"oasis of innovations"

CCS National Institute of Agricultural Marketing
Jaipur, Rajasthan, India
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Foreword

Agripreneurship has great relevance in our country. An agripreneur transforms agriculture into agribusiness. This transformation is critical in ensuring food, nutritional and income security to all involved stakeholders. These enthusiastic agripreneurs take risk, create employment and generate wealth out of agriculture in rural setup which is a great contribution to the national development. Our country needs more agripreneurs to emerge in Agriculture scenario.

Creative agripreneurs with innovation add further value to Agriculture. They open new opportunities, address challenges and make Agriculture a profitable enterprise. Society needs to recognize and support such Agripreneurs. The Government has come out with several initiatives to promote breakthroughs in agriculture via Agribusiness Incubation Programme supported under RKVY-RAFTAAR.

It is in this context that 17 exciting agripreneurs from seven states had landed in CCS NIAM to nurture their dreams. During the two month training programme, NIAM gave its best to ensure that these agripreneurs are well equipped to turn dreams into reality. This process is a story of growth for NIAM as an institution and to all the budding agripreneurs.

NIAM recognizes these creative agripreneurs and showcases their innovations so that society appreciates their ideas. It also motivates upcoming agripreneurs.

This book contains a brief profile of innovative agripreneurs who have completed their agribusiness incubation programme at NIAM. I’m sure these interesting success stories would motivate young minds to embrace agriculture with innovation.

My compliments to NIAM Agri-Business Incubator (NABI) team of CCS NIAM for successfully completing the programme and contributing to the growth of 17 innovative agriventures in our country. My best wishes to all the passing out talented agripreneurs in their future creative endeavours. CCS NIAM always stands with them.

Director General
Dr. P. Chandra Shekara
Preface

CCS National Institute of Agricultural Marketing (NIAM) Jaipur, Rajasthan as a "Knowledge Partner" of Ministry of Agriculture and Farmers' Welfare, is assisting Department of Agriculture, Cooperation & Farmers' Welfare (DAC&FW) in smooth and efficient Execution of RKVY-RAFTAAR Scheme.

CCS NIAM through NIAM Agri-Business Incubator (NABI) is handholding and providing integrated incubation support to RKVY-RAFTAAR Agri-Business Incubators (R-ABIs) situated in four states in the country namely National Rice Research Institute (NRRI), Cuttack, Odisha; Sri Karan Narendra Agriculture University, Jobner, Rajasthan; Indian Institute of Technology (IIT) Kharagpur, West Bengal and Bihar Agriculture University, Sabor, Bhaigpur, Bihar. It is also implementing Centre of Excellence (CoE) ABI to demonstrate best practices and handholding of Eco System Partners during implementation of the scheme.

Through the first of its kind two months "Agripreneurship Orientation Programme" NIAM Agri-Business Incubator (NABI) is facilitating existing and budding agripreneurs, agri-business ventures, enterprises and start-ups through handholding by means of expert advice, hands on training cum internship, industrial attachments, market surveys, dedicated mentorship, financing, exposure to existing incubation centers and startup ecosystem as a one-stop solution to refine their business ideas and establish their startups.

These Agri start-ups that serve the farming community need more seed funding, incubation and mentoring to make a successful entry and impact in the field of agri-business. In addition to investment capital, these budding agripreneurs need technical advice and access to markets and talent.

This book presents the journey of a diversified cohort of seventeen agripreneurs across India who are passionate to transform their new and innovative business ideas/models into successful Agri-business ventures.

The agripreneurs incubated in this programme showed huge enthusiasm and represented themselves on several competitive platforms like hackathons, paper presentations, winning online free mentorship sessions from reputed mentors across industry, which led them to develop clear vision about their ideas and building successful prototypes and products.

NIAM Agri-Business Incubator feels proud to share that the first cohort of seventeen agripreneurs is graduating on 29th May, 2019. We are sincerely thankful to all those who have contributed in various roles and capacities towards successful execution and completion of this "Agripreneurship Orientation Programme".

Our agripreneurs are our strength and pride. NIAM Agri-Business Incubator (NABI) is committed to provide quality incubation support to all the agripreneurs and agri start-ups. Their talent, drive and vision can surely help define the future of Indian agriculture.

I wish them all the very best in their future endeavours.

Director & Chairman
Dr. Ramesh Mittal
70 percent of India's population lives in rural areas, for tribal's this is as high as 85 percent. Tribal's lives in forest regions and their economy is depending upon agriculture and forest produce. Chhattisgarh which is India’s most densely forest state is also affected from naxal movement which is the biggest threat and hurdle in between of development in the tribal dominated area especially in Bastar region where 85 percent of rural population is staying in forest area and engaging with agricultural forest activities, their livelihood depends on forest and other natural resources. They face two big issues, the first issues are of perishability of forest produce and second is with respect to unemployment among youths and women's in the Bastar region.

Considering this, Mr. Satendra Lilhare Co-founded a startup named “Bastar se Bazaar Tak”. The start-up addresses the problems, enhance livelihoods of local forest dwellers, reduce post-harvest losses and provide high quality, unadulterated naturally pure forest healthy product processed, packed and made conveniently available for consumers/buyers at affordable price. By doing this startup is providing employment to local rural unemployed youth to market their village produce to city based consumer.

Mr. Satendra who is a self-motivated, goal oriented person with a zeal to live and work in remotest parts of the country is having more than three years of rigorous grassroots experience on farm & non-farm based value chains. He has been passionate to work with small and marginal farmers on enterprise based livelihoods especially on non- timber forest produce. His prior work experience is that of seven years as a freelancer which includes liaison with government officials for welfare projects. He pursued Master’s Degree in Development from Azim Premji University, Bangalore. Mr. Satendra founded Bastar se Bazaar Tak with Mr. Haresh Babu who is a progressive farmer, has been farming for the past 30 years and regarded as a down to earth person and role model for people in his farming community.
To give wings to the growth of Bastar se Bazaar Tak, Satendra applied to Agripreneurship Orientation Programme and became part of the first cohort of Agripreneurs at CCS NIAM, Jaipur. Startup received support in various aspects of business model development and validation. He also got rigorous mentoring and capacity building support from mentors and resource persons as a part of programme. This helped startup in finalizing a robust model for launching their operations.

