma

ABOUT THE ORGANIZATION

To monitor and evaluate fruits and vegetables, Intello Labs has created digital solutions that make use of artificial intelligence (AI) capabilities including computer vision and deep learning. Milan Sharma, Nishant Mishra, Himani Shah, and Devendra Chandani launched the business in 2016. The business wants to establish itself as the de facto quality platform for the trading, procurement, grading, pricing, traceability, and marketing of F&V (fruits and vegetables). The firm secured \$5.9 million, or around INR 45 crore, in Series A fundraising in May 2020 under the direction of Saama Capital. Reliance Fresh, Dole, and Ocean Spray are a few of Intello Labs' customers.

Intello has distributed 1,961 compulsory convertible preference shares (CCPS) at an issuance price of INR 118,509 each in order to raise \$2.82 million, according to regulatory filings. Saama Capital invested INR 7.72 Cr in Intello, and the business also received INR 3.88 Cr apiece from Avaana Capital, Omnivore, Nexus Ventures, and AgFunder. With the most recent fundraising included, Intello has now raised a total of \$15.72 Mn.

The Gurugram-based firm, which was established in 2016 by Milan Sharma, Nishant Mishra, Himani Shah, and Devendra Chandan, employs AI and image recognition algorithms to grade and inspect the quality of agricultural products. It attempts to increase openness in agricultural supply networks while lowering risk and waste. An Inc42 analysis predicts that by 2025, the country's agritech market would be worth \$24.1 billion. This area has recently seen a number of fundraising events. For instance, Sofina Ventures and Temasek sponsored a \$60 Mn Series E funding round for the agritech business DeHaat. Along with RTP Global Partners, Prosus Ventures, and Lightrock India, existing investors also participated in the investment round.

In November, the logistics firm AllFresh received funding from agritech startup WayCool in order to develop a Keiretsu-style business network in the food supply chain. Prior to that, in June, Prosus Ventures led a \$25 Mn Series B fundraising round for the B2B agritech platform Vegrow.

ABOUT THE FOUNDER/ENTREPRENEUR

The brains behind all things technological at Intello Labs are Nishant. He combines digital savvy with original problem-solving. He is a master in deep learning, image processing, big data architecture, and development. In his role as co-founder of Intello Labs, he has developed strong strategies and products that are useful solutions for customers or end users. He also has expertise in leadership, turnaround, marketing, hiring, finding talent, and product business.

By contextualising data for Retail brands and Agriculture, he and his team at Intello Labs hope to offer transparency. He has more than nine years of expertise in pricing, retail, promotion, and e-commerce. His prior employment at Snapdeal, Evalueserve, and AbsolutData allowed him to polish his talents in big data analytics, problem-oriented problem solving, machine learning, pricing and promotion for retail, e-commerce, and account management. It has been a rewarding experience for him to apply these abilities in a setting where innovative technology is empowering users of digital devices. Himani developed competence in managing the framework of conglomerate firms thanks to a long history of entrepreneurship, strategy planning, and project implementation. She co-founded IntelloLabs, putting her extensive knowledge to work, to increase openness in the agri supply chain. She oversees Intellolabs' strategy, working with Investments, Finance, Legal, Compliances, Administration, and HR. She focuses on market intelligence and strategic planning.

Himani holds two engineering degrees, one from IIT-Bombay and the other from Purdue University, where she worked as a summer undergraduate research fellow. She spent more than four years as a senior analyst with Deutsche Bank and a functional head of corporate planning and strategy with PeopleStrong HR Services.

Nishant Mishra, who has 12 years of solid technical and leadership expertise, is always eager to participate in new technology advancements and integrate them into existing structures. He oversees all technological advancements, architecture, and development for Intello Labs' deep learning and big data architectures. He has a thorough understanding of the capabilities of big data systems, including AWS servers, tracing infrastructure, and data optimization, thanks to his prior employment with Amazon and Yahoo. He gained knowledge of image processing methods and quality innovation while working at Canon. By utilising this, Intello Labs has produced technologically sophisticated solutions that offer users a straightforward interface with dynamic data.

GROWTH OF THE COMPANY

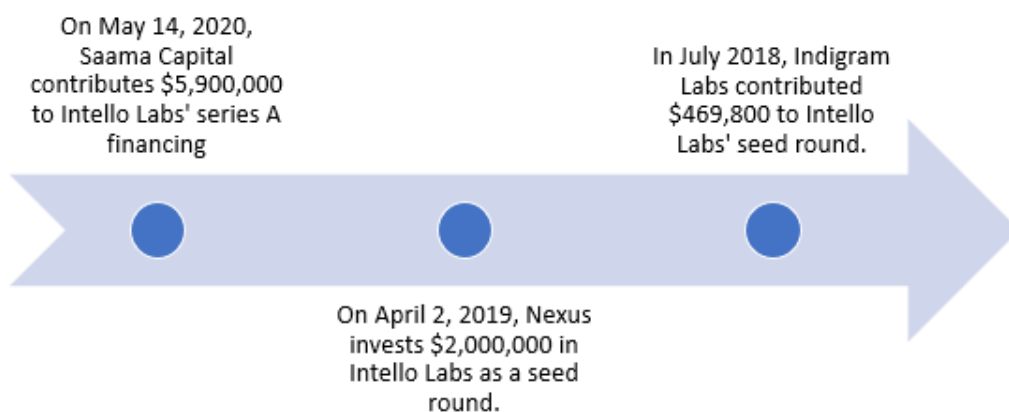
A non-government organisation in India is called Intello Labs Private Limited. It is a "corporation limited by shares" and is a private firm.

The company has 1.0 lakh rupees in authorised capital and 1.0 lakh rupees in fully paid-up capital. The primary line of business for Intello Labs Private Limited is business services, and the firm is currently operating. Agritech startup Intello Labs revealed that Nexus Venture Partners and Omnivore contributed \$2 million to its seed round of funding. Intello Labs has developed a platform for grading and quality control of agricultural commodities using artificial intelligence methods, such as computer vision and deep learning.

"This funding will help us strengthen our product and quickly scale globally," said Milan Sharma, CEO of Intello Labs. We are thrilled to collaborate with the best possible group of investors.

According to Puneet Kumar, Vice President of Nexus Venture Partners, "e-Mandi and digital agriculture markets would remain a far-off fantasy without the standardisation and digitalization of quality assessment of agricultural produce. Using AI and ML technological developments, Intello Labs is revolutionising agricultural produce quality evaluation and grading. For farmers, commodities dealers, and huge corporations, digital quality evaluation

Figure 14.1: Timeline of the company



Source: Author

CONSUMER REVIEW AND EXPERIENCE

Intello has distributed 1,961 compulsory convertible preference shares (CCPS) at an issuing price of INR 118,509 each in order to raise \$2.82 million, according to regulatory filings.

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The Gurugram-based firm, which was established in 2016 by Milan Sharma, Nishant Mishra, Himani Shah, and Devendra Chandan, employs AI and image recognition algorithms to grade and inspect the quality of agricultural goods. It attempts to increase openness in agricultural supply networks while lowering risk and waste. An image-based solution from Intello Labs, provided via a smartphone app, aids in bringing transparency and standardisation to quality evaluation while lowering value risk and waste in the supply chains for agricultural. It has created a ready-to-use remedy for produce, herbs, and spices. Based on a snapshot taken with a simple smart phone, Intello's AI can produce quality metrics instantly.

The business intends to initially concentrate on major enterprise clients before eventually. The business intends to initially concentrate on large commercial clients before transitioning to a Software-as-a-Service model for small enterprises, merchants, and farmers. According to Omnivore's managing partner Mark Kahn, "Intello Labs will bring transparency and objectivity across agribusiness supply chains, helping farmers to capture the value they create." Through trading, procurement, grading, pricing, and other agribusiness value chains, the company hopes to establish itself as the de-facto quality platform.

CONCLUSION AND DISCUSSION

Intello Labs develops digital solutions employing artificial intelligence (AI) techniques including computer vision and deep learning to monitor and analyse the quality of fruits and vegetables. It provides a smartphone application that reduces value risk and waste in the supply chains for agriculture while providing an image-based solution for evaluating quality.

AGROWAVE: AGRI TECH COMPANY THAT AIMS AT HELPING FARMERS

Ms. Shirly Rex and Deepali Sharma

ABOUT THE ORGANIZATION

Anu Meena founded Agrowave, an Agritech enterprise that works to support farmers by establishing direct connections between them and companies and building sustainable supply chains.

Small and marginal farmers in India have battled to secure a fair price for their produce for decades, which has resulted in hoarding and food waste. They have also suffered from the effects of supply chain inefficiencies. Due to these supply chain obstacles, it is estimated that India loses close to \$13.7 billion annually, or 7% of its whole food production.

While entrepreneurs have made an effort to close the gap by trying to connect with farmers in the interior of India, the coverage is far from comprehensive. With its mobile pickup stations, Gurugram-based Agrowave hopes to meet farmers at the field gate rather than transporting them to mandis and other marketplaces.

It has developed a number of pick-up sites so that farmers may load their goods and sell them without having to drive very far. Farmers may sell their fruit through a mobile app that runs on iOS and Android, and delivery vans pick it up at farmer gates and pick-up points while facilitating easy payments. Then, this stuff is conveyed to the final customers using a well-planned route. A company that offers agricultural services with the goal of creating a supply-driven farm-to-market supply chain. In addition to providing first-mile logistics at the farm gate with its technologically advanced mobile pickup stations, the company offers customised sorting, grading, and packing services to maintain quality and logistic support. This enables farmers to sell their produce from their farm gates in a matter of clicks.

ABOUT THE FOUNDER/ENTREPRENEUR

A Now comes Anu Meena, a young woman from the Rajasthan village of Manoli, who made the decision to change the course of events. Anu Meena, a graduate of the Delhi IIT, came up with this idea after seeing her grandfather, a farmer himself, struggle and face difficulties in Rajasthan.

She spent a brief period of time working for an American start-up after earning her degree from IIT Delhi in 2016. The next year, she founded a business called Agro Wave to address the problems her farming grandfather and others faced. She has received recognition for her efforts from the Ministry of Social Justice and Empowerment, India Today Magazine, Forbes 30 under 30 Asia, and the Top 10 Indian inventors list. She has spoken at numerous occasions where she inspires, including TEDx and Wired Next Generation Japan. Bout the founder

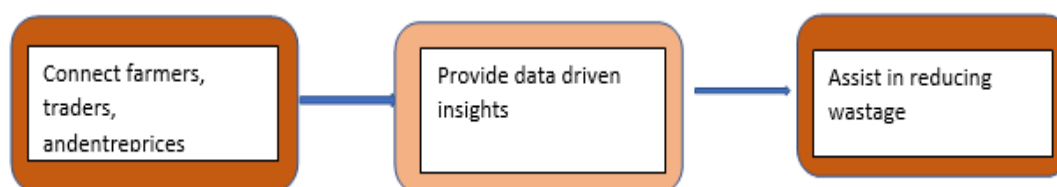
In order to address these issues, she founded the agritech business Agrowave in 2017. Through mobile pickup stations, the farm-to-market business model enables farmers to sell their food right from the farm gate. Through an app, farmers can select the mandi, the time of pickup, the buyers or dealers, and the quantity of food they wish to sell. More than 5,000 farmers in Rajasthan, Haryana, Madhya Pradesh, Punjab, and Maharashtra are connected with Agrowave, which sends pick-up vans and transports the produce to the mandi the farmer has chosen. Meena claims that the path hasn't been easy. "I wanted to help my grandfather and farmers like him, but I knew that all I wanted was to get into an IIT," she explains.

GROWTH OF THE COMPANY

The shortage in the processes and technological components in the supply chain, farmers don't obtain good returns on their produce. By leveraging technology to link farmers with businesses, we are giving farmers higher returns. In order to cut waste, the company is using mapping supply and demand.

The Company is concentrating on small farmers who can band together to sell their produce at higher prices in groups of 20 to 25. They are also don't own any warehouses; instead, they connect farmers, traders, and enterprises online to streamline operations. They offer farmers, dealers, and enterprises data-driven insights that support their operations. By providing organised pre-booked demand to the traders, they assist in reducing their wastage. they support farmers in making crop-related decision.

Figure 1: Strategy For upgradation



Source: Author

The global agriculture industry is likely to flourish. And India unquestionably has one of the best economies centred on agriculture. India and Africa, however, are two regions where technology hasn't played a significant role. As a result, it is an ideal environment for agricultural technology startups like Agrowave, which address the serious issue of food loss. Investor and advisor Sekhar Puli adds that, in addition to Meena's drive and tenacity, the team's flexibility is what keeps investors interested.

CONSUMER REVIEW

Agrowave, situated in Gurgaon, Haryana, is aiming to realise its objective of creating sustainable supply chain for fruits and vegetables. The Agrowave procedure entails setting up technologically advanced mobile collection stations at farm gates in villages where they gather the farm produce. Using the app, messages are sent to farmers with information such as MPS timings. The customers' specified level of quality is then maintained by customised sorting, grading, and packaging. And finally, free on-time delivery is provided to customers by their tech-enabled logistical systems run by qualified people.

Source: How Agrowave Is Building A Farm-to-market Business - Forbes India

CONCLUSION AND DISCUSSION

Small and marginal farmers in India have been negatively impacted by the supply chain's inefficiencies and have failed to obtain a fair price for their produce, which has resulted in hoarding and food waste. Due to these supply chain obstacles, it is estimated that India loses close to \$13.7 billion annually, or 7% of its whole food production.

Using these mobile pickup stations (MPS), Agrowave, which today (September 28) raised \$500K in Pre-Series A funding from US-based angel investor Sekhar Puli, hopes to build an integrated supply network to support its predictive farm analytics play and help farmers with both production and distribution.

The company had previously obtained \$700K in a venture round from mobile app and cloud solutions startup Daffodil Software. Puli, who is cofounder of Rean Cloud, a US-based cloud systems integrator (bought by Japan's Hitachi Vantara in 2018), is the second investor in the business. While entrepreneurs have made an effort to close the gap by trying to connect with farmers in the interior of India, the coverage is far from comprehensive. With its mobile pickup stations, Gurugram-based Agrowave hopes to meet farmers at the field gate rather than transporting them to mandis and other marketplaces.