The startup already has a strong grassroots integration with 300 household family forest dweller farmers in 7 villages of 3-gram panchayat for processing of 75 MT of raw forest produce. Furthermore, it is targeting to reach 1000 House Holds and farmers in nearby 20 villages of 7 panchayat in coming one year to process and enhance the more raw forest produce to generate more employment.

In the regard of forward integration, startup already have presence in one city with base of 5 dealers and now planning to reach to 28 dealers in 4 cities. The startup provides its customers with assurance of quality, supply and convenience. At the same time, it is adopting fair and transparent pricing of processed forest produce. Banking on this, the startup is looking to grow leap and bounds in near future.

He is currently providing employment to 32 persons. The expected turnover after one year of operations is Approx 22 Lakh.
Sprayers have to overcome the problems of reduction in deposition efficiency, distribution and penetration into the plant canopies. The use of electrostatic spraying can increase the application efficiency drastically. In the country, only a few attempts have been made so far in developing and testing indigenous electrostatic spraying machine. Ms. Sapna Balasaheb Mane (Founder) got this idea to develop cost effective Electrostatic Spraying Machine for Grape Farmers in India. Company has successfully manufactured the prototype model and testing is going on before its formal launch in the market.

Currently, Spraying Machines for Grape farming is imported from USA which is widely used but it is very costly for our Indian farmers. Also existing indian spraying machines waste too much amount of pesticides and chemicals while spraying which will lead to low productivity and high operation cost to the farmers.

OAC Innovative (India) Pvt. Ltd.: has developed a unique technology in spraying, by introducing **IndoEss - Electrostatic Sprayer Machine** which is mainly used to reduce labour cost and time. It helps in improving quality of the produce and uniformity in spray through proper coverage. Grape Growers & Other Horticulture Farmers can take a huge advantage of this machine to increase their profitability thereby improving quality & reducing labour cost on dipping.

It helps to reduce spraying cost as Micro/Nano drip particles supports to cover each part of the plant. Ms. Sapna Balasaheb Mane is the Founder of OAC Innovative (India) Pvt. Ltd. and a commerce graduate having experience in Operations, Marketing & Accounts. She has a keen interest and in-depth knowledge of horticulture. Now she wishes to start a new venture in the field of Electrostatic Spraying Machine.
Main aim of OAC Innovative (India) Pvt. Ltd.

- Providing low cost product as compared to existing machines
- Saving labour cost and time
- Improve quality & quantity of the output
- Prompt Service
- To enable farmer to buy in group or on rental basis.

The main challenge before OAC Innovative (India) Pvt. Ltd. for next 3 months is the acceptance of the machine among the Grape producing farmers. The start-up is expecting to reach 500 farmers in one year to aware them personally about the electrostatic machine product and make them available through renting/selling. They will be marketing their product through participation in Exhibitions, Agri-Expo, Government support agencies, and Advertising etc.

She is currently providing employment to 7 persons.
The expected turnover after one year of operations is Approx 20 Lakhs.
Where there is a will, there is a way. This has been proved true by a higher secondary qualified young entrepreneur, Mohit Kumar Jakhar, who is the founder of SWASTH PARIWAR BIOTECH, Arya Nagar, District Hisar, Haryana. After doing some routine jobs which didn't fetch him good earnings and learnings, it is here, he found his moorings in agri entrepreneurship. Being from Haryana, gave him the opportunity to identify local, nutritious but under utilised traditional millet crops. He explored Bajra (Pearl Millet) as an attractive ingredient to make cookies. Also, business is second nature to residents of the place. He met several investors who believed entrepreneurs from small towns appear to be more charged to succeed and willing to put in more hard work to make their startups flourish. He shared his business idea with many bakery owners who make cookies for him and also talked to printing press for packaging and advertising material.

Now his cookies under the name “Wonder Choice” are very famous in the local market and people are liking them. They are sold with a tag line as “taste that you wonder”. He is also planning to expand his business operations outside his native state to Rajasthan, Delhi, Punjab and other north Indian states. Currently is supplying cookies in few districts of Haryana, Punjab, Himachal Pradesh, Uttar Pradesh, Chandigarh and Bihar. Recently a Chinese Company also approached him to work in hand with Swasth Pariwar biotech.

The cookies mostly available in market now a days are laden with transfats, maida and other salts which are harmful to health and lead to obesity and digestion related problems. Bajra cookies are nutritional, easily digestible and affordable health snacking option. As people are becoming more health conscious, the market for such organic health snacks is booming. Because of their high nutrition profile, bajra and other millets can tackle many common ailments like constipation, obesity and diabetes. It is naturally gluten-free and alkaline, so very soothing for the body. Bajra also has complex carbohydrates which release energy slowly. As a result, one feels fuller for a long time after a millet meal, making it a perfect grain for weight-loss diets.
SWASTH PARIWAR BIOTECH aims at providing quality organic Bajra cookies to the customers. It is looking forward to introduce and market its product to entire north India in the coming two years and then to entire country from third year onwards. It is currently procuring Bajra from local farmers of Haryana and is planning to procure it from other Bajra producing pockets of different states of the country, increasing production capacity, employability and reaching more customers across India. Mohit and his team are working on developing innovative technology in the company to manufacture other bajra products as well and thereby developing more cost effective and innovative solutions for making Bajra biscuits.

He is currently providing employment to 16 persons with a present turnover of 15 Lakhs. The expected turnover after one year of operations is Approx 46 Lakhs.
Stubble burning in Punjab and Haryana has been cited as a major cause of air pollution in Delhi. In late September and October each year, farmers mainly in those two states burn an estimated 35 million tons of crop waste from their wheat and rice fields after harvesting. The problem was majorly identified by the students of B.Tech agricultural engineering from CCS Haryana Agricultural University, Hisar. During their practical classes they visited different villages near their university and identify the problems faced by the farmers. The major problem identified by Kartikeya Sharma (Founder) was of Stubble burning and the reason behind it was no proper machinery available to the farmers, the cost of these machines is prohibitive compared to burning the fields and moreover inefficient working of the Custom Hiring established by the government gave rise to the problem of stubble burning.

Providing the farmers with stubble management machinery on rental basis and providing leads to the custom hiring centres to increase their efficiency of hiring for the mechanization of the agriculture sector is the best solution to the problem. The farmers complain that the cost of these machines is prohibitive compared to burning the fields. Therefore the concept of renting the stubble management machinery and farm equipment came so that the farmers could easily hire the machinery and could mechanize using mobile application. The renting of the machinery was already being done by the Custom hiring centres established by the government but their efficiency is zero as no farmer is able to reach them and hiring centres do not take an initiative to provide machinery to farmers other than that use them for their own benefits. Therefore a mobile application which will provide farmers with stubble management machinery on rental basis and provide leads to the custom hiring centre became the best possible method to solve the problem.

Mr. Kartikeya Sharma is the Founder of tractorimplement.com and agricultural engineering graduate from CCS Haryana Agricultural University Hisar. He has a keen interest and in depth knowledge of agricultural machinery and implements. He
is extremely passionate about helping the farmer with proper machinery and promotes farm mechanization. He had already represented tractorimplement.com at AICTE-ECHISTE ChhatraVishwakarma Awards 2018 at National Convention held at AICTE HQs, New Delhi and also at National Start-up Summit 2018 held at CCS HAU, Hisar. His vision over the next few years is to further encourage farm mechanization and stop stubble burning practices done by farmers and continue to create a positive difference to the rural India and Bottom of the Pyramid. His Hobbies include Public Speaking, Meditation and Travelling.

The main aim of Tractorimplement.com is to
- Stop stubble burning in the operational areas.
- Farm mechanization in the working villages.
- Increasing efficiency of the already government established Custom Hiring Centres in the villages.
- Selling stubble to the packaging factories at good rates.

The problems faced by the company in implementing the action plan is
- Low adaptability of smart phone technology in villages.
- Farmers initial adaptation to technology and farm machinery, equipment’s.
- Cost of renting these machines is prohibitive compared to burning the fields.

The future plans of Tractorimplement.com is
- Increasing the operational areas to more villages, increasing capacity, employability and reaching more farmers in the other states of India.
- Making Stubble By-products to get good utilization and rates of stubble.
- Selling of latest machinery to farmers available in the market with crop wise distribution.
- Partnering with renowned tractor and implement manufacturers.

He is currently providing employment to 4 persons. The expected turnover after one year of operations is Approx 69 Lakhs.
Indian agriculture is undergoing a gradual shift from dependence on human power and animal power to mechanical power because increasing cost for upkeep of animal and growing scarcity of human labour. Further, use of mechanical power has a direct bearing on the productivity of crops apart from reducing the drudgery and facilitating timeliness of agricultural operations. Thus there is a strong need for taking farm mechanization. However, the farm power distribution is quite uneven across the States, wherein the highest use of mechanical power is in the order of 3.5 kw/ha in Punjab and less than 1kw/ha in States like Bihar, Orissa, Jharkhand etc. Mechanical power is largely consumed in big land holdings and is still beyond the reach of small/marginal holdings which constitutes around 80% of the total land holdings. This is due to the fact that the small/marginal farmers, by virtue of their economic condition are unable to own farm machinery on their own or through institutional credit. Therefore in order to bring farm machinery available within the reach of small/marginal holdings, collective ownership or Custom Hiring Centres needs to promoted in a big way. This model scheme is prepared to demonstrate the banks that financing for establishment of Custom Hiring Centres are a financially viable unit.

Low availability of farm machineries on rent in the peak season time, Small and Marginal could not afford to buy high cost farm equipments. The agricultural output is low when the farmers are not using the seasonal machineries for their cultivation. High input cost due to high labour costs.

By connecting all nearby equipment owners to one platform, the availability of farm equipments for farmers on rent with affordable price will increase. Thus the farmer can avail implements in low prices with the help of an on-demand mobile application or calling the company’s executive directly with toll free number. After that service demanded by farmers, will be delivered by company's operators on the farm location in chosen date and time by farmers. Features like weather forecast in-built in app itself will help farmer to book service for their farm.
Nilesh Gothi is the Founder of FarmYantra. Empathising with the low income generation even after a lot of hard work done by farmers in India and seen by him through his childhood, led him to pursue his career in agriculture world as an agripreneur. Nilesh is aiming to increase farm mechanization with technological intervention in the field of agriculture. He has a vision to bring possible technologies to help farmers generate extra income and reducing extra overhead expenditures.

Farm yantra is trying to achieve convenient hiring with mobile app and just on call. A Simple mobile App in Hindi and English language is developed. Using skilled operator for operating complicated farm equipment. Equipment owners can post the availability of machines easily in the mobile application.

Including IoT devices for monitoring the machines and analyze their performance analysis. Partnering with renowned tractor companies and implement manufacturers. Farm yantra tries to reduce the rental charge of farm machineries. It also aims at creating more demands for the machinery owners. This in turn will increase the income of the farmers. New machineries will be routinely presented through our platform, along with proper user manuals and guidance.

Agripreneur while collecting information from Custom Hiring Centre

In business, First of all you need commitment, dedication & passion for what you are doing

- Lakshmi Mittal

He is currently providing employment to 4 persons. The expected turnover after one year of operations is Approx 79 Lakhs.
“Living in a small town is in no way a deterrent to dreaming big. Adesh’s story is a proof for this.”

Adesh’s startup, VATSALYA UNIQUE, sells ayurvedic, herbal and organic cosmetic products and bio pesticide made from the urine and dung of Desi Cow.

The young man’s journey started in a small town of Yedgaon, Ganesnagar, taluka Junnar, District - Pune. He completed his studies and was ranked 1st in Dairy Farming Business Management & Animal Husbandry (DDFBM & AH) Diploma in the year 2002, from the Institute of Agriculture and Dairy Sciences, Loni, Ahmednagar, Maharashtra. He has in-depth knowledge about livestock management & Importance of Indigenous breeds i.e. Desi Cows.