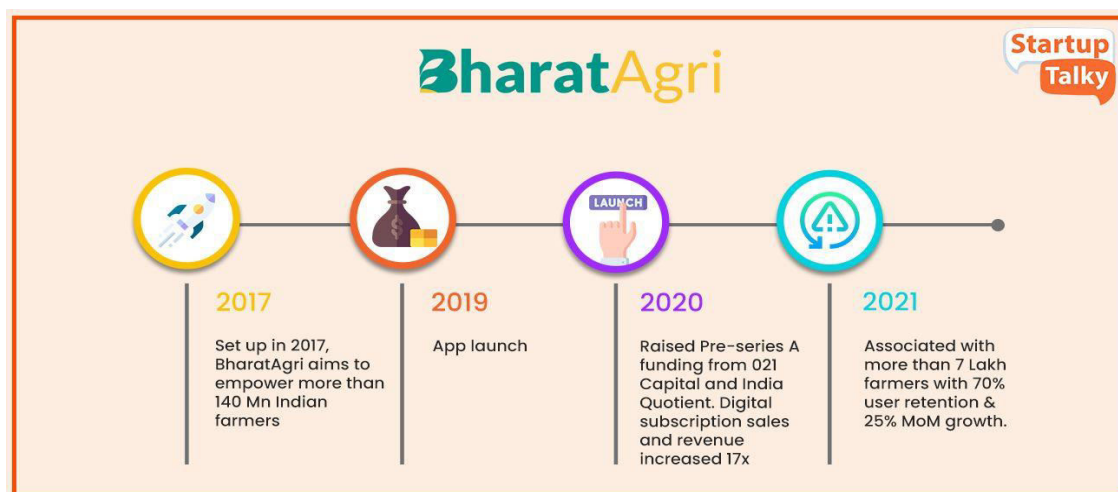
BHARATAGRI: PERSONALIZED SERVICE FOR FARMERS**Prof. Dr. Ravikant Swami and Lavanya Bhardwaj****ABOUT THE ORGANIZATION**

BharatAgri is a platform for farming technologies where we directly collaborate with farmers and the entire agriculture value chain. With a goal of reaching 140 million Indian farmers, they at BharatAgri support our aim of bridging the technology and agriculture divide in India. They assist farmers in "Growing Efficient, Growing More" through the methodical use of scientific methods by disseminating crucial information at the proper times and conducting routine checks.

Each farmer's needs are understood by BharatAgri, and we think every farmer deserves the ability to have a successful future using technology. One of the leading startups in India today, BharatAgri offers farmers smart farming techniques and practical insights depending on shifting conditions. The startup's algorithm considers more than 30 factors that have an impact on crop growth when cultivating any crop in order to offer customised services. The founders claim that this is what encourages consumers to renew their subscriptions on their app. Farmers who use the app typically experience productivity gains of more than 60% and decreases in production costs of more than 20%. The founders consider competition advantageous in a nation like India.

BharatAgri is an app-based platform that provides farmers with AI-based agronomy services on a monthly subscription basis. It was founded in 2017 by Sai Gole and Siddharth Dialani, and it boosts agricultural revenues through the systematic application of scientific farming methods.

BharatAgri has seen a 20x increase in premium subscription sales over the last 12 months, with a 65% renewal rate. By March 2022, BharatAgri hopes to increase the number of subscribers on its platform to 150,000 from the existing active paying user base of over 33,000. On the platform, there are almost equal numbers of farmers farming horticulture crops and farmers growing commodity crops. For a six-month membership, farmers typically pay about \$8.00 (Rs 600) per acre.

Figure 1: Growth of Bharatagri

Source: Startup Talky

ABOUT THE ENTREPRENEUR

In the IIT-Madras Centre for Innovation, where students developed goods in their spare time, Sai Gole and Siddharth Dialani worked, but they didn't want to make anything "complex that was intended for competition or labs." Gole explains, "It had to be something that people could use or some real-world issue." She was familiar with the particular issues relating to the field because her family had worked in agricultural for 30 years. The team made the decision to use technology to address such problems.

The two remained on a five-acre farm in Pune after working for over a year after college to acquire a sense of the challenges encountered by farmers. Dialani sums up their learnings by saying, "We realised Indian farmers earn really less as a result of the lack of scientific understanding. They required a customised response.

In order to give farmers a "systematic solution and consultancy schedule," Gole and Dialani established LeanAgri (later renamed BharatAgri) in Pune in 2017. Based on the information gathered from the farmers, BharatAgri's algorithm provides crucial inputs to help farmers enhance production as well as when to water plants and when to fertilise them, among other things.

After BharatAgri won the UberPITCH competition in March 2017, Uber invested \$50,000 (about Rs. 35 lakh) in the business. To now, investors have given the fund 4.5 crore. BharatAgri claims to be the only company in India to have been able to monetize an information-based service in agriculture with over 1 lakh users and 25,000 paying farmers. In July, the business released a mobile application in five different languages.

GROWTH OF THE COMPANY

Using the use of scientific farming methods, BharatAgri provides farmers with an app-based platform for AI-based agronomy services on a monthly membership basis.

The business, which was established in 2017 by IIT-Madras graduates Sai Gole and Siddharth Dialani, plans to exploit this series. A capital to broaden its subscriber base outside of Maharashtra and Madhya Pradesh, speed up the expansion of its input market, and improve the current technological infrastructure. In January 2022, BharatAgri also intends to begin its Series B financing.

The best utilisation of pricey crop inputs and changing climatic circumstances are not taken into account by traditional farming practises. According to BharatAgri, their in-house algorithm gathers information on more than 30 vital characteristics to offer tailored advice on a variety of crops, including grains, pulses, fruits, and vegetables. Farmers receive a completely automated, digital service at a fair price.

BharatAgri has seen a 20x increase in premium subscription sales over the last 12 months, with a 65% renewal rate. It presently has more than 33,000 active paid customers, and by March 2022, it wants to have 150,000 subscribers.

CUSTOMER SERVICE, REVIEWS, EXPERIENCES

Bharatagri is very useful to farmers. Crop schedules are good to manage multiple crops also reduces fertilizer cost. Krushi doctors solve most of the crop related queries. In terms of app use, the app user experience is very good from farmers point of view. App updates coming in recent days are also good. Need to rethink position of added crop list in the app, (currently showing on click of profile details) Cons: Agri shop product prices are higher than local market price. Need to improve – says Ashish Bhong

Figure 2



Source: Twitter

The crop advisory service is very accurate. The details given about each crop is very precise and easily readable and understandable. UI is also very smooth and easy to understand. Good work! Thanks for all developers and it is very easy to use - says Naina Bajaj

DISCUSSION AND CONCLUSION

Creator of a platform for farming technology that aims to close the knowledge gap between agriculture and technology. The company's platform assists farmers in increasing agricultural yields through the methodical use of scientific methodologies. It does this by giving important information at the right moments and doing regular monitoring.

This amazing programme provides farmers with advice on how to grow more effectively, optimise their production, and do so at the lowest possible cost. Also helpful in planning and protecting our crops are weather forecasts and government regulations. This programme publishes reports on various crops that are incredibly precise, accurate, and pertinent. The administration and consulting of agriculture is undergoing a change thanks to this app. This has a fluid navigational experience and runs without a hitch.

BIGHAAT: AGRI INPUT AND DIGITAL MARKETPLACE FOR FARMERS**Prof. Dr. Poorva Ranjan and Lavanya Bhardwaj****ABOUT THE ORGANIZATION**

A group of enthusiastic entrepreneurs created BigHaat in 2015. The premier Agri Digital Platform in India, BigHaat, uses science, data, and technology to alter the entire value chain of agriculture, from pre-harvest to post-harvest. It has an impact on millions of farmers around the nation by making a wide variety of high-quality inputs accessible, giving end-to-end crop assistance, and creating market connections for a variety of commodities, delivering a 360-degree solution to farmers with a highly distinctive approach.

Using data-driven business intelligence, BigHaat Technology Platform is helping manufacturers of agricultural inputs increase efficiency in the areas of distribution, marketing, and operations. Our data strategy enables diverse Agri value chain stakeholders to collaborate and create a complete ecosystem for the agricultural community, hence promoting sustainable agriculture.

In order to connect with producers all throughout India and meet their agricultural input needs, BigHaat has implemented a multichannel strategy. A wide variety of Seeds, Plant Protection, Plant Nutrition, and Agri Implements are all part of our portfolio offering. Farmers, nurseries, FPOs, NGOs, and other institutional growers are among our clientele.

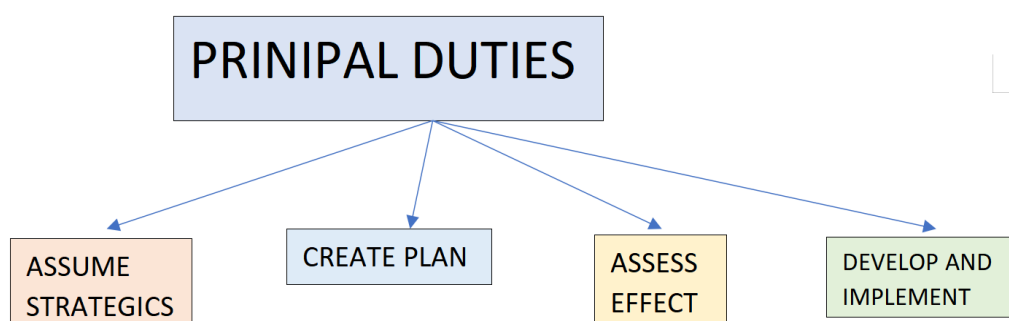
ABOUT THE ENTREPRENEUR

The following are some of Sateesh Nukala's principal duties:

1. Assume strategic leadership for the business by establishing long-term objectives, strategies, plans, and policies with the Board and key management.
2. Create a plan, put it into action, oversee it, and assess the organization's financial success.
3. As a strategic partner, take part in the creation of the company's plans and programmes.
4. Assess the effects of long-term planning, the implementation of new programmes or initiatives, and regulatory action, and offer advice.

5. Develop, implement, and enforce organizational rules and procedures through the use of systems that will enhance the company's overall efficiency.
6. Have a dependable procedure and reporting system for cash flow projections that includes a minimum cash threshold for operating demands.
7. Examine the organizational structure and team plan for continuous improvement of the group's effectiveness and efficiency as well as for fostering individual professional and personal growth, with an emphasis on opportunities for individuals (where possible).

Figure 1: Principal duties of the entrepreneur



GROWTH OF THE COMPANY

The agritech company has since last year become a full-stack agricultural platform from seeds to market by delivering a technology-led market linkage supply chain solution to organize the disorganized and fragmented agricultural supply chain, which has accelerated the company's growth. The company's sales jumped sharply from Rs 17.75 crore in FY21 to Rs 121.58 crore this year.

The vendors who are listed on the company's marketplace model provide revenue. The farming advisory is offered without charge. On the other hand, BigHaat has developed into a platform for different manufacturers to connect with a nationwide farmer base in India at a lower marketing and distribution cost. Large MNCs including Bayer, Corteva, and UPL have joined with BigHaat to supply more than 10,000 SKUs through more than 400 brands (stock keeping units).

It was challenging for the company in the beginning to persuade farmers to use their platform. Nonetheless, this issue has somewhat diminished as more villages get access to digital technology. Nonetheless, there is still more to be done. Poor rural logistics in rural areas, when deliveries are delayed, is another problem. BigHaat is attempting to solve this.

18 months after its launch, the agro digital platform was able to secure its first round of finance. It has so far raised \$16.1 million in total over the course of seven rounds. In March, they received a debt financing round. Six investors have contributed to the funding of BigHaat, with BlackSoil and JM Financial Private Equity being the most recent.

Figure 2: Bighaat Shareholding

View BigHaat Shareholding		
Shareholders Name	Post Round Holding %	Net worth
Founder	20.83%	73.2Cr
Fund	69.45%	244Cr
Enterprise	0.57%	2Cr
Angel	4.25%	15Cr
Other People	0.05%	17.5L
ESOP	4.84%	17Cr
Total	99.99%	352Cr

Source: Technology & Data for Venture Capital, Corp Dev, Investment Banks | Tracxn

CUSTOMER SERVICE, REVIEWS, EXPERIENCES

BigHaat is a pioneer in creating a strong digital footprint and utilising technology to address actual farmer problems as opposed to using it superficially. Before making an investment in them, we closely followed their progress month after month for almost a year. Its Crop Doctor tool, which allows farmers to upload images of sick crops and receive objective guidance, is a game-changer. It is a different value proposition when the farmer is not merely a transactional buyer of inputs at a discount but has engaged and purchased it with that level of engagement and ownership, the expert claims.

Awesome app for farmers of India, it is available in local languages that help farmers so much. One thing I found that the cropping schedule is not in a proper way. Try to fix it. Also add more crops, because many farmers want to grow new crops like dragon fruit, date palm, which having low maintenance & high returns to them – says Varun Dhiman.

DISCUSSION AND CONCLUSION

Since the platform's launch, four million Indian farmers have reportedly participated, with 80% of them having signed up online. To build a solid market fit early on, the team developed a robust feedback loop and iterated on the product multiple times. According to Sateesh, they had to "nuance for farmers according to areas and tastes" because they insisted on being digital first.

Farmers have accelerated their embrace of digital platforms, and their growth in transactions over the last 24 months has been 5 times higher. We were found online by more than four million farmers, who used the site for inputs and advice.

BIJAK: AGRI COMMODITIES EXCHANGE PLATFORM

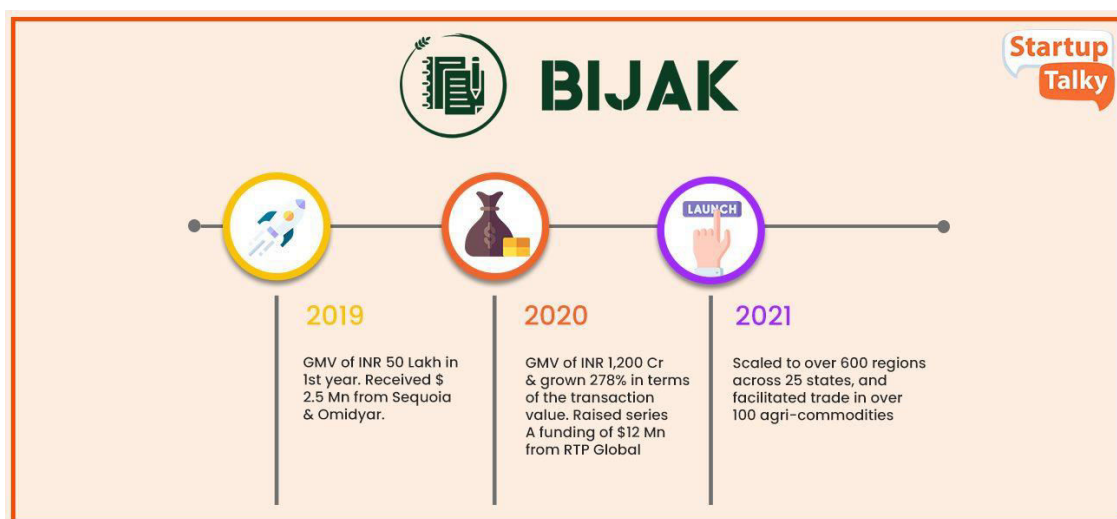
Dr. Shuchi Goel and Lavanya Bhardwaj

ABOUT THE ORGANIZATION

The most reputable agriculture trading platform in India enables 30,000+ dependable traders to purchase and sell premium agricultural commodities at the best prices with mandi dealers around India. Receive comprehensive agribusiness services, including the ability to pay in advance, a bijak limit, daily mandi bhav from more than 2,000 mandis, and more.