His inherent love and compassion for cows has led him to start this business venture on his own. Vatsalya Unique is involved in manufacturing & marketing of Desi cow dung & urine based organic products such as Organic Pesticide (Dashparni Ark), Bath soap, Face pack, Dantamanjan & Dhoop Sticks. His entire family is supporting him in successfully running his operations. The unique feature of Dashparni Ark is that it can be easily made using the natural ingredients and is effective on all sucking pests. It is biopesticide which is ecofriendly and is very beneficial in organic as well as natural farming.

Cow dung is known since long back for its anti-bacterial properties. It is said that cow dung can be used as a body pack for detoxification and prevention of pimples on face. In its dry and powdered form, cow dung was used to treat skin diseases in ancient times. It was even said to reduce infection and improve blood circulation. Cow dung and urine can be included in cleansers, scrubs and masks for both face and body. Besides skin and body, the ash produced from cow dung was even used to clean teeth; as it was said to strengthen gums.
His products are acclaimed in the market for their supreme quality, reliability, & cost – effectiveness. His inherent love and compassion for cows has led him to start this business venture on his own. The unique feature of Dashparni Ark is that it can be easily made using the natural ingredients and is effective on all sucking pests. It is biopesticide which is eco-friendly and is very beneficial in organic as well as natural farming.

Vatsalya Unique Products is registered in the state of Maharashtra under the Partnership Act, 1997 on 23rd of October, 2018, at Post – Gat no.102/2/b, Yedgoan, Ganeshnagar, Taluka – Junnar, District – Pune 410504.

His Customer centric approach, Customized products, highly dedicated workforce and timely delivery are his assets to develop his niche market and customer retention. At present Vatsalya Unique generates employment for more than 50 farmers in its local area in Junnar, Alephata, Narayangaon and Manchar taluka in 50 km radius by training them in making Dashparni ark and is also purchasing cow dung and cow urine from them.

He is currently providing employment to 50 persons with a present turnover of 6 Lakhs. The expected turnover after one year of operations is 17 Lakhs.

Vatsalya Unique has set big milestones for itself which include delivering Vatsalya Products all over Maharashtra in coming two years. It is also planning to launch four new products (cow dung pot, mobile anti-radiation chip and cow dung cool paint & shampoo) in the coming six months. His target is to involve at least 500 farmers of his area in this business activity.

With his hardwork and perseverance, Adesh is progressing well and will be delivering as per his set targets and milestones.
GROWING ORGANIC
Roof-Top Farming

Mr. Jogendra Sharma who hails from a small town called Sangaria in Rajasthan completed his B.Sc. Agriculture (Hon’s) in 1997. Later, Mr. Sharma shifted to Delhi in search of a job where he started his career in 1997. Since then he has worked for 22 consecutive years in various fields including FMCG and Textiles.

While residing in Gurugram which is one of the most polluted city in the world, Mr. Sharma realized that high concentration of pesticides and preservatives in vegetables deteriorates health and causes diseases like cancer. Pesticide residues are a public health concern and root cause of a range of diseases and disorders. At the same time being from Agriculture background he always had a vision of starting his own venture related to Agriculture Industry.

This triggered the idea of starting “Growing Organic” a rooftop farming startup which will ensure fresh, pure, organic and home grown vegetables. During a small public survey, this idea received highly positive response from the consumer side and they were enthusiastic about this concept. Rooftop Farming not only provide food production but also ecological sustainability such as reduced rainwater run-off, temperature benefits, potential reduction of heating and cooling requirements (resulting in reduced emissions), biodiversity, improved aesthetic value and air quality. Mr. Sharma decided to pursue his idea to grow fresh, homegrown organic vegetables, which would be available to every urban consumer who are helpless to purchase the unauthenticated vegetables from market mainly due to limited availability of organic foods. Excited from the initial response he received for his idea, he started exploring and applied to “Agripreneurship Orientation Programme” at CCS NIAM, Jaipur.

Once Mr. Sharma got selected under the programme, he worked extensively on validating his idea with the help of experienced mentors, team and resource persons at CCS NIAM. He did his initial market survey at Gurugram as a part of the training programme and got a few early leads as well.
He also received hands-on training on rooftop gardening from “Edible Roots (a startup in roof-top farming at New Delhi). He also got connected to scientists from IARI, New Delhi and received inputs from them on Organic Farming. Mr. Sharma is now ready to launch his startup commercially and with the help of the inputs and handholding received in the programme he is very confident of growing big in near future.

He is providing four key value proposition to his would be customers –

1. Promise of freshness of vegetables
2. Availability of Roof top beds in their own homes/balconies
3. Easy maintenance and monitoring
4. Guaranteed organic and healthy vegetables with no pesticides

He aims to spread operations in Delhi-NCR in the first year of operations and later want to expand operations in the other parts of the Northern India. Mr. Sharma is a firm believer of “What You See Is What You Get” and wants to spread the same message through his startup.

He is currently providing employment to 4 persons. The expected turnover after one year of operations is Approx 15 Lakhs.
Mr. Pravin Raghuvanshi, hails from Betul district of Madhya Pradesh, India. After completing his primary education, Mr. Pravin decided to pursue a degree in Agriculture which was his area of interest and thus enrolled for M.Sc. Agriculture. In the year 2015, Mr. Pravin started his professional career with IECCI, Bhopal which was one of the nodal centers under Agri Clinic and Agri Business Centre scheme of MANAGE, Hyderabad. He started working as a training coordinator for Agripreneurs and soon after getting started got inclined towards entrepreneurial opportunities available within Agriculture ecosystem. His leaning towards entrepreneurship made him read various articles and prints materials where he came across the concept of beekeeping. Honey bee plays a crucial and critical role in the cross-pollination of crops. With increasing pollution and climate change, the number of bee colonies in ecosystem is reducing. This reduction in number of bees is having a major impact on crop production. Additionally, reduction in the number of bees means less availability of pure and natural honey which is considered as one of the most nutritious food item available for humans.

Mr. Pravin did thorough research on beekeeping and realized that there is a huge demand of naturally flavored untouched and pure comb honey with medicinal properties. He also identified that many companies are producing honey for commercial purpose and mix it with chemicals and sugar syrup which doesn't provide the intended benefits. At the same time, there was a raising awareness among a segment of consumers about the medicinal uses of natural honey and malpractices of existing sellers in market. The impact of bee on farm productivity was already proven and this made Pravin think seriously about the big opportunity available in front of him. He decided to work on the idea full-time and quit his job. Further, he applied to Agripreneurship Orientation Programme at CCS NIAM, Jaipur where he was selected for 2 months residential training.
Mr. Pravin joined the training where he was given extensive mentoring on product-market fit and business model development. To provide him with technical inputs, he was also attached to the Punjab Agricultural University, Ludhiana where already a few scientists were working on the similar concept. After getting useful insights from the scientists, Mr. Pravin decided to provide training and capacity building support to farmers on beekeeping and also planned to open his own demonstration unit to motivate farmers for taking-up beekeeping activity. To all his trainee farmers, he plans to provide assured market which will create huge social impact as farmers earn additional income. Initially Mr. Pravin is planning to sell the products through existing marketing brands and is in contact with a few partners who will be marketing and distributing his products on commercial level. Once he develops a strong backend system and a large network of farmers then he is planning to develop his own brand.

He is currently providing employment to 3 persons.
The expected turnover after one year of operations is Approx 14 Lakhs.
Mr. Mohit Gour is a young undergraduate entrepreneur from a non-descript small town who is focussing on making healthy and nutritional soyabean products at affordable prices to tackle the problem of malnutrition in underdeveloped districts of Madhya Pradesh, particularly Harda District from where he belongs.

He is the founder of Goraj Healthcare Private Limited and student of B.Sc Agriculture final year of Mewar University, Gangraru Chittorgarh. He is at early stage of product growth and development. He is exploring the latest and cost effective modern technology for making Soya Milk, Soya Tofu and other soyabean products that can be sold at affordable prices to malnutrition and weaker sections of the society.

Organic and healthy food requirement is the need of the hour. Organic soya products will be free from cholesterol. Soya contains special proteins which are responsible to lower the sugar, and prevent breast cancer problems. Such product will be boon to the persons who requires high protein and mineral diet.

His main objectives are production of healthy organic protein rich soya products, establish chain of retail outlet/refreshment corner in all major cities, establish partial –manufacturing and partial-franchise model, supply to All- Urban customers (through one premium brand) and rural malnutrition weaker sections (through economy range brand).

The company Gouraj Health Care Pvt. Ltd is registered with FSSAI and will distribute products in Harda district of MP in the next six months. The company is planning to make the product available in the next one year to the surrounding districts. It is planning to go through 3rd party manufacturing and selling the products in the market in the name of its own brand. Company will register patent of its soya products and will open a dedicated soya retailer store in Harda district and then in the next 2 years dedicated Retail Chain in all major districts of Madhya Pradesh.
For scaling up the business, Mohit will build a brand of the product and move on to the Franchise Model which will make the availability of the product throughout his state and can reduce the problem of malnutrition in Madhya Pradesh. Since Soya products will be highly demanded therefore manufacturing plant will be established in different states of countries in the next few years.

His concern for the malnourished weaker sections along with his business acumen is praise-worthy.
“Giving back to the village” is the sole cause behind the move by Mr. Rohit Karodi who embarked on the path of fish breeding. There is a dire need of fish breeding in the village as most villagers buy fish seed from out of the town from a distant area” says Rohit Karodi from Khandwa, Madhya Pradesh. Seeing the problems in the availability of quality fish seed in his region he wanted to start his own fish breeding center in his local area and help the farmers for getting quality fish seeds.

In India, total fish production in 2017-18 is estimated to be 12.60 million metric tonnes which is very low. The lack of sources of water is the main reason for the unavailability of fish seed for the domestication of fish. The current problems prevailing in the fish industry is the distant transfer of fish seed from one place to different places across India. The death ratio of fish is very high due to the difference in PH value and temperature range. Higher transportation cost for fish seeds is also a major problem in the industry.

The start-up addresses the problems by the establishment of “Umang Karodi Fish Breeding Pvt. Ltd” the company registered in May 2019 by Mr. Rohit Karodi and Mr.Mukesh Karodi. The idea was converted into a business prototype under Agripreneurship Orientation Programme organized by NIAM’s Agri-business Incubator (NABI) powered by RKVY-RAFTAAR Project, Government of India.

Umang Karodi Fish Breeding Center is planning to provide:
- Assurance of high-quality fish seed, constant supply, and convenience.
- Fair and transparent pricing of fish seed.
- Geographical advantage which is a symbol of purity.
- Provide after sales & consultancy services to the farmers.
- Improve the farmers’ income by selling the farmer’s fish in the bigger market.
Start-up is already having a connection with more than 100 farmers in their local area who have shown their interest in buying fish seed from them. They have started giving consultancy/training services to the farmers about the significance of quality fish seed and fish breeding methods.

They are by now successful in building trust among local farmers. The start-up is going to provide training to farmers on fish breeding methods and in turn creating employment in the sector. “We would multiply in 5 years,” says Rohit Karodi when asked about his growth plans. He promised to do it by providing quality fish seeds and consultancy services to farmers in all the districts of Madhya Pradesh and later on covering all the states of India.

“Scale is important for a startup. Think big, but take one day at a time”

Kunal Bahl, Snapdeal
SONU'S RECIPE
Tomato Processing

Tomato in India occupies second position amongst the vegetable crops in terms of production. Another encouraging trend has been that India's production level of processed tomato has risen by 50 per cent. The main objective of processing is to supply wholesome, safe, nutritious and acceptable food to consumers throughout the year. Tomatoes and tomato-based foods are considered healthy for the reason that they are low in calories, but possess a remarkable combination of antioxidant micronutrients.

Agriculture produce is seasonal and perishable where as consumer demand round the year is stable and regular. While arrivals during the season is high as compared to regular consumption demand, not only producers have to compromise on prices but also there is lot of wastage due to perishable nature of commodity. The trend reverses during off season when arrivals are low but demand is stable resulting increase in prices. With this trend reversal, many opportunists do adulteration to make quick fortunes compromising on health of consumers.