Agricultural commodity buyers and sellers can benefit from better prices, more operating capital, and improved logistics thanks to the B2B platform Bijak. The Gurgaon-based business primarily makes sure that loans are disbursed quickly, lowers costs, eliminates waste through logistics and efficient payment channels, and serves as an accounting software. Bijak uses a buyer and seller rating system that is based on real-time transaction data to provide accountability and transparency to the agricultural value chain. These ratings can be used by platform users to identify and trade with reliable counterparts.

Figure 1: Growth of Bijak



Source: Startup Talky

Bijak, an agritech B2B trading platform, uses a buyer/seller rating system that is based on real-time transaction data to provide accountability and transparency in the

agricultural value chain. Users of the platform can use these ratings to find trustworthy peers and conduct trades with them.

The strategy used by Bijak to support the already-established participants in the value chain highlights the company's goal of being a dependable partner for the farm commerce community. The term "Bijak" is commonly used among commodities traders to refer to invoice details, and it is from this that the app gets its name.

The programme, which is highly customised for farm commodities dealers, is offered in a number of regional languages and incorporates jargon that is frequently used in big wholesale markets, also known as mandis.

ABOUT THE ENTREPRENEUR

Bijak, a B2B platform for agricultural commodities that links buyers, sellers, traders, wholesalers, food processors, retailers, and farmers, was launched in April 2019 by NukulUpadhye, Jitender Bedwal, Nikhil Tripathi, Mahesh Jakhota, and Daya Rai. It enables farmers to offer distributors and retailers real-time prices for their produce. Also, the startup provides working cash to companies and loans to consumers. To prevent waste and partial truck loads, it offers pooled logistics services. A personal grading system, advance payments, and the digitization of transactions with computerised bookkeeping are other characteristics. The mobile app for Bijak is accessible on both the iOS and Android operating systems.

GROWTH OF THE COMPANY

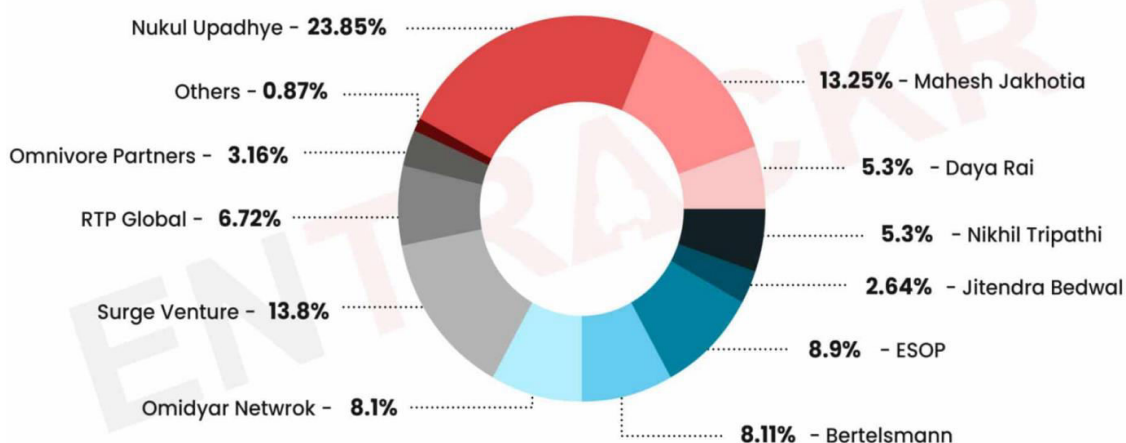
With a presence in more than 1,200 areas spread across 27 states, the Gurugram-based business boasts monthly transactions worth over Rs 300 crore. The Bijak app allows any type of seller—a farmer, trader, or aggregator—to seamlessly conduct business with counterparties by providing access to a vast transactional data pool.

Due to a number of factors, such as sellers having trouble locating customers, not receiving payments on time, and occasionally not receiving payments at all even after delivery, there is a significant trust gap between buyers and sellers. Also, the sellers only frequently have access to the purchasers in their immediate area. Bijak estimates that there are roughly 40 lakh sellers and only 5 lakh buyers in India, out of which 75,000 buyers and sellers trade on the Bijak platform.

In September 2019, six months after its launch, Bijak was able to secure \$2.5 million in seed capital from Omnivore, Omidyar Network, and Sequoia Capital India. The business has been successful in raising a total of \$35 million; the most recent round, in

January, saw the company raise \$20 million in a Series B investment round that was led by Bertelsmann and included existing investors. The current market value of Bijak is \$180 million. According to the firm, its platform now manages daily trade in over 100 commodities with an annualised gross merchandise value of Rs 3,500 crore.

Figure 2: Bijak Shareholding Pattern



Source: Entracker

CUSTOMER SERVICE, REVIEWS, EXPERIENCES

My experience was good & great app, time saved, on preparing invoice easily can make E-copy invoice, same information reach to supplier in few minutes, it's good platform for traders and farmers to receive or make the payment from application. Multiple uses from one App. Supplier also get benefit to liquidate they stock by posting the price in app & our bijak trusted or verified clients will connect with supplier. Multiple commodity information can get from one App Bijak – says Rakesh Kumar

Good initiative to create a whole mandi trading marketplace at one place. We do not need to worry about the payment loss because of secure and authenticated buyers. Easy to use and government approved. Thankskrishiachary technologies for this initiative. – says Ami Sharma.

DISCUSSION AND CONCLUSION

The Mandi Rates feature on Bijak collects real-time rates for more than 100 items from over 750 mandis located around India. Traders can set their rates in this way before placing an order.

Buyers and Suppliers can submit their requests for commodities on the Bijak Marketplace. To expedite the negotiation process, this feature uses a recommendation engine algorithm that retrieves the best matches.

One-stop e-marketplace for agro dealers including commodities suppliers, mandi aadathis, and other institutional players, Bijak is India's #1 agricultural trading app. More than 1200 locations in 28 Indian states and territories are home to traders who use it. About 100 agricultural commodities can be traded on the platform, which reached \$500,000,000 in annualised gross merchandise value (GMV) in 2021.

CLOVER VENTURES: FARM NETWORKS IN KARNATAKA, TELANGANA, AND ANDHRA PRADESH

Dr. Shalini Gautam and Lavanya Bhardwaj

ABOUT THE COMPANY

The greenhouse agritech startup Clover Ventures was established in 2018. The four founders of the organization—Avinash B R, Arvind M, Gururaj S Rao, and Santhosh Narasipura—represent each leaf of the clover. The Bangalore-based business has received Series A funding. The fresh food supply chain is being built by Clover.

Their answers can be found in a perishables supply chain driven by demand and centred on quality, consistency, and traceability. They are in charge of a network of "dark farms" in the peri-urban area that grow this fresh produce in a high-quality, high-yield manner. By collaborating with a number of smallholder farmers, the company today manages farms spanning more than 70 acres. The B2B clients of Clover Ventures include Internet Kitchens, fine-dining establishments, food processors, and modern retail stores throughout the world.

The business is in the midst of launching its farm-to-consumer brand of fresh produce. This year, in April, it started its B2C adventure in Bangalore. Soon, it will expand its B2C offering to include both Bengaluru and Hyderabad.

Agritech firm Clover Ventures, with offices in Bangalore, specialises in the development and administration of agricultural networks in the states of Karnataka, Telangana, and Andhra Pradesh.

It intends to address a number of agricultural hurdles that farmers confront, including a complicated and inefficient supply chain, problems with uniformity and quality, and an unstable backend supply. It strives to establish and solidify a planned fresh produce supply chain.

Currently, the business oversees more than 70 acres of farmland and supplies fresh produce to a variety of gourmet restaurants, retail stores, food processors, and online Internet Kitchens.

The four clover leaves in the company's logo stand for its co-founders Arvind M, Avinash B R, Gururaj S Rao, and Santosh Narasipura.

The company's basic operations follow the demand-backed perishable supply chain paradigm. The produce's quality, consistency, and traceability are the main priorities. This year, the B2B company will introduce a B2C service out of Bangalore and Hyderabad.

ABOUT THE ENTREPRENEURS

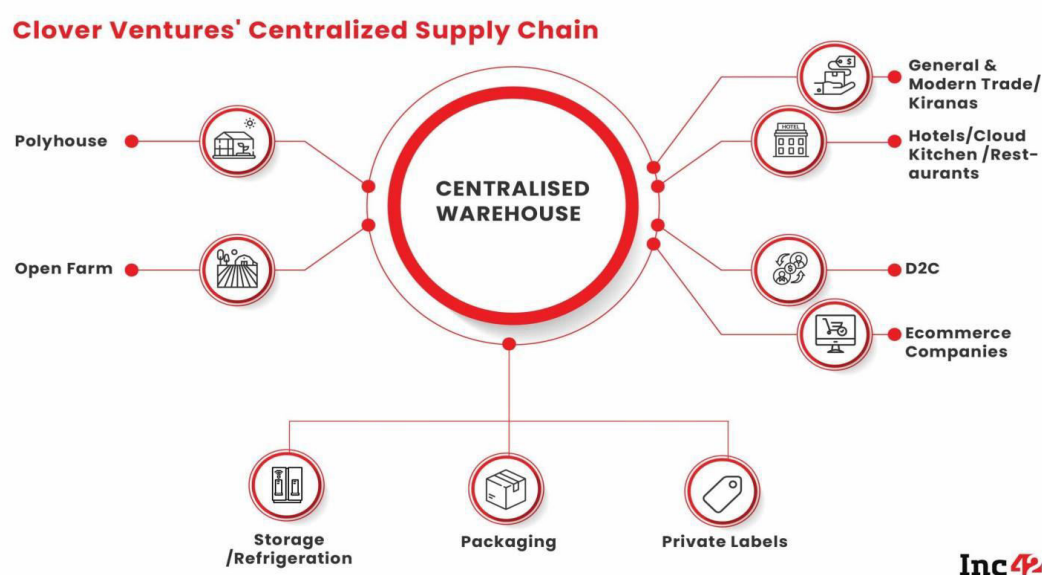
Representing each leaf of the clover are its four founders - Avinash B R, Arvind M, Gururaj S Rao, and Santhosh Narasipura.

Covid-19 eliminated Clover. For two and a half years, Clover, a greenhouse agritech company that supplies fresh food to hotels, restaurants, and cafés in Bengaluru and Hyderabad, was satisfied with its B2B business. After experimenting with hydroponic horticulture as a weekend side business in 2017, the four co-founders—Avinash BR, Gururaj S Rao, Arvind M, and Santosh Narasipura—started Clover in May 2018 and obtained a seed round from venture capital firms Accel and Mayfield in December. Another \$5.5 million was provided by Omnivore, Accel, and Mayfield in February of last year, and Alteria Capital reportedly gave \$1 million three months later. Mumbai, Pune, and Chennai were to be added as additional operating locations.

The four co-founders of Clover were attempting to organise the supply side of the market for fresh agricultural food and bring together tiny polyhouse (greenhouse) growers. The idea was sound, the implementation was flawless, and Clover gradually expanded its network to include farmers with open farms and greenhouses covering two to three hectares.

GROWTH OF THE COMPANY

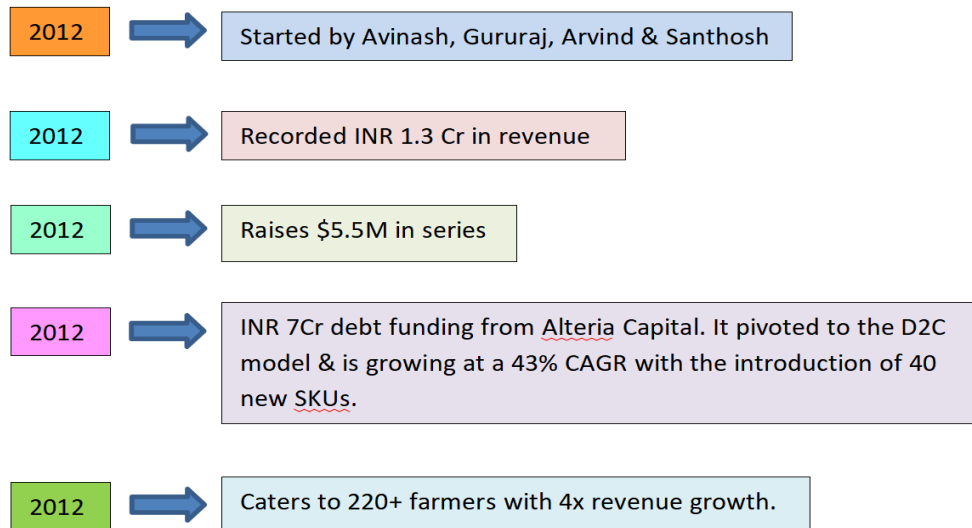
The agritech business had roughly 50 acres of managed farms by the end of 2019, had assembled a staff of agronomists that collaborated closely with the farmers, and had set goals to expand its managed farm to 200 acres. According to Avinash BR, "We were giving the farmer instructions on what to grow and how to grow it, ensuring that they achieved the proper yield productivity and also cultivated the produce in a clean manner." Such products were in demand since Clover found plenty of customers among cloud kitchen operators, QSR chains, contemporary retail chains, and hotels. An organised supply side was what was needed, and this was the problem Avinash and his crew were attempting to solve. He remembers, "We were doubling down on the supply side and B2B business." He claims that a thorough direct-to-consumer plan had been created, but the launch was scheduled for a good 15 to 18 months later.

Figure 1: Clover Venture's Centralized Supply Chain

Source: Inc42

By March 2020, institutional demand has completely disappeared. Avinash laments that "more than 70% of the business was from B2B customers." Covid presented a distinct issue. The supply side was under the authority of Clover. Sadly, the demand side took the role of the antagonist. Despite the revenue slump and the bleak outlook, there was one bright spot: direct to consumers. Team Clover revised its strategy, went back to the drawing board, and contacted housing associations.