There are majorly two problems preservation of Agriculture Produce and making it available in unadulterated form to consumers at economical prices round the year.

Due to increasing standards of living in the cities and the rapid urbanization taking place in the rural areas, consumption of tomato based products is expected to go up steadily. At present, the market of ketchup/puree, especially in the urban areas, is dominated by brands like MAGGI and KISSAN. Some Medium and Small Companies are also engaged in its production. The Indian Food processing industry will continue to prosper, thanks to the rising income levels and modernized food retail stores. The food processing sector is likely to be the driving seat for the Indian economy.

Sonu’s Recipe a proprietary concern of Mrs. Arpita Jain and is growing name in Processed Tomato Products, Pickles and Sauces in Jaipur. With the mission of delivering quality products and at affordable prices to masses Arpita Jain laid foundation of the business from her home. Arpita is Post Graduate in Management from Rajasthan University and
has done her specialization in Marketing and HR. Processing of Agriculture Produce into form which is stable can be preserved over period of time and both taste and quality is largely intact. This way during season when arrivals are high, Sonu's Recipe could get Agriculture Produce from market at low cost and make it available to consumers for their consumption.

Purity and Taste at affordable prices which is readily available to consumers. It is about gaining consumer confidence for Purity along with Taste in the product. Again consumer taste is very subjective and versatile subject which varies depending on area. Sonu's recipe small size makes us competitive to deliver consumer's product as per their taste requirement.

Arpita Jain during Market Survey in Morarco Foundation

"I wake up every morning and think to myself, ‘How far can I push the company forward in the next 24 hours.”
Leah Busque, Founder and CEO, TaskRabbi.
The major problem in the agricultural sector is the use of chemical fertilizer which spoils the nature of the soil and reduces the fertility of the land in the long term. Moreover, as fertilizer use increases in India, the air and water pollution it causes is becoming an increasingly acute and widespread problem. The use of chemical fertilizer can result in a number of problems, such as nutrient loss, surface water and groundwater contamination, soil acidification or basification, reductions in useful microbial communities, and increased sensitivity to harmful insects. It has a very harmful effect on the health of human beings as well. The main problem identified by Mr. Umesh Katulkar (Founder) was excessive use of chemical fertilizers and it can be solved with the help of Vermicomposting. Plants grown with vermicompost increase the fertility of the land and on the other hand, raw material used for vermicomposting is also available with the farmers.

Mr. Umesh Katulkar is the Founder of Umras Vermicompost (the meaning of Umras is increase the age of the soil and crop) and a graduate from Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, Madhya Pradesh. During the 2 months training, he is able to translate his idea into a minimum viable product. He is taking cow dung from the farmers to the vermicompost unit and making vermicompost which is rich in micronutrients like calcium, magnesium, sulfur, boron, zinc, ferrous, nickel, and cobalt, etc. It will increase the fertility of the soil which will ultimately increases the yield of the crop as well. The start-up has introduced a wonderful concept of barter system among farmers in the form of exchange of 5 kg of cow dung with 1 kg of Vermicompost which is rich in minerals. By use of vermicompost, start-up is saving our environment, land, and water.

The main objective of the start-up is to provide organic food to the society which can only possible with the use of organic manure by the farmers. Organic manure has multiple benefits due to the balanced supply of nutrients, including micronutrients, increased soil nutrient availability due to increased soil microbial activity, the decomposition of harmful elements, soil structure improvements and root development, and increased soil water availability.
Umras Vermicompost aims at providing quality organic manure to the farmers. It is looking forward to introduce and market its product to the entire villages of the Madhya Pradesh in the coming two years and then gradually to entire country.

Initially, the start-up is planning to procure cow dung from local farmers of Betul district, Madhya Pradesh and is planning to procure it from other parts of the Madhya Pradesh by increasing production capacity, employability and reaching more farmers across the state. In the year 2019-20, the start-up is aiming to produce 200 MT of vermicompost which will be sold to 20 villages in Chikhli Khurd, Multai, Betul, Madhya Pradesh. By the end of the year 2021-22, the start-up is targeting to serve whole Madhya Pradesh.

Mr. Umesh Katulkar and his team are working on developing a more cost effective organic fertilizer through technology innovation.

He is currently providing employment to 3 persons.
The expected turnover after one year of operations is Approx 16 Lakhs.

“Life’s purpose is to be happy! So if you are happy, you are successful in life”

Rahul Yadav, Housing
Demand for seeds and seedlings of silviculture, horticulture and vegetable species has been increasing over the years. The special plantation drives and greening activities have substantially increased the demand for tree seedlings. During the past decade, significant achievements have been made by plantation development and an area of 5.7 Lakh has been brought under fruits, vegetables, spices, flowers, plantation crops, medicinal and aromatic plants. Ease of availability of quality planting material (QPM) at reasonable costs, however, is a challenge. At present only up to 30-40% demand for planting material is being met by the existing registered nurseries; the rest are met from the unorganized sectors, implying the need for establishing more nurseries in the organized sector.

The availability of quality seedlings at lower cost offers ample scope for large scale planting. In this juncture, putting efforts on quality seedling production offers scope for sustainable agriculture. Nursery is pre requisite for producing quality seedlings in lesser input and nursery management is a potential tool to execute the activity in successful means. This bulletin is an attempt for narrating the nursery establishment guidelines, species precise propagation techniques, pest, disease, weed, water and nutrient management, economics and information system of plant nursery. We assure that this bulletin will be a valuable field guide for nursery practitioners.

The nursery site should be located in the nutrient rich/medium soil, near to water source, free from soil pathogens and insects, availability of cheap and skilled labors and has good access to the main road for easy transportation. The site should be on gently sloping area and away from other tall crops: this is important for good drainage as well as to encourage air circulation. An appropriate site must be selected for the most effective, efficient, and economical design of a nursery. The purpose and target of plants to be produced will decide the site selection and its improvement. Careful observation of site conditions and an assessment of past and present climatic records are important. If desired, make a list of potential nursery sites and compare them using a decision matrix.
Identifying this need, Mr. Piyush Baraskar aimed to start a Nursery cum training programme named GSB NURSERY CUM TRAINING AND SERVICES CENTER (GHB-NCTSC) for the farmers in Madhya Pradesh. The major problem faced by the farmers is the non-availability of training centres in the near locality. Piyush has the aim of setting up many training centres, so that the farmers need not travel long to get trained in nursery.