The business, which currently employs over 100 farmers in Karnataka, Telangana, and Andhra Pradesh, wants to develop operations to encompass more of the Indian subcontinent by expanding further in the South and West. We anticipate a potential to grow more than 10X and are growing up our supply chain, warehouse, and farmer infrastructure capabilities to meet this expectation as the demand for a clean, safe, and hygienic source for F&V becomes more widespread. Our ability to maintain a balanced interaction between supply, demand, and operations while staying ahead of the curve is greatly aided by technology.

CUSTOMER SERVICE, REVIEWS, EXPERIENCES**Figure 2:** Yearly growth of Clover Ventures

Source: Company's Website: Clover.com

Clover Ventures receives an overall rating of 4.5 based on more than 24 anonymous employee ratings. The company is viewed favorably by 77% of employees, and 85% of them would suggest working there to a friend.

ERGOS: FACILITATES STORAGE FOR FOOD GRAINS AND PROVIDES DIGITIZED SOLUTIONS

Dr. Rashmi Chawla and Lavanya Bhardwaj

ABOUT THE COMPANY

One of the most distinctive models in the Agri-tech market belongs to Ergos. We are developing a "Grainbank" that will give small and marginal farmers doorstep access to complete post-harvest supply chain solutions, allowing them to turn their grains into tradable digital assets, obtain credit against those assets through affiliated NBFCs and Banks, and command higher prices for their products.

In India, small and marginal farmers account for over 86% of all farmers. Because they lack the tools and expertise necessary to properly store their produce, post-harvest grain loss and a decline in grain quality result. Farmers have the freedom to store/withdraw a single bag of grains using Ergos' "Grainbank" model. It is fungible because of the uniform grain quality and digitalization of the grains stored.

Grain loss due to inappropriate farmer storage is completely avoided by correct storage. For the farmers that store their grains with Ergos, it also makes finance and market connections possible. Farmers don't have to sell their produce during the harvest season, when prices are at their lowest, by using the loan facility to access fast financing. They can sell their produce on the Ergos platform off-season to earn more money for themselves. At the farm gate, all of this!

In order to provide higher-quality solutions to all stakeholders, they ensure direct farmer interaction through technology and gather a lot of data about the farmers.

They currently operate in Bihar with the intention of providing sustainable income to over 2 million farmers nationwide by 2025. In the future years, they want to give farmers access to top-notch services right at the farm gate and have a substantial influence by raising their standard of living.

ABOUT THE ENTREPRENEUR

Founder & CEO, ERGOS Kishor Kumar Jha is the Founder & CEO at ERGOS. Before ERGOS, Kishor was the Premier Banking at Barclays. Prior to that he was he was working as Manager at ICICI Bank.

Ten years ago, Kishor Jha and Praveen Kumar made the decision to apply their backgrounds in banking and business to the farming industry. Both hailed from farming families and were familiar with the challenges farmers encountered while trying to sell their grain and raise working capital. Over 80% of the community's marginal farmers hurry to sell foodgrain as soon as harvest is complete in order to pay back the money they would have borrowed from a moneylender, usually at a hefty interest rate.

When the grain is ready, more than 80 to 90 percent of farmers sell every last bit of their crop in 30 to 40 days, according to Jha, who was speaking on the phone from Bengaluru. Even if they are debt-free, they have nowhere to keep their grain because the majority of commercial warehouses are located closer to consumption centres than in villages. Jha and Kumar sought to convert that grain into collateral—an asset small farmers could pledge with a bank to obtain financing at a reduced rate and sell over time in accordance with their cash flow requirements.

As a result, they rented a warehouse in Bihar and requested grain deposits from small farmers. Similar to a bank, they issued a khata book and made entries in the passbook after evaluating the grain's quality. Their 2012-founded firm, Ergos, transformed the warehouse into a grain bank, making grain the farmer's unit of exchange.

GROWTH OF THE COMPANY

Figure 1: Growth of Ergos



Source: StartupTalky

Ergos The GrainBank, an agritech firm with headquarters in Bengaluru, announced on April 19 that it wants to reach Rs 2,000 crore in revenue and grow to 650 locations by 2023–24.

For the following 12 months, the company plans to grow in Bihar, Karnataka, Maharashtra, and Uttar Pradesh.

According to a statement from the company, it generated over Rs 142 crore in income in 2021–22 and is present in 337 locations throughout different states. With over 1,45,000 farmers actively using the tech-based platform, ErgosTheGrainBank has expanded its presence over 26 districts in Bihar, 10 districts in Karnataka, and 17 districts in Maharashtra.

Using our tried-and-true business model, they are expanding at a 3–4x rate in Bihar and have just entered other important areas like Karnataka and Maharashtra. We hope to maintain our growth at the same rate year over year in order to comfortably reach a revenue of Rs 1,800–2,000 crore by the next year. This is contingent on the farming community and food processors responding favourably.

Farmers are given the opportunity by the company to transform their grains into tradable digital assets, quickly obtain an overdraft facility against those assets through partner banks and NBFCs, and increase the value of their produce.

Ergos has spread to Maharashtra and Karnataka and is now present in 26 districts of Bihar. With 150,000 farmers and 1,100 customers (including food processors, distributors, and exporters) on board, they operate out of about 250 locations.

CUSTOMER SERVICE, REVIEWS, EXPERIENCES

Likes

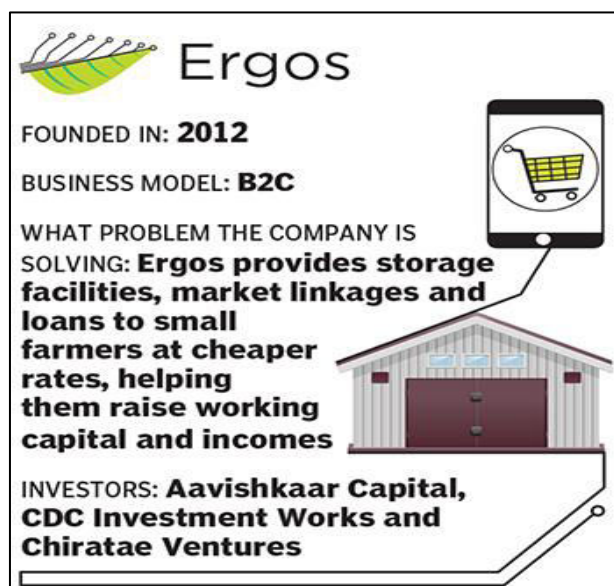
Good place to work. CTO and VP is Best and very supporting. Technical Team is best Lot of option for skill developments. Work life balance is good

Dislikes

- Worst HR seen in my ever, even my college HR are active. - If asked anything , they just say - dont know check with other HR. - Keep misguiding the employees, no proper information is transfered. - Make demotivating at work by talking non sense things like bf, gf. marriage life, match making and other personal things.

- says Ravi Dubey

Source: Indeed

Figure 2: Ergos: Grain as an Asset and Currency

Source: Forbes India

DISCUSSION AND CONCLUSION

With more than 1,45,000 farmers actively using the technology-based platform, ErgosThe Grain Bank has expanded over 26 districts in Bihar, 10 districts in Karnataka, and 17 districts in Maharashtra. On its tech platform, 400–450 new farmers are being added daily. After seeing great success in Bihar, the company wants to expand into a few other agriculturally prosperous states across the nation, including Karnataka, Uttar Pradesh, and Maharashtra.

Out of the 140 million farmers in the nation, close to 70 million are already using cellphones and only require some guidance and assistance for the first few transactions. Today, about 50% of the homes in the area of the Ergos Grain Bank facility are connected through smartphones.

FRESHOKARTZ: ECOMMERCE MARKETPLACE FOR FARM-FRESH PRODUCE

Dr. Pooja Sharma and Lavanya Bhardwaj

ABOUT THE ORGANIZATION

Rajendra Lora and Chandrakanta founded Freshokartz in December 2016 with the goal of organising the Indian agricultural ecosystem. Agri input is now delivered to farmers' doorsteps from a network of Freshokartz physical centres based on suggestions for crops and fertilisers based on soil data. Farmers can also get crop advice, agri equipment, financial services, and market connections via Freshokartz.

Freshokartz assists farmers in being organised so they may buy agri inputs, sell their products on the market, access financial aid, and receive crop advisory services. Freshokartz accomplishes this through a network of what we refer to as FreshokartzSaarthi's, or Village Level Micro-Entrepreneurs. They are working with more than 2,000 000 farmers, primarily in Rajasthan, and will soon be spreading into neighbouring states, thanks to a network of more than 10,000 Saarthi.

They train Saarthi and develop a network of trained Saarthis who can counsel farmers on their purchasing habits, suggest products, etc. Via Saarthi, they gather information about farmers and assist them in making data-driven decisions that could result in a 20–30% increase in yield and higher revenue.

Farmers can purchase crop and fertiliser from Freshokartz based on soil data. Seeds, insecticides, and fertilisers are other items that Freshokartz sells through our physical locations in the communities. In rural India, Freshokartz is evolving into a one-stop store for all the needs of farmers.

With a yearly subscription price of Rs 500 to Rs 1,000, Freshokartz offers one soil test, unrestricted call centre support, and a field visit at the farmer's door. We manage the entire crop cycle's data, including sowing dates, fertiliser dates, and pesticide dates, using farm management software. This makes it easier for us to monitor the data and provide these farmers with precise guidance. We provide marketing assistance to farmers who have subscribed. Our field executives also utilise mobile app to map the data.

ABOUT THE ENTREPRENEUR

He was employed by Suvidhaa.com as a software engineer. At one time, he served as IIIT, Jabalpur's E-Healthcare Adviser. He graduated from the Indian Institute of Information Technology, Design and Manufacturing in Jabalpur with a bachelor's degree in computer science.

GROWTH OF THE COMPANY

Figure 1: Growth of Freshokartz



Source: Startup Talky

Freshokartz says it is currently operating 40 physical centres and is working with over 90,000 farmers. It is targeting a reach of one million farmers within the next 12-15 months. Some of the inputs companies it is working with include UPL and Chambal Fertilisers.

In a pre-Series A financing effort, FreshoKartz Agri Products Pvt Ltd, which runs the agricultural technology and data analytics company Freshokartz, raised \$1.4 million (Rs 10.3 crore).

According to a statement from the company, investors from the Rajasthan Venture Capital Fund (RVCF) and Achieving Women's Equity (AWE) Funds participated in the round of financing for Freshokartz, which is situated in Jaipur.

According to its website, the 2002-founded RVCF has run three funds. The Rajasthan State Industrial Development and Investment Corporation, the Small Industries Development Bank of India (SIDBI), and the Foreign Commonwealth and Development Office of the United Kingdom have all made contributions to these vehicles.

Freshokartz was set up in 2016 by Rajendra Lora and Chandrakanta. It says its platform provides a full stack of technology-enabled services to small and marginal farmers.

These include crop advisor, agricultural inputs, output linkages, crop insurance, and financing.

It also operates network-based or digitised physical kiosks at the village level, through which it can deliver services. The company will use the capital it has raised to finance the rollout of its technology while scaling its operations in Rajasthan and neighbouring states.

Freshokartz says it is currently operating 40 physical centres and is working with over 90,000 farmers. It is targeting a reach of one million farmers within the next 12-15 months. Some of the inputs companies it is working with include UPL and Chambal Fertilisers.

CUSTOMER SERVICE, REVIEWS , EXPERIENCES

“easy to order/ book.

Absolutely no mediator fees. More due to these special points I would like to recommend u freshoKartz.

cheap prices in compared to other options available.

Qualify satisfactory.

Delivery on or before time promised.

Last one Customer satisfaction.

– says Rahul Jain

Fresh fruits and vegetables with wide variety are delivered on time at cheaper price.

Great supply chain great work.

– Shyam Lal”

DISCUSSION AND CONCLUSION

Bringing together farms, farmers, vendors/traders, and consumers on a single platform to organise the agriculture sector. Based on their soil information and previous crop history, we advise farmers on what to cultivate and what agricultural strategies to employ. By bringing value to every step of the supply chain, we are removing its constraints. Every phase includes integration of finance. Value stream cooperating organisations for financing (NBFC, Banks) providing farmers with high-tech training, skill development, and employment use our extensive network of facilitation centres (rural/urban kiosks) to reach every farmer Collect and manage field-level data crop packages utilising AI/ML and data from the field, agricultural colleges, and input firms, from land selection through final production. Development and raising awareness of new farming techniques such as green houses, drip irrigation systems, solar farms, etc.

DEHAAT: GOING THE WHOLE STACK

Dr. Navya Jain and Lavanya Bhardwaj

ABOUT THE ORGANIZATION

DeHaat is one of the Agri-Tech sector's fastest-growing start-ups and one of the few businesses offering comprehensive services & solutions to India's farming community. We are developing AI-enabled tools to change farming's supply chain and production efficiency.

We currently serve 1.8 million+ farmers in 12 agrarian states of India through a vast network of 11,000+ DeHaatCenters& 503 FPOs. Additionally, we provide farmers 30+ AI-enabled agricultural advising services in local languages.

DeHaat, a fully funded start-up with an extraordinary growth rate, was founded by alumni from renowned institutions including IIT Delhi, IIT Kharagpur, IIM Ahmedabad, and others. It has received the Best Place to Work certification for the years 2022–2023 and 2023–2024. Throughout the past 12 years of our activities, we have made an incredible effect at the grassroots level, which has been recognised and honoured by organisations like NASSCOM, Forbes, ET, Niti Aayog, the Bill Gates Foundation, and many more.

Shashank Kumar, an IIT Delhi alumna, Shyam Sundar, an IIT Kharagpur and IIM Ahmedabad alumnus, Amrendra Singh, an NIT Jamshedpur alumnus, and Adarsh Srivastava and Abhishek Dokania, alumni of IIT Dhanbad, created DeHaat in 2012. DeHaat offers farmers a range of agricultural services, such as the provision of seeds, pesticides, fertilizers, farm equipment, cattle feed, and all other related products, as well as farm consultancy, financial services, and market connections for the sale of agricultural commodities.

DeHaat purchased FarmGuide, a business-to-business (B2B) Software as a Service (SaaS) platform, in January 2021.

DeHaat acquired the agri-input marketplace company Helicrofter in January 2022 to increase its presence in Maharashtra and other western Indian states.

DeHaat purchased food technology company Y-Cook India Pvt. Ltd. in April 2022 to increase its position in the global food supply chain.

Figure 1: Nature of Dehaat

Source: DeHaat, From Seeds to Market | Online marketplace for farmers

An all-in-one resource for comprehensive agricultural services is the DeHaatCenter. The farmer has access to high-quality material inputs, organises the sale of their produce to institutional customers, and quickly receives science-based farming advice that is frequently tailored to their particular farming circumstances.