India is known as the agriculture country all over the world nowadays farmer of India face losses and earn less income from agriculture and now Govt. trying to doubling of income of farmer and in this process horticulture plays major contribution so that farmer has to adopt affordable and efficient technology of farming but they not have source of information or awareness about farming for cost reducing technique. Generally, vegetables are getting diseased by many diseases due to weak seedling. After development in machinery department labour are unavailable on time and if available the small farmer can't afford expensive labour so they don't want to cultivate the horticulture crop. Nowadays competition increases in each field now agriculture is the field where youngsters are going towards agriculture but between race for adopting agriculture many students spoil their 2 year because some student get admission in agriculture in 11th class and after 12th class many students not get admission in agriculture college after that they change their branch after that they face many problem in getting employment.

He is currently providing employment to 12 persons with a present turnover of 6 Lakhs. The expected turnover after one year of operations is Approx 11 Lakhs.
Honey Sharma, the founder of Kisan Kesri is a Merchant Navy officer turned entrepreneur. He worked on merchant ship in capacity of navigator for 5 years. Due to nature of his work he had been to 33 different countries in 5 continents across globe. This led to his culinary habits being shifted towards ready to eat and dehydrated food stuffs like fruits and vegetables. He explored the market for such products in India and found it quite promising which shifted his focus to go for evolving innovative natural drying methods for fruits and vegetables.

Kisan Kesri is a Jaipur based firm. It is in early stage of product development and running pilot project. Kisan Kesri identified some core problematic areas for the farmers growing fruits and vegetables like issue of perishability of fruits and vegetables, severe lack of postharvest infrastructure like warehouses, cold storage, ripening chamber, grading and packaging facilities, distress selling and limited reach of farmer to market for processed fruits and vegetables.

Realising these shortfalls, he decided to provide techno-economic consultation to farmers to install solar dryer unit at their farm, help farmers make dried/dehydrated products as per consumer’s specification, buy dried fruits and vegetables from farmers at pre fixed price as per buyback agreement, brand and sell farm solar dried fruits and vegetables in national and international markets.

The unique selling proposition of Kisan Kesri is competitive pricing because products are cheaper than existing dried and dehydrated fruits and vegetables as it is made using free and renewable energy source (Sun) and cost saving from more efficient supply chain(dry chain). Customer centric approach is also one of the core competency of Kisan Kesri. Traceability can allow the consumer to easily trace back the origin of the product. All products are natural and contain no preservatives or additives like sugar, flavours, colours etc.
In June 2019 Kisan Kesri launched its pilot project to evaluate demand of farm solar dried fruits like Banana, Mango and Jamun. They are planning to install first model farm solar drying unit to experiment, evaluate and train farmers by Sep 2019 and expending the capacity to further demand by 2020.

But, educating the farmers on innovative solar drying techniques, slow acceptance of unconventional dried and dehydrated fruits and vegetables and quality control is a big challenge.

Hand holding of farmers and assurance of guaranteed buyback of their produce will incite confidence in them to adopt solar drying at their farm. Deep customer understanding and innovative solution that match customer requirements will be the key to Kisan Kesari’s success.

He is currently providing employment to 3 persons.
The expected turnover after one year of operations is Approx 20 Lakhs.
“Necessity is the mother of invention” they say and rightly got proved when one day Nikhil, while assisting his father in the farm, observed fertilizer wastage and manual cumbersome activity for cotton fertilizing process. From there, Nikhil had an idea of developing handy equipment that can perform seed sowing and fertilizing activity in easier way.

To validate his idea, Nikhil carried out a market survey and visited several district places of Vidarbha region of Maharashtra where cotton land cultivation is highest in India but productivity is very low. While interacting with farmers Nikhil observed that fertilizer for BT cotton needs to be applied 3 times i.e. in vegetative, mid-season and late season stages of plant growth period. But farmer applies fertilizer only 2 times, as time requirement to cover entire land area is high. Another thing, farmer was putting fertilizer 2 inches below the soil that too in concentrated form. This results soils to warm up and building high chances to damage the crop and loose its fertility to some extent. During mid season and late season farmer even do not take pain to insert the fertilizer into the soil indeed they just throw it on the surface causing wastage of fertilizer.

To overcome this problem Nikhil thought of Multilayered Fertilization Technique which is a technique to place the fertilizer in the multi depths of soil i.e. in 2, 4 & 6 inches depth of soil. This idea well appreciated and validated when Nikhil met senior scientist from Central Institute of Cotton Research, Nagpur. Placing the fertilizer at multilayers of soil will help the crop to take up nutrients early and till full growth and all this will be performed through well designed equipment. To design and develop such equipment, Nikhil visited IARI, New Delhi in engineering division to study and observe the equipments and related research till date. He met few Industrialists in farm machinery sectors to gain knowledge in developing the prototype.

Thus, he developed his first model and named it as “Multilayer Ferticator”. Nikhil further thought to take up this project for business purpose and he established TechnoFarmin
May’2019 along with his partners, Dr. Jayant Purohit & Mr. Anup Junankar through the Agripreneurship Orientation Program conducted by NIAM’S Agri-Business Incubator (NABI), the RKVY-RAFTAAR project, Government of India.

Thus, TechnoFarm entered into the mission for developing efficient, smart mechanization and low cost solutions for small and marginal farmers in an aim to reduce labor dependency and gain higher productivity in agriculture sector. With affordable equipment prices and customized solution, Nikhil believes his TechnoFarm will be favourite brand among farmers.

Now, as idea has been validated and prototype is made, Technofarm is ready for pilot testing into the field and once it gets desired result, their first product Multilayer Fertilizer will be launched. Further, target for the firm is to apply for patent its technique and reach out 1000 farmers of Vidarbha region in first year. Technofarm will continue to reach out its farmers, making their life easy to some extent through its product though some challenge remains like their initial adaptation to technology and meeting huge demand and supply gap. Initially, the firm will be involved only in assembling of products. The parts will be manufactured through SRM Enterprises, Nagpur. Secondly, TechnoFarm will engage in sales, promotion and branding activity of the product.

The firm further looks to manufacture their own products in the future nearby by increasing production capacity and employability. Next target is to establish world class R & D in the company and thereby developing more cost effective and innovative solutions for the current problems. TechnoFarm will also look to form Private limited company within 5 years adding top investors in the group.

TechnoFarm has very strong team; Nikhil being a Mechanical Engineer, he has done his masters in M. Tech. CAD/CAM and MBA in Marketing & Operations and currently pursuing Doctorate in Mechanical Design of Agriculture domain. He also holds PGDC in Thermal Power Plant Engineering and worked with Thermax Pvt. Ltd., Pune. He has over 6 years of experience in Machine Design, Maintenance and Training. His skills, professional experience and passion to make an impact at the bottom of the pyramid make him a potential entrepreneur who is capable of taking TechnoFarm to greater heights.

He is currently providing employment to 4 persons with a present turnover of 12 Lakhs. The expected turnover after one year of operations is Approx 25 Lakhs.
The indoor air pollution is one of the threats to public health. Poor Indoor air quality (IAQ) is the air quality within and around buildings and structures. IAQ affects the health, comfort, and well-being of building occupants. Poor indoor air quality has been linked to sick building syndrome, reduced productivity and impaired learning in schools. Indoor air is highly polluted than outdoor air. The presence of pollutants like PM2.5, PM10, and volatile organic compounds (VOC’s) like trichloroethylene benzene, xylene and toluene lead to dizziness, fatigue, headache and decrease in work efficiency.

They can also result in major diseases like lung cancer, kidney problems, and pain in the chest. Biological pollutants and fumes can cause nasal congestion and watery eyes which lead to asthma and bronchitis. All this will lead to inefficiency in work at offices and home. Mr. Chetan Khatakale (founder) has identified this problem and convert this into a business opportunity by introducing Indoor Air Purifying and Pollution Absorbing Plants. These indoor plants are capable of removing 90% of chemical in the air within 24 hours and substitute into life-saving oxygen, we inhale.

According to Mr. Chetan Khatakale, Plants not only improve indoor air quality by removing chemical toxins that contribute to in door air pollution, but they have also been shown to reduce stress, raise humidity and filter dust from the air. What they ask for in return is water and occasional fertilizing.

Here is the list of plants which a start-up is planning to sell:
1. **Aglaonema (Chinese Evergreen)** removes benzene and formaldehyde.
2. **Chamaedorea (Bamboo Palm)** adds moisture to dry air while removing benzene, trichloroethylene and Formaldehyde.
3. **Chlorophytum comosum (Spider Plant)** removes formaldehyde, xylene and toluene.
4. Chrysalidocarpus (Areca Palm) is an excellent air purifier. It removes acetone, for maldehyde and xylene from indoor air.

5. Dracaena fragrans / deremensis (Janet Craig, Warneckii, Massangeana) remove benzene, formaldehyde, xylene and toluene.

6. Ficus elastica (Rubber Plant) excels at removing formaldehyde, but be warned rubber plant leaves may be toxic if swallowed.

7. Nephrolepis (Boston Fern) absorbs formaldehyde, xylene and toluene.

8. Philodendron (Arrowhead Vine) is a climber that removes for maldehyde, toluene, trichloroethylene and xylene from the surrounding atmosphere. Cuttings grow easily in a moist environment.

9. Phoenix roebelinii (Dwarf Date Palm) removes formaldehyde and xylene from surrounding indoor air.

10. Sansevieria (Snake Plant) removes benzene, formaldehyde, xylene and toluene.

He is currently providing employment to 5 persons. The expected turnover after one year of operations is Approx 13 Lakhs.
Mr. Vamshi Mashetti is the founder & CEO of Agriconnect. He completed his primary education from his native place after which in the year of 2017 he graduated with B.Sc Horticulture degree. After completing his Bachelor’s Degree, he decided to pursue his professional career and started working. He worked for two years in both Government and Private Companies but wanted to do something impactful. He was very much impressed by new age technologies, innovations and startups. After a deliberation with friends and families, he decided to quit his job to kick-start his entrepreneurial journey. While Vamshi decided to quit and take a plunge at entrepreneurship, he wasn’t sure of where to start from. For this, he decided to take a look at his own journey and tried to identify pain-points worth solving. He realized that every year lakhs of Agriculture Graduates are passing out from the Agriculture and Allied Sectors Universities. He observed that there is a huge gap of employment because of lack of practical knowledge in students. Additionally, there is no proper platform for getting knowledge of trainings, events and seminars happening all over the India; unavailability of the mentors to the students for their guidance and lack of online courses or e-books in agriculture adds further to it.

Mr. Vamshi then decided to pursue the problem as it was affecting a very large student population. He initialized by working on an idea to provide an online platform (Website & App) for students through which they will get jobs and internships. Also, he intended to use latest technology in the process of recruitment of agriculture students.

With this idea of building a platform for agriculture ecosystem, Mr. Vamshi joined Agripreneurship Orientation Programme at CCS NIAM, Jaipur. Within the programme, he got directions and guidance from many specialized mentors and subject matter specialists. Mr. Vamshi was also provided with specialized resources where he got in-depth knowledge of developing a tech platform.
Mr. Vamshi also got support from NIAM incubation team which helped him in moving to second phase of a hackathon organized by CII. Furthermore, through hackathon Mr. Vamshi got mentoring from many renowned industry specialists as well as exposure and recognition.

Mr. Vamshi is now in process of building a prototype and Minimum Viable Product which would further help him in validating the core concept behind his startup. He initially wants to launch in the market with his recruitment service added with Artificial Intelligence and later on keep adding additional features as per requirements of the users which includes all of Agriculture Ecosystem.

He is currently providing employment to 45 persons with a present turnover of 50,000. The expected turnover after one year of operations is Approx 17 Lakhs.
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