Farmers will soon have access to microfinance and agriinsurance services as well. The majority of the chain DeHaat Centres, also known as DeHaat Micro-Entrepreneurs or DeHaat Coordinators, are run by local franchise owners who dot the countryside in our operation zone.

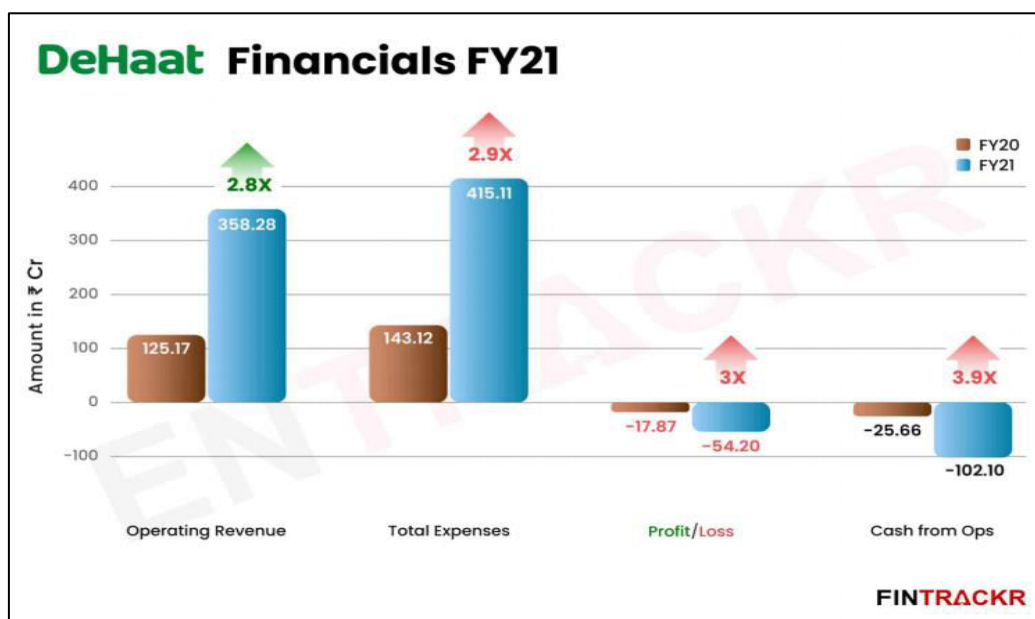
They are an integral aspect of Last Mile Access and make a real impact in the overall value chain of our operations since they are the trustworthy and amiable "human interface" on the ground that cultivates trust with farmers.

ABOUT THE ENTREPRENEUR

Shashank Kumar, an IIT Delhi alumna, Shyam Sundar, an IIT Kharagpur and IIM Ahmedabad alumnus, Amrendra Singh, an NIT Jamshedpur alumnus, and Adarsh Srivastava and Abhishek Dokania, alumni of IIT Dhanbad, created DeHaat in 2012. DeHaat offers farmers a range of agricultural services, such as the provision of seeds, pesticides, fertilisers, farm equipment, cattle feed, and all other related products, as well as farm consultancy, financial services, and market connections for the sale of agricultural commodities.

GROWTH OF THE COMPANY

Figure 2: Dehaat Financials FY21



Source: Entracker

According to its CEO Shashank Kumar, DeHaat's revenue is expected to increase by over 80% this year to over Rs 2,300 crore as a result of improved sales of agricultural inputs to farmers and trading of agricultural products in local and international markets. By the end of this calendar year, DeHaat will also achieve positive EBIDTA (Earnings Before Interest, Taxes, Depreciation, and Amortization), he emphasised.

DeHaat is a technology-based platform that connects businesses with farmers and provides a full range of agricultural services.

They include providing access to high-quality agricultural products, individualised farm advice, financial services, and market connections for the sale of their produce. Investors including Sofina, Lightrock, Prosus Ventures, Sequoia Capital India, Omnivore Partners, and FMO have contributed \$221 million to DeHaat so far.

"In the previous fiscal, we generated about Rs 1,250 crore in revenue. This fiscal year, income is significantly increasing and is expected to reach over Rs 2,300 crore "Kumar stated in an interview with PTL. According to him, of the overall revenue, roughly 70% would come from selling farm products that were purchased directly from farmers, and the remaining 30% would come from selling farmers inputs like seeds and agrochemicals.

CUSTOMER SERVICE, REVIEWS, EXPERIENCES

Dehaat has a rating of 4.3 out of 5 overall based on more than 168 employee ratings that were submitted anonymously. 90% of employees say they would recommend Dehaat to a friend for a job, and 86% are optimistic about the company's future. Over the past 12 months, there has been a -9% decline in this rating.

CONCLUSION

Regenerative agriculture is an important practice that needs to be taken up by farmers across the world. Sustainable farming methods will help us restore the balance of the natural resources on the earth. Otherwise, with the exponential population growth and demands, natural resources will get exhausted within a few decades. Regenerative agriculture in the agricultural industry can help maintain and restore soil along with reducing the wastage of water. In India, sustainable agriculture is being promoted by many agri-tech companies and the government. DeHaat is one such agri-tech organization that helps educate and train farmers in sustainable agriculture methods. They have robust on-ground teams that enable them to reach farmers across every corner of the country. Over the past few years, lakhs of farmers have been associated with DeHaat. They have learned and implemented sustainable agricultural techniques that have aided them to produce higher yields of good quality without affecting the climate adversely. DeHaat aims to furnish all kinds of support to each and every farmer across India that will make them financially independent and have fruitful farming endeavors.

OTIPY: PLATFORM HELPING FARMERS DELIVER FRESH PRODUCE TO CONSUMERS

Ms. Shirly Rex and Lavanya Bhardwaj

ABOUT THE ORGANISATION

By giving consumers access to farmers' fresh produce, Otipy supports farmers. We are recognised as India's quickest delivery app since we provide direct farm-to-fork delivery in just 12 hours. We provide a wide range of groceries, bread goods, dairy goods, home care products, as well as farm fresh fruits and vegetables.

Directly from the farm, it collects the fresh fruits and vegetables. The best products are then chosen and packaged in environmentally friendly packaging after passing a quality checking test at the warehouse. To provide our customers with the best rates and minimise waste, we focus primarily on technology predictive algorithms.

About 10,000 resellers (community leaders) are assisted by otipi, which operates on a special community group buying model throughout Delhi NCR. 70% of our resellers are women, thus we promote female emancipation and inspire them to sign up for Otipy to achieve financial independence.

Otipy supports farmers from several different states, including Gujarat, Himachal Pradesh, Delhi, Haryana, and the U.P.

ABOUT THE ENTREPRENEUR

With more than 15 years of expertise in technology, startups, and general management, the entrepreneur is a serial entrepreneur. was chosen as one of India's top 3 youngest entrepreneurs by the Businessworld magazine in 2011. Presently a co-founder at Crofarm, an agri-tech firm that wants to enhance the fresh produce supply chain. Formerly served as CTO at Grofers, India's top on-demand delivery service that links customers with neighbourhood businesses. Before that, she was a co-founder of Mygreenbox, a Grofers-purchased app-based mobile grocery delivery service. had previously co-founded Winkle Technologies, a company that was acquired by Location Labs, a leader in location-based services and a Silicon Valley company. is both an independent angel investor and a member of the Indian Angel Network. Fitso, Daily Ninja, CollegeSearch, Superprofs, and Loancircle are current investments. Invested money: getShifu.com. Began a career in Silicon Valley, where she worked for NetApp

and oversaw engineering teams that produced cutting-edge software. graduated from IIT Delhi with a degree in computer science.

Varun Khurana has a net worth of more than Rs. 37.1 Cr. according to corporate shareholdings disclosed for December 31, 2022, and he publicly owns 2 stocks.

According to the shareholding information submitted to the exchanges, Varun Khurana owns these shares. Although not all corporations may have submitted their shareholding data up to now, the most recent quarter frequently has missing data.

GROWTH OF THE COMPANY

Otipy is hoping to make a major splash in the upcoming months as it has revealed ambitions to fund \$75 million (about Rs. 620 crore) and generate Rs. 160-170 crore in revenue in FY23. The company appears to be on the right track based on its financial success in FY22, as it managed to increase by more than two times during that time. Varun Khurana founded the Gurugram-based company Otipy, which uses a farm-to-fork distribution concept to get fresh vegetables to customers. Via a network of resellers, who take care of the last-mile delivery of fresh fruit while earning a respectable commission, it links consumers to farmers. Together with over 1,000 partners, Otipy collaborates with over 20,000 farmers. It has completed more than 10 million orders since 2020. According to the business, its mobile app receives 25,000 orders from customers each day on average. That said, according to the company's consolidated financial disclosures with the RoC, Otipy's gross sales increased 2.4X to Rs 61.8 crore during the most recent fiscal year (FY22). But throughout that time, losses increased 3.3X to Rs 67.2 crore. According to Varun Khurana, the creator of agritech startup Otipy, which sells fruits, vegetables, and groceries online, it plans to fund USD 75 million (about Rs 620 crore) to expand up its business, which is anticipated to increase by more than two times to Rs 170 crore this fiscal year. Crofarm Agriproducts Pvt Ltd's Otipy was introduced in 2020. In Mumbai and Delhi-NCR, it offers a variety of daily necessities in addition to fresh produce. "Our income is anticipated to increase from Rs 70 crore to Rs 160–170 crore in the current fiscal year 2022–23. We now generate Rs 200 crore annually," Khurana told PTI. He claimed that fruits and vegetables account for 80% of revenue. Khurana responded when asked about his plans to raise money: "We are in talks with possible investors to raise USD 75 million in Series C financing. By June of this year, he wanted to conclude the round. Over the course of its Series A and B rounds, the company has raised USD 45 million. According to Khurana, the business would use the money for further expansion. He continued, "We want to grow our business in Bengaluru and other significant southern cities.

Figure 1: Otipy Financials FY22

Source: Entracker

The purchase of agricultural goods turned out to be Otipy's biggest expense, making up 36.8% of the whole budget. Its cost increased 2.5X to Rs 48.53 crore in FY22 as the scale increased. In the same period, promotional expenses increased by around 4X to Rs 21.1 crore while spending on employee benefits increased by almost 3X to Rs 22.65 crore.

Also, the company spent Rs 5.06 crore on legal fees and Rs 4.9 crore on packing materials in FY22. From Rs 46.5 crore in FY21 to Rs 132 crore in FY22, its overall expenses increased by 2.8X.

Otipy's bottom line grew faster than its top line, increasing by 3.3X, and it reported a loss of Rs 67.2 crore in FY22 as opposed to Rs 20.5 crore the year before. Otipy spent Rs 2.14 per unit to generate a rupee in operational revenue in FY22.

Up to this point, Otipy has raised almost \$44 million (or Rs 335 crore, respectively). It includes a \$32 million Series B round in March 2022. Investors who support the business include West Bridge Capital, Susquehanna International Group (SIG), and Omidyar Network.

CUSTOMER REVIEWS AND EXPERIENCES

"I have been using Otipy for a few months now, and I can confidently say it has made grocery shopping so much easier. The app is incredibly user-friendly, intuitive and aesthetically pleasing. The range of fresh fruits and vegetables they offer are always of

the highest quality. Additionally, their delivery service is quick and efficient - I've never had an issue with late or incorrect orders. Otipy definitely sets the bar for online grocery shopping!

Great App for deals and offers, hygienic packaging and fresh fruits, vegetables. Love the fresh healthy organic vegetables on Otipy. Home delivery makes life so much easier. I was hesitated at the time of ordering green leafy vegetables as they will be fresh as I pick from market or not. But I was totally surprised to see how better the stuff were.”

“I'm so impressed with Otipy! I've been using it for a few months now and it's a total game changer. It makes ordering fruits and vegetables so much easier and faster than ever before. Not only do they offer a wide variety of options, the delivery is always on time and the produce is always fresh. I can't recommend Otipy enough – it's definitely the best fruits and vegetables delivery app out there!”

DISCUSSION AND CONCLUSION

Establishing and operating a grocery store has always been extremely difficult, not just for start-ups but also for established competitors. A significant factor is the discrepancy between what farmers believe they should sell more of and what customers are ready to pay more for. Second, the cost of produce has increased by 4–5 times by the time it reaches customers. Additionally a significant logistical difficulty is the enormous quantity of waste generated by warehousing the inventory.

These are some of the main issues that the grocery industry's long-standing players like Amazon as well as local startups have been working to address. One such NCR-based e-grocery firm, Otipy, asserts that by concentrating on the supply chain component of the company's operations, it has mostly addressed the problems and improved its efficiency.

APNA GODAM: POST-HARVEST SOLUTION COMPANY**Ms. Pooja Tripathi and Lavanya Bhardwaj****ABOUT THE ORGANISATION**

India-based Agri fin tech startup Apna Godam. The company's main office is in the Rajasthani city of Jaipur, and it focuses on the post-harvest area of agriculture. Its business divisions include warehousing, buyer credit, pledge financing, and online trading of agricultural commodities.

Six States, namely Rajasthan, Uttar Pradesh, Bihar, Bengal, Punjab, and Haryana, are where Apna Godam conducts business. Singodwala Warehousing and Logistics Private Limited is the company's official name. Singodwala fintech Private Ltd is its NBFC Arm. A licence from the Reserve Bank of India for onward lending in its NBFC arm and a licence for online mandi in its warehousing company were both obtained by Apna Godam in 2019. Both licences helped the business establish stronger roots in the agriculture marketing industry, and the business felt independent because it was no longer dependent on APMC for produce marketing or on pursuing lenders for small-ticket pledge loans.

Storage, commodity finance, and online mandi were all moved from offline to online by the company in 2020. The internally designed technology was introduced on March 1st, 2020. All operations throughout all sectors were paperless, and there was no longer any human-to-human contact. All APMCs were closed on March 24, 2020, when the lock down was completed.

The Apna Godam launched the portal in the first year with the complete complement of products and generated more than 10 Crore in sales. The company introduced its logistics service, dubbed "Uberization of Agri Commodities," in October 2020. As part of its uberization concept, agricultural products are being picked up directly from farms rather than from warehouses.

ABOUT THE ENTREPRENEUR

The company's founder Sanjay Agarwal is a company secretary and chartered accountant. From 2004 to 2015, he was employed by HDFC Bank before starting this Agritech start-up. The journey started with a Modest company called R K Warehouse, owned by Rekha Agarwal, who is now a co-founder and director of Apna Godam. R K

Warehouse began operations using a Heavy Capex model in which the company used to construct its own warehouses but quickly realised that this was a poor decision.

As a result, they established Apna Godam in 2016 to take over the storage operations of the flagship company R K Warehouse, whose own facilities were leased to apnaGodam to operate.

GROWTH OF THE COMPANY

Figure 1: Apna Godam - Super App for Farmers | Online Mandi |



Source: Viestories

The business switched to an asset-light model in 2017. The company began searching for abandoned factories and dilapidated sheds that are no longer in use. After repairs, these buildings were used as agriculture warehouses. They began creating a network of small warehouses in the State in this fashion.

When the corporation began expanding into more distant regions, financing pledges were a significant obstacle. The Banks were not eager to handle little ticket cases, let alone those in remote regions. Without pledge financing, the client was left hanging. They therefore began lending money to customers as a pilot project in exchange for the customers' stock that was housed in company warehouses. Singodwala Fintech Private Limited was formed by Apna Godam, who also applied for the NBFC license.

In 2018, the volume started to increase, but the company quickly realised that its clients continue to be forced to sell their produce at APMC. Notwithstanding the fact that the APMCs were located in remote locations, customers were required by law to sell produce through APMC agents. Yet, there have been some positive changes to policy. The government began deregulating the farm marketing sector and amended the law to permit the establishment of private markets both offline and online. The Firm quickly applied for a mandi licence online.

Agriculture warehousing is owned by many value chain participants in India. Private owners, state governments, the federal government, and collateral managers are all included. The majority of Indian warehouses are not WDRA registered. As a result, it is challenging to locate their data. The ownership of the WDRA-approved warehouses is depicted in Figure 7. The Central Warehousing Corporation is home to more than half of WDRA-registered facilities. 14.5% of them are private warehouses (figure 7). 8.7% of the total number of WDRA-approved warehouses are part of the State Warehousing Corporation. 3.2% of the WDRA registered warehouses are public-private cooperation warehouses. Agriculture warehousing is owned by many value chain participants in India. Private owners, state governments, the federal government, and collateral managers are all included. The majority of Indian warehouses are not WDRA registered. As a result, it is challenging to locate their data. The ownership of the WDRA-approved warehouses is depicted in Figure 7. The Central Warehousing Corporation is home to more than half of WDRA-registered facilities. 14.5% of them are private warehouses (figure 7). 8.7% of the total number of WDRA-approved warehouses are part of the State Warehousing Corporation. 3.2% of the WDRA registered warehouses are public-private cooperation warehouses.

CONSUMER REVIEWS

“A new agricultural warehouse startup, this startup provides warehouse and loan facilities to the small farmers and traders.

Farmers keliyesabseacha platform h ye apnifasal ko uchitdamo me sell karnekeliye or payment hand to hand credit aapke account me jaise hi farmers ne apne mall ko bechaturant paisa uske account me credit.

Provide warehouse and loan service to farmers and small traders.”

CONCLUSION

Using flexible forward or reverse auctions, registered users on Apnagodam can buy and sell a variety of agricultural commodities. In respect to the agricultural products (or any

other tradeable things that apnagodam may let to be exchanged on the Platform), the users of apnagodam can list bespoke auctions based on their unique quality and quantity needs on the online marketplace. Apnagodam oversees every step of the sale and purchase process, including but not limited to listing, selling, and buying as well as settlement and payment processing. Also, apnagodam offers articles, links, and information on the market and the agriculture sector.

RESHAMANDI: SPINNING THE YARN**Ms. Roli Wadhwa and Lavanya Bhardwaj****ABOUT THE COMPANY**

ReshaMandi, an Indian B2B marketplace that was founded in May 2020 and is situated in Bangalore, India, is digitising the natural silk supply chain. ReshaMandi is the first and only full-stack digital ecosystem in India for everything from fibre to fashion and everything in between.

The entire supply chain, from farms to yarns to weaves to our clients and consumers, has been digitalized. Their goals are to: - Boost the quality of products made from natural fibres such as silk, cotton, jute, bamboo, and linen; - Boost the productivity of farmers, yarn manufacturers, and weavers; - Boost customer profitability; - Boost consumers' value for money.

The sourcing centres of ReshaMandi are connected to a powerful network of farmers. It makes use of AI-enabled quality-testing of cocoons for market pricing, monitors IoT-based rearing centres for 10% greater produce, and ensures fair prices for cocoon produce through scientific testing. Additionally, it offers silk reelers a one-click platform for connecting to the market for silk yarn, helping them consistently acquire cocoons with guaranteed quality and low cost.

ABOUT THE ENTREPRENEUR

Saurabh is a full-stack technology architect & innovator with a passion to build customer-centric software products. He has been an architect & implemented microservices based on horizontally scalable back-ends, distributed RESTful services & highly interactive web-based UX's. At CGI, he was instrumental in building a multi-million-dollar financial platform. At CISCO he helped create a large-scale network software, a Zero-Conf IoT Gateway, and SDN. He has also created the industry's 1st OF compliant Wireless Controller, Distributed Systems Architecture, machine Learning. Saurabh brings in an experience of 14 years which is helping build all the technology that is powering ReshaMandi.

It was at the beginning of 2020 – he was working with CISCO in the USA and settled in my job, living a comfortable life, when one fine day he received a call from my childhood friend Mayank. With a deep interest in fabrics, textiles and a solid

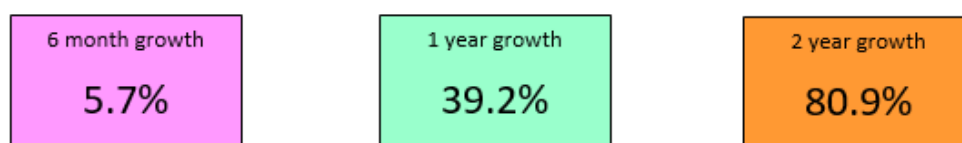
background in apparel technology, he had been toying with an idea since 2004. The idea was to bring India's natural fibres to the world and create a single platform for all the relevant stakeholders of this ecosystem. It took a couple of extended phone calls and discussions for us to decide on going ahead to give this idea a shape.

It was a very crucial period as the first lockdown was about to be imposed world over. However, once they decided, there was no looking back. They constructed the business plan brick by brick. As a result, as soon as the lockdown was lifted, Mayank got to work, reaching out to the silk farmers of Karnataka. And he soon joined him in order to use technology to enable and empower the stakeholders at ReshaMandi.

ReshaMandi's mission since its inception has been to revolutionize the natural fibre supply chain by giving structure to the highly unorganized segment, with the sole purpose of empowering and enabling our stakeholders through technology and bringing the spotlight on these people who are the most important part of the supply chain but mostly remain faceless and nameless.

GROWTH OF THE COMPANY

Figure: 25.1: Growth percentage of Resha Mandi



Source: Company's website: Resha Mandi

ReshaMandi, a digital ecosystem for the supply chain of natural fibres, aims to generate Rs 2,000 crore in revenue in the fiscal year 2022–2023 as opposed to Rs 450 crore the year before. ReshaMandi began with silk and has expanded its product line over the past two years to include additional natural fibres like cotton, jute, coir, and banana.

ReshaMandi, which was founded in 2020 during the pandemic, purchases from farmers scientifically graded cocoons, supplies them to reelers, makes premium yarn available to weavers, and links them with retailers. The business has launched ReshaWeaves, an e-commerce portal that offers customers the greatest weaves from throughout the nation. "The SME group includes 60,000 farmers, over 7,500 yarn producers, over 10,000 weavers, textile mills, and about 3,500 retailers. We are taking on the role of their retail merchant, providing information on price, consumption patterns, and how to cross-connect all 3,500 stores on a single platform. said ReshaMandi's founder and CEO, Mayank Tiwari. Tiwari has 13 years of cross-domain experience and a gold medal from the NIET.

Tiwari uttered Brands and exporters account for 0% of its sales, and that segment may be expanded. ReshaMandi utilises the AI and lo-led ecosystem for silk, connecting farmers, silk reelers, mills, weavers, and retailers from farm to retail.

In order to collaborate closely with its stakeholders, ReshaMandi already has an office in Delhi and is opening a new one in Mumbai. In order to give our stakeholders a seamless experience, we have analysed collecting centres in various farming communities, Tiwari said.

To improve the procedures put up for digitising the natural fibre supply chain, ReshaMandi purchased Hashtaag in March, a software development business that has created applications in addition to lol, devlops, and netNork security solutions.

DISCUSSION AND CONCLUSION

Due to the fact that the majority of ReshaMandi's stakeholders have internet connection, there have been no connectivity concerns. A One Time Password (OTP) is used in all of their transactions, making things easier even for farmers without access to the internet. Wi-Fi is available at all ReshaMandi locations, allowing our stakeholders to do transactions there. As a result, they experience little to no connectivity-related challenges, and we are unaffected by them. As relationships are crucial, they evolved into India's first and largest farm-to-fashion digital ecosystem for the supply chain of natural fibres. The first several days were really difficult. Farmers have to be won over to our platform's value by them. The farmers and all of our other stakeholders have to be made aware of the kinds of developments that ReshaMandi delivers. It was simply a matter of networking throughout the stakeholder communities once they had persuaded a few people. They have now successfully enabled 100% of their farmers on the platform to conduct business digitally thanks to their amazing app.

VEGROW: A FRUITFUL PROPOSITION

Ms. Shanu Jain and Lavanya Bhardwaj

ABOUT THE ORGANIZATION

With a \$43 billion addressable market, Vegrow deals in fresh fruits and vegetables. A software platform called Vegrow works with farmers to aggregate production, sell to organised demand, and partner with organised demand. Using Vegrow, farmers can cultivate more efficiently and use their land more effectively. Our goal is to create the biggest asset in the world: the light farmer.

Small farmer networking is a speciality of Bangalore-based agritech startup Vegrow. Four IIT graduates named Praneeth Kumar, Shobhit Jain, MrudhukarBatchu, and Kiran Naik launched Vegrow, a company that works with small farmers on a profit-sharing basis to build an asset-light farm. It increases the net revenues of its partner farmers by utilising technology at various times during the farming cycle. It helps them plan their crops, gives them access to high-quality inputs, monitors their compliance with protocols, and eventually sells their output to the right customers. To establish value chains for particular commodities, they are engaging with farmers. They are also investing in farm technology and supply chain technologies to assist farmers in realising a higher value.

Everything is centred around this one idea. The firm received seed funding from Matrix Partners India and Ankur Capital in July 2020 totaling \$2.5 million.

ABOUT THE ENTREPRENEUR

1. Praneeth Kumar (Co-Founder)
2. Shobhit Jain (Co-Founder)
3. MrudhukarBatchu (Co-Founder)
4. Kiran Naik (Co-Founder)

GROWTH OF THE COMPANY

Fruit B2B agritech marketplace Vegrow has raised \$25 million in a Series B funding round that was spearheaded by Prosus Ventures.

According to Vegrow cofounder Shobhit Jain, ET will use the new capital to help the agritech business hire for a variety of positions, strengthen its tech stack, and extend its

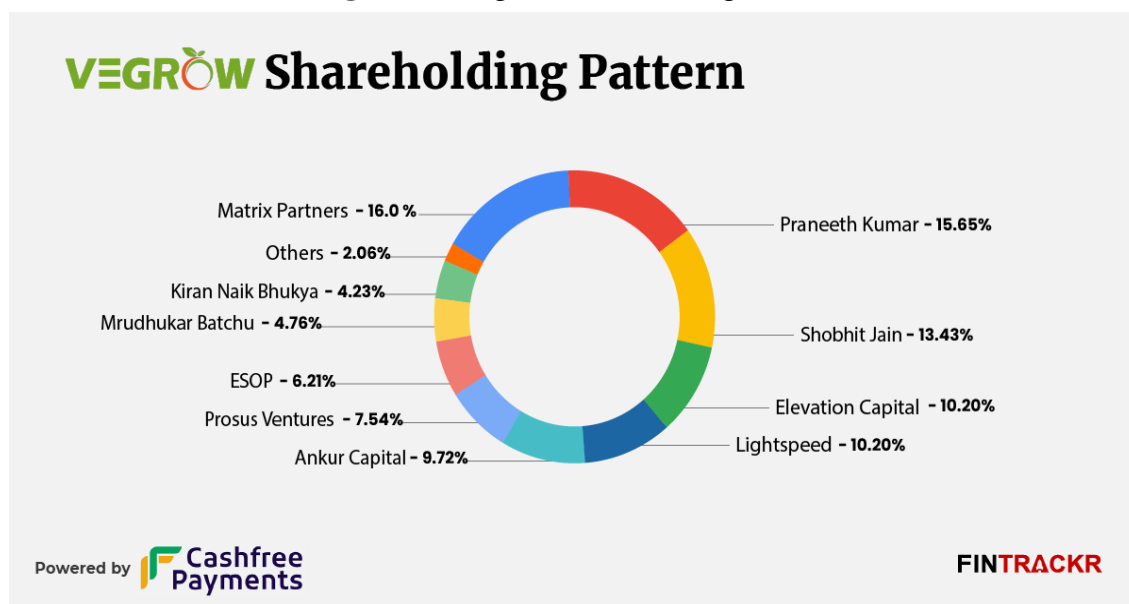
regional presence. The Bengaluru-based firm most recently secured \$13 Mn in a Series A funding round in July 2021.

Vegrow, a company that was established in 2020 by Praneeth Kumar, Shobhit Jain, MrudhukarBatchu, and Kiran Naik, asserts to be present in over 100 cities and to assist about 20,000 farmers in reaching the market.

Among other farming-related services, Vegrow offers a variety of tech solutions to farmers, including crop consulting, grading, packing, shipping, and sales.

Almost 200 tonnes of fruits are processed each day by Vegrow, said Jain.

Figure 1: Vegrow Shareholding Pattern



Source: Author

With a gross margin of roughly 20%, it reportedly increased 15 times in the previous year, according to Vegrow. "Our comprehensive tech and data stack across the value chain has enabled the expansion," the company said. In tier-I, tier-II, and tier-III markets, "we have developed skills to harness farmer talk, estimate farmland yield, and monitor demand," he said.

The addressable market size for fresh fruits and vegetables is \$43 billion, according to the Vegrow website. Around the same time, a report by Inc42 on the Indian agritech market predicted that the country's market for agritech products will reach \$24.1 billion by 2025. According to a Bain & Company report, the Indian agritech business will be worth \$35 Billion by 2025.

The annualised revenue run rate for Vegrow is \$200 Mn. For the next five years, we want to generate a \$5 Bn result and sustainably develop.

The government and investors have both grown more interested in agritech firms in the nation during the past few months.

CUSTOMER SERVICE, REVIEWS , EXPERIENCES

Vegrow has 33 employee reviews with a score of 4.4 out of 5 on AmbitionBox. Skill development, which is rated at the top and given a rating of 4.5, is well-known for Vegrow. The lowest rating, a 4.0, is given to work satisfaction, which can be raised.

DISCUSSION AND CONCLUSION

Having previously worked for firms like ITC, Urban Company, and Chronus, Vegrow has significant understanding in agriculture as well as a hyper-growth marketplace mentality. This tremendous driving force in the industry is the result of the intersection of in-depth understanding of the agri value chain, product thinking, and farmer empathy.

Figure 2: Investing in Vegrow

Agri-tech Models	Pure input focus	Pure Advisory tech	Output Focused eCommerce	Vegrow
Trust	Low	Low	Medium	High
Scalability	Low	Low	High	Medium
Source of Value Creation	Input supply chain efficiency	Yield Improvement	Output supply chain efficiency	Supply chain efficiency + Yield Improvement
Profitability	Low	Medium	Low	High

Source: Elevation

With over 120 million farmers producing over 30 states, India's B2B agri sector, while lucrative at \$300 billion, is also a confusing maze of fragmented supply. In order to maximise the potential of India's agro value chain, Vegrow is initially concentrating on the \$50 billion fruits and high-value vegetable market. The business helps farmers with issues such supply fragmentation and under-utilization of farms while providing clients with constant quality and fill rates. Their distinct farmer engagement concept and tech-driven quality profiling are essential to giving farmers higher returns, minimising supply-chain waste, and enhancing wholesaler procurement.

FYLLO: PRECISION AGRICULTURE SOLUTIONS FOR FARMERS**Mr. Bhupinder Singh and Lavanya Bhardwaj****ABOUT THE ORGANIZATION**

provider of IoT, agronomy, and machine learning-based solutions for precision agriculture. With the use of its data-driven agri-science platform, it provides assurance on the amount and quality of agricultural produce. Real-time understanding and measurement of the precise needs of plants by the IoT system is followed by timely guidance for farmers from the AI-powered agri-science platform.

Fyllo assists farmers in making informed decisions and boosting agricultural output based on real-time farm data and insights. A farm's installed Fyllo gadget transmits real-time crop, environment, and soil data. In our cloud, sensor data is processed utilising original analytics algorithms.

ABOUT THE ENTREPRENEUR

Fyllo, a company founded in 2019 by Sudhanshu Rai and Sumit Sheoran, has grown to serve more than 2,000 farmers and more than 10 organisations in four states throughout India, totaling 20,000 acres of land.

Fyllo's co-founders, Sudhanshu Rai and Sumit Sheoran, asserted, "We think Fyllo will assist farmers in improving productivity by 25% and lowering total production costs by \$700. Moreover, the export quality will increase by up to 81 percent, double the price of the enhanced export produce. After receiving the IAN money, we intend to invest in growing our brand in new markets.

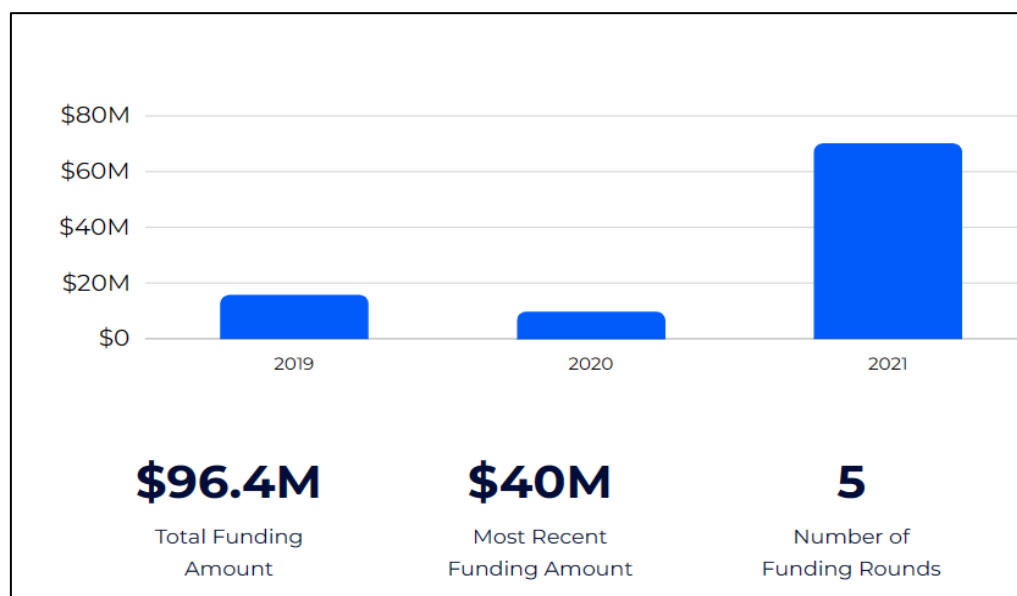
GROWTH OF THE COMPANY

Agri-tech firm Fyllo is being led by Triveni Trusts, Ninjacart, and new investors Venture Catalysts, StarAgri, Kia Ora Ventures, Singularity Ventures, Mastermind Capital, as well as angel investors. Indian Angel Network (IAN), an existing investor, joined the US \$2 million round. The firm will use the funds raised for market expansion, research and development, and the creation of new crops.

Fyllo, which was founded in 2019, uses its data-driven Agri-science platform to deliver assurance to the quality and amount of agricultural produce. Its IoT technology analyses and comprehends the precise needs of plants in real-time, and the AI-powered agri-science platform then gives farmers immediate guidance. For each physiological stage,

the start-up has created crop-specific models for managing irrigation, nutrients, diseases, pests, and weather.

Figure 1: Funding of Fyllo



Source: zoominfo

20,000 acres in 4 Indian states and 2000+ farmers and 10+ corporations now have access to Fyllo's services. Sudhanshu Rai and Sumit Sheoran, the company's founders, commented on the most recent development, "Farmers are more adaptable now that they have experienced the effects of technology. Now that we have the money, we want to invest it in growing our business and entering new markets and crops."

Triveni Trust's Managing Trustee, M.K. Dhanuka, stated: "Farmers benefit from the specific, accurate, and AI-driven guidance provided by Fyllo, which helps them produce more crops for less money. The farmer's confidence in Fyllo's product may be shown in the company's 100% client retention rate. This will aid in the agricultural transformation of India. We are thrilled to have invested in Fyllo."

Fyllo has improved consistency in farming while lowering hazards. The software not only helped farmers lower cultivation costs, but also helped them boost production and revenue. Farmers have used Fyllo to save nearly 9 billion litres of water overall.

Ninjacart co-led this round, and its co-founder and CEO, Thirukumaran Nagarajan, stated, "Fyllo uses a combination of technology, science, and data to deliver meaningful insights. We are excited to collaborate with the Fyllo team to increase their distribution across the nation using the farmer network of Ninjacart."

CUSTOMER SERVICE, REVIEWS, EXPERIENCES

"I really enjoyed my time at Fyllo. There was a flexible, supportive work environment. I was unfortunately laid off only three months after hire along with a majority of the team, but would have considered making a career with Fyllo. – says Sharad Sharma"

"Love working at Fyllo. Co-workers are great, motivating and energizing. Management team is driving more focus as the company grows. Company is growing really fast. Remote culture can sometimes make it tough to get a hold of folks and feeling productive but most folks have leaned in. – says Vinay Suryan"

"Typical days include researching updates in the industry (it's constantly changing!) and creating personalized outreaches through email or LinkedIn with the goal of setting meetings & driving revenue."

"Constantly learning, whether it's what's going on in the industries or Fyllo product updates. And, management wants everyone to be powered with knowledge so they provide learning sessions for each of Fyllo's product offerings (there are many!)."

"The culture is amazing -- everyone wants to help each other succeed. And, because Fyllo has incredibly talented individuals, it's fun to learn something new from everyone!"

Pros

"Unlimited PTO, great health benefits & 401k w/ employer contribution, opportunities for growth, virtual events to bring everyone together (in-person events if in Chicago area), employee recognition, rapid growth, remote roles."

Souce: Google Play, Glassdoor, AmbitionBox

DISCUSSION AND CONCLUSION

Agromony models and real-time farm data are used by the precision agriculture startup Fyllo, which has been working with 5000+ farmers on crops including grapes, pomegranates, citrus, and bananas, among others, to assist in farm decision-making. The input cost was reduced by 30% and the yield per acre was increased by almost 25% thanks to the early crop prediction models that covered each stage of the crops. Almost 10 billion Litres of water have been saved through Fyllo.

ABSOLUTE: PRECISION TECHNOLOGY**Mr. Swaraj Manchanda and Lavanya Bhardwaj****ABOUT THE ORGANIZATION**

Provider of solutions for precision agriculture based on physiology, microbiology, and artificial intelligence. It provides software programmes for managing agricultural hardware equipment. It gathers data hourly from satellite sources, hardware systems, sensors, IoT devices, and other sources, and uses proprietary machine learning algorithms to provide insights that may be put to use. Agronomy services for farmers include soil and water testing. For the customers, it also provides traceability solutions.

Absolute is on a quest to build a brighter, cleaner, and more prosperous future for people. Over 400 million people in India go to bed without food, and 100 million get sick as a result of the poor quality of the food because nearly 70% of the country's freshwater is used for conventional agriculture, which is frequently drenched in pesticides. Absolute's unmatched research, created by a group of the top plant and data experts in the world, has made it possible to adjust the best harvesting parameters throughout the course of a season, resulting in consistently higher-quality, pesticide-free produce. In order to grow crops without the use of artificial enzymes and GMOs, farmers can use their digital platform, which is an AI-driven operating system that can be integrated across vertical farms, greenhouses, open farms, etc. Absolute's software can detect over 8,000 farmers across 25,000 acres of work. About 63 crop types and their appropriate harvesting settings can be found using Absolute's platform. Absolute Foods, grown without the use of chemicals, pesticides, or additives, has promoted yield, flavour, purity, and nutrition, giving farmers the information they need to employ a much less proportion of the resources than are often utilised on regular farms. Absolute is pioneering the use of AI in sustainable, precise agriculture techniques as it expands throughout India and the MENA region.

ABOUT THE ENTREPRENEUR

The Delhi-based startup, which was founded in 2015 by Agam Khare and later included Prateek Rawat as a co-founder, offers precision agriculture solutions combining phytology, microbiology, and AI technologies.

According to Agam, founder and CEO, "We began as a research endeavour in 2015 to explore tiny aspects of nature's molecular building blocks that effect agricultural productivity and quality."

According to Agam, the idea to construct this was motivated by the demand for the next major revolution in agriculture made by Dr. APJ Abdul Kalam, a prominent scientist and the 11th President of India.

Between 2011 and 2012, he was a member of the Kalam Foundation's founding group. He closely collaborated with Dr. Kalam here on a variety of topics, including agriproductivity. From 2012 to 2016, he went on to establish and grow the Vertex Group of Companies, an industrial robots and factory automation business that served clients in the food and beverage, pharmaceutical, automotive, oil and gas, steel, and cement industries.

Agam remembers Dr. Kalam "presenting two simple and profound thoughts one day at his apartment in early 2012." How can clean air, clear water, and clean food be achieved while addressing humanity's biggest and most fundamental problems? What type of planet will we leave behind, furthermore? The chance to drastically improve agricultural performance and potentially have an influence on farmer livelihoods, consumer health, and environmental sustainability was presented by this. And that is what, according to Agam, "gave life to the seed we call Absolute."

GROWTH OF THE COMPANY

With a \$500 million value, the startup company Absolute in plant bioscience raised \$100 million from prestigious international investors such as Sequoia Capital India, Alpha Wave Global (AWI), and Tiger Global. Agam Khare, founder and CEO of the eight-year-old business Absolute, thinks that biology and life sciences will be at the forefront of the next wave of agritech innovation, placing agriculture at the centre of sustainable development strategies.

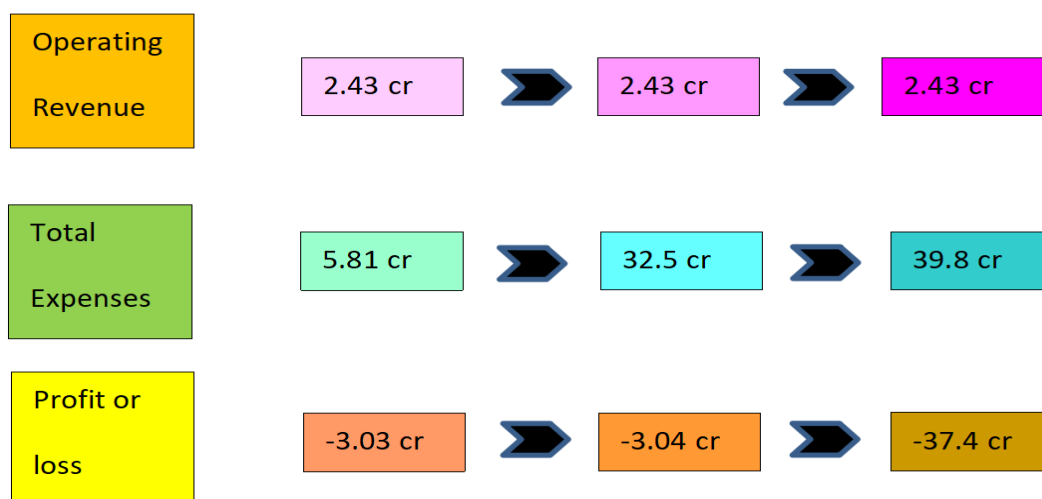
Absolute Foods, a plant bioscience business, raised \$100 million from Sequoia Capital India, Alpha Wave Global, and Tiger Global Management in May of this year as part of its first institutional fundraising round.

In 2015, the business first constructed an entirely self-sufficient indoor vertical farm outside of Delhi. The following year, in Okhla.

The farm was primarily operated using the hydroponic model, which involves growing plants in water that has been enriched with nutrients, with or without mechanical

support from an inert medium like sand, gravel, or perlite, and the aeroponic model, which involves growing plants in an environment that is either moist or dry. These farms served as the foundation for the company's studies as it gathered over 30,000 data points to establish the parameters necessary for any particular plant to develop.

Figure: 28.1: Operating Revenue, Total Expenses, Profit and loss of Absolute



Source: Company's Website

Now, Absolute has three platforms: the farm operating system (FARM OS), the plant bioscience R&D platform BioX, and the produce global commerce platform. For the farmers' best growing circumstances throughout the crop cycle, Absolute's Farm OS delivers actionable insights based on inputs from the likes of sensors, satellite feeds, and others.

In the coming years, Prateek says, "We want to create a really full-stack, proprietary tech platform that starts with the correct seeds and ends at the right market." With the help of more than 100 scientists, Absolute has expanded the reach of their solution to more than 15,000 farmers.

CUSTOMER SERVICE, REVIEWS, EXPERIENCES

"3.9 out of 5 stars have been given to Absolute Foods by its staff members in 31 reviews on AmbitionBox. Corporate culture at Absolute Foods is renowned and receives a grade of 4.0, placing it at the top of the list. The lowest rating, a 3.6, belongs to work satisfaction, which can be raised."

"Great management and futuristic approach for food for future

-says Meenakshi"

DISCUSSION AND CONCLUSION

Absolute exports fruits and vegetables through the wholesale market, and in FY22, the company's sales revenue increased 12.6 times, to Rs 359.56 crore, from Rs 28.43 crore in FY21. Also, the business made Rs. 1.35 crore through providing services.

Absolute, a firm specialising in plant bioscience, was established in 2015. It uses phytology, microbiology, omics, molecular biology, epigenetics, and artificial intelligence to manage the entire cycle of agricultural production on its farm, from seed to harvest. It asserts that plant biology and hydrology are used to uphold quality. Its product is delivered to customers, retail outlets, and restaurants on the day of harvest, in contrast to other supply chain and agritech enterprises. The business is present in 12 states and manages more than 150,000 acres. It exports fresh agricultural goods.

As we turn our attention to the expense side, the cost of acquiring agricultural raw materials was the business's single largest cost area and accounted for 87.3% of all expenses. From Rs 27.58 crore in FY21 to Rs 347.3 crore in FY22, this expense grew 12.6X.

MERAKISAN: ONLINE MARKETPLACE FOR A WIDE RANGE OF FRESHLY PRODUCED FARM PRODUCTS

Ms. Priyanshi Jain and Lavanya Bhardwaj

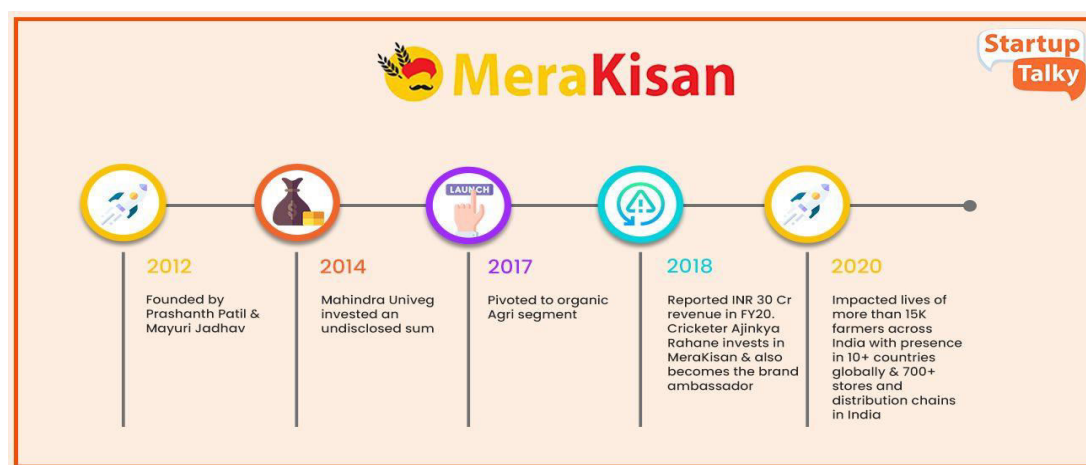
ABOUT THE ORGANIZATION

Agri-tech company MeraKisan focuses mostly on the organic food market. We deal in a whole spectrum of staple foods such as cereals, pulses, millet, dry fruits, whole and blended spices, as well as processed food items, all of which are 100 percent certified organic. All of the products are sourced from reliable sources and distributed throughout India.

For the purchase of organic foodstuffs, we primarily collaborate with ICS and Organic Farmers in 7 states. We serve producers, processors, and the entire supply chain with market connectivity. Different modules of our business, including B2B, B2C, B2B2C, internet, franchising, and through our own distribution channel, are used.

For the products that farmers were previously selling in local markets because of a lack of assistance and selling at low prices, we are giving them organic seeds, organic inputs, training, a package of practices, and market connections. In terms of land ownership, crops, production planning, estimation, and advisory, MeraKisan plays a critical role in the digitalization of data. We work with products like turmeric, ginger, garlic, basmati rice, maize, urad, soyabean, lentils, fennel, horse gram, green gram, onion, and fenugreek, among others.

Figure 1: Growth of MereKisan



Source: Startup Talky

ABOUT THE ENTREPRENEUR

Prashanth Patil established Merakisan.com while serving as an IT business consultant in Melbourne, Australia. Prashanth added nine team players to our organization, and each one of them helped Merakisan.com succeed.

The Merakisan.com team is intentionally composed of a mix of young and seasoned individuals. We take pride in the fact that we have recently hired farmers, qualified business owners, and drivers. We would like to take this time to formally present our team, which currently consists of the following individuals: Mayuri Jadhav, Irfan Khan, Rekha Jadhav, Revati Shinde, Amar Pawar, Abhilasha Jadhav, Madhuri Jadhav, and Sudhakar Patil.

GROWTH OF THE COMPANY

The creator of the agri e-commerce startup MeraKisan Pvt Ltd has been hired by Mahindra Univeg Pvt. Ltd, a joint venture between Mahindra Agri Solutions Ltd. and the Belgian company Univeg (Greenyard Foods), to lead its online grocery services.

MeraKisan creator Prashanth Patil, who has incorporated his online business under the new company, has acquired a 66.83% stake in MeraKisan Pvt Ltd through a new share issuance. The largest shareholder of Mahindra Univeg, Mahindra & Mahindra, announced on Wednesday that he has also been appointed CEO-designate of the company.

A 60:40 joint venture between M&M and Belgian firm Univeg (now known as Greenyard Fresh following the merger of Univeg and Peltracom with Greenyard Foods) is known as Mahindra Univeg. The remaining 33.17% stake in Merakisan is owned by Mahindra Univeg.

CUSTOMER SERVICE, REVIEWS, EXPERIENCES

“MeraKisan.com is an online resource for Indian consumers who value wholesome food and products made by neighbourhood Kisans. This portal was created with the interests and wants of consumers in mind, as well as the desire to increase the exposure of those Kisans who are producing high-quality agricultural products- says Rashmi Sharma”

DISCUSSION AND CONCLUSION

An online marketplace called MeraKisan sells a variety of recently produced farm items. By selling seasonal and local fruits and vegetables directly to customers, the farm-to-fork firm hopes to help neighbourhood farmers. Pulses, cereals, unusual and

seasonal veggies, superfoods, and organic cooking oils are just a few of the company's offerings.

Saboro Lounge is the company's freshly introduced line of handcrafted juices, smoothies, salads, and snacks. It also offers complete soil consultancy services as well as other farming facilities.

A joint venture between Mahindra Univeg Pvt. Ltd. and Univeg, based in Belgium, brought MeraKisan on board. (Greenyard Foods). Prashant Patil, the company's creator and an IT engineer by trade, launched MeraKisan in 2014.

Patil now owns 66% of MeraKisan Pvt. Ltd. thanks to a recent share issuance. On its website, the company claims to have more than 500 merchants. Ajinkya Rahane, the vice-captain of the Indian Test Cricket team, became a new stakeholder for the Mahindra-backed business in March 2020.

AGROSTAR: DIRECT TO FARMERS**Dr. Khushbu Khurana and Ms. Lavanya Bhardwaj****ABOUT THE ORGANISATION**

AgroStar is a company that creates direct-to-farmer technology platforms that aim to make farming easier for farmers. The company's AgroStar Farmer App serves the agri-needs of farmers by providing them with a platform that lets them browse a variety of products like seeds, crop protection, nutrition, and farm equipment as well as professional advice, personalised, agri-focused content, tips, and articles for a range of crops and issues that frequently affect them. Indian farmers may purchase seeds, fertilisers, crop protection, and farm automation items using the smartphone portal AgroStar. It creates a mobile application that offers goods and services related to agriculture. For farmers, it provides agricultural advice, a social network, trade opportunities, and agricultural goods.

ABOUT THE ENTREPRENEUR

The founders of the company are Sitanshu Sheth and Shardul Sheth. Shardul Sheth is the Chief Executive Officer of the company. The nature of business is product based and it's a B2B company. The registered name of the company is ULink AgriTech Pvt. Ltd. It was founded in 2013.

The headquarter of the company is based in Pune, Maharashtra, India. Investors of AgroStar include Chiratae Ventures, Accel, Rabo Frontier Ventures, Bertelsmann India Investments, Hero Enterprise and 10 more.

VISION AND MISSION OF THE COMPANY

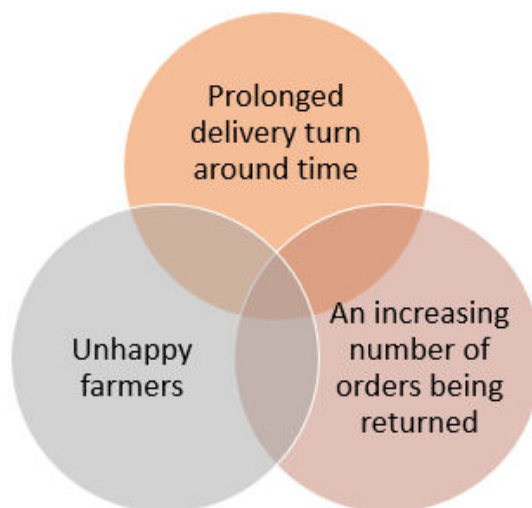
A startup in agricultural technology will offer farmers solutions. The leading AgTech start-up in India, AgroStar, is dedicated to #HelpingFarmersWin by giving farmers access to a full spectrum of agrisolutions. The technology platform offered by AgroStar enables farmers to greatly increase their production and profitability by combining agronomy advice with services, goods, and agri inputs.

The company make substantial use of data, technology, and agronomy expertise to provide Indian farmers with the best solutions (advice + goods).

With more than 5 lakh farmers using its digital platform, AgroStar now serves the states of Gujarat, Maharashtra, Rajasthan, Madhya Pradesh, and Uttar Pradesh. Farmers in

these states can use a simple "missed call" or its Android app to access agro solutions for their complete crop life-cycle. According to one of the article published in the Times of India in the year 2019 it was reported that the business had sales of almost Rs 100 crore at the end of March 2018, and it aims to maintain its 100% year-over-year growth rate. (Times of India, 2019)

Figure 1: Challenges faced by the Organisation



Source: Company's website: <https://www.corporate.agrostar.in/>

CHALLENGES FACED BY THE ORGANISATION

Prolonged Turn Around Time – As mentioned by the founder that India Post handled our deliveries. India Post has consistently provided the finest last mile coverage in India and continues to do so. Although India Post has a vast network of postmen who cover a lot of territory, we were unable to monitor the calibre of the experience they were providing to our consumers or the schedule in which they were to receive the items because we did not have direct access to all of them. Due to this, order delivery were delayed significantly and AgroStar customer service standards were broken.

An increasing number of orders being returned – Not because farmers were unhappy with the product. Farmers were delighted with the outcomes after timely delivery of our items. However, late delivery resulted in higher refunds. Farmers' farming operations and crops are impacted if they do not get the agro goods in a timely manner, making the delivery useless.

Unhappy Farmers- farmers who didn't obtain what they wanted in a timely manner returned the goods when they did.

STRATEGIES ADOPTED BY THE COMPANY

With more than 2300 Pincodes, or more than 25000 villages, served by the AgroStar Last Mile Delivery network today, Gujarat, Rajasthan, and Maharashtra are no longer unreachable. Our Logistics Partners deliver 70% of our total order volume.

The three key issues that the company identified two years ago have had a good cascading impact since we set up our own LMD network. What they have observed now is that:

- Their delivery time has been slashed by 50%.
- Their return orders have been significantly reduced by 50 %.

CONCLUSION AND DISCUSSION

AgroStar developed a multilingual smartphone app using Google Cloud to help Indian small farmers increase crop yields and promote sustainable farming methods. In 2023, agritech will work to improve the adoption of sustainable agriculture practises, improve crop quality, and redesign the supply chain in order to further unblock the agri value chain, decrease waste, and boost TAT and efficiency.

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Agro-Entrepreneurship Startup in India

Case Bank

Agriculture is one of the most integral sectors which contribute almost 20% of the national GDP. Creation of the sustainable livelihood, especially in the times of pandemic has posed a major challenge for the rural economy. Entrepreneurial opportunities especially in and around the agriculture sector creates sustainable livelihood also ensuring employment opportunities for the local people.

The book honors the entrepreneurs who are working in the agriculture sector discussing the opportunities identified by them, challenges faced by them and their journey in the creation of their venture. The book will serve as a guide to the entrepreneurs working in the agriculture domain or wishes to be a part of the same. Involvement of the youth in contributing towards the agriculture domain is integral for the economic growth of the country.



Dr Ravikant Swami has a decorated and diverse educational background - a PhD in Management, MBA and Bachelors in Economics from prestigious universities in India, and certifications and trainings from B-schools like IIM Bangalore, IIM Calcutta and IIFT New Delhi. Dr Swami has an eclectic list of subjects at his command that credit him with the excellence of a multi-variate teaching style. He has published numerous research papers and supervised PhD thesis, dissertations at MPhil as well as MBA levels. He is the honorary director at Delhi Metropolitan Education and leads the management school with his guidance and inspiring style of teaching. He motivates a team of remarkable faculty to practise better teaching and assure better earning outcomes. His visionary attitude helps drive the institute a step closer to its mission each day.



Dr Poorva Ranjan is a professor and head of DME Management School. She is a PhD in Retail Marketing Management and MBA in International Business Management from Devi Ahilya Vishwavidyalaya, Indore [DAVV]. She is also a certified POSH (Prevention of Sexual Harassment) trainer. She works closely with students for skill enhancement purposes in various areas like Digital Marketing, Microsoft 365 Tools, Entrepreneurship Development, Cyber Security and Google Tools, to name a few. A Google certified digital marketer, she specialises in Social Media Marketing and Content Development. Her areas of work/teaching and research are Digital Marketing, Entrepreneurship Development, Mentoring, Retail Management and Skill-building.



Dr Khushbu Khurana is currently working as an Assistant Professor at DME Management School affiliated with Guru Gobind Singh Indraprastha University. She has done her PhD in Organisational Behaviour and Human Resource Management from Jaypee Business School, IIIT University, Noida. She has worked on the employability skills of engineering students. She has been awarded UGC-NET- Junior Research Fellowship in the year 2016. Dr Khushbu Khurana has presented papers at national and international conferences and has research publications in ABDC and Scopus indexed journals. She is presently working on the topics of Employability Skills, Green HRM, Employee Experience, and Research Motivation. Her areas of work/teaching and research are Organisational Behaviour and HRM. She has gained experience in teaching and research as well as has three years of industry experience.

