



Rashtriya Krishi Vikas Yojana-
Remunerative Approaches For Agriculture and Allied Sector Rejuvenation (RKVY-RAFTAAR)

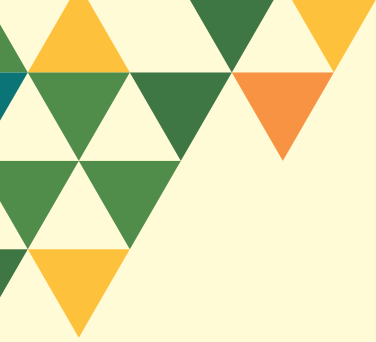


"oasis of agri-startups"

CCS National Institute of Agricultural Marketing (CCS NIAM)

Jaipur, Rajasthan, India

www.ccsniam.gov.in





NIAM Agri - Business Incubator (NABI)



Foreword

Agriculture continues to be an important sector impacting food security of the country, nutritional security of the society and income security of the farmers. More than half of the population depends on agriculture and around 14% of our GDP contribution comes from agriculture. Hence, agriculture is important, not only for development but also for equity in the society.

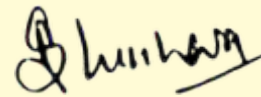
In spite of large number of Scientific Institutions working for development of agriculture, we are yet to see best agriculture at every village and every farmer. There is lot of scope for improving agriculture at grassroot level. Transformation of agriculture to agri-business is necessary for achieving best agriculture. Innovations play important role in enhancing the contribution of agriculture as a system at all levels.

RKVY RAFTAAR programme of Ministry of Agriculture and Farmers' Welfare, Government of India aims at promoting agri-startups through capacity building, incubation and financial support. As knowledge partner, CCS NIAM is working with five states and large number of innovative agripreneurs. First programme of

agripreneurs development at incubation stage covering 20 Agri-start ups representing 11 states is a great encouragement and experience for CCS NIAM. Each one of the agripreneurs is unique and innovative in their own way. Each one provided a new window for serving farmers better.

In this connection, CCS NIAM team documented these innovative ideas in the form of a book to recognize the innovators, to motivate the agripreneurs and spread the message of innovation in agriculture among all stakeholders.

NABI team of CCS NIAM deserves compliments. All the agripreneurs will be treated as ambassadors of innovations in agriculture by CCS NIAM. Hope this book will inspire young minds to innovate in agriculture for the benefit of farmers which is the very objective of this publication.



Dr. P. Chandra Shekara
Director General
CCS NIAM, Jaipur



FOREWORD



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, Bhaglpur, 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.

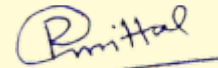
Through the first of its kind two months “Startup Agri-Business Incubation Programme (6th June-5th August, 2019)” NIAM Agri-Business Incubator (NABI) is facilitating agri-business ventures, enterprises and start-ups through handholding by means of expert advice, hands on training cum internship, dedicated mentorship, public and private financing, exposure to existing incubation centers and startup ecosystem as a one-stop solution to establish and scale-up their startups.

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

This book presents the journey of a diversified cohort of 20 Agri-Startups across 11 states in India who are passionate to transform their new and innovative business ideas/models into successful Agri-business ventures.

NIAM Agri-Business Incubator (NABI) feels proud to share that the first cohort of twenty Agri-Startups has graduated on 7th August, 2019. We are sincerely thankful to all those who have contributed in various roles and capacities towards successful execution and completion of this “Startup Agri-Business Incubation Programme. Our startups are our strength and pride. NIAM Agri-Business Incubator (NABI) is committed to provide quality incubation support to all the 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.



Dr. Ramesh Mittal
Director & Chairman
CCS NIAM, Jaipur



PREFACE



STARTUPS



Mahavir
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Moinuddin Mohammed
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Amlan Patnaik
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Vikas Birmha
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Jitendra Yadav
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Tanu Shree Singh
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Vishnu Venkatesh
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Anil Pareek
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Vinod Kumar Goel
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BHAIRAJ ORGANICS PVT. LTD.

"Nutritious milk and its traceability"



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Business Idea: Unique cost efficient model for production of high quality A2 milk, and delivering it across the nation through a unique end to end traceable model.

Milk being essential part of every meal of the day plays a vital role in the overall nutritional value of a diet but with current adulteration by the local vendors as well as the milk packaging companies, it has become impossible to have the desired nutrients in the milk.

Mahavir and his competent team have tried to mitigate the pressing issue of nutritious milk and its traceability with their venture Desigo Milk. Desigo Milk is a reinvention of a 100 year old traditional program on indigenous cow breeds. Desigo Milk has a team from different academic backgrounds coming from various national level institutes who have come together to solve this need of the hour issue persisting in India.



Desigo Milk



Team DesigoMilk has developed a robust ecosystem at remote villages for the production of high quality A2 milk and in order to ensure end to end traceability, they have developed a model backed by technology which can track location, breed, quality and all transit details in real time.

Following are the key problems which Desigo Milk is trying to solve:

1. Adulteration & insufficient availability of natural milk.
2. No traceability of source milk.
3. Depletion in indigenous cow breed - farmers are not motivated for rearing indigenous breed.

DesigoMilk has solved the problem by developing a unique cost efficient model for production of high quality A2 milk, and delivers it across the nation through end to end traceable model. DesigoMilk runs on below model:

1. Unique cost efficient model of farm development which is capable of producing endless high quality A2 milk by integrating large underutilized land in rural areas and working with farmers having indigenous breed. Entire model guarantees production of milk with 100% surveillance setup.
2. “Web-track” invention in supply chain- Unique model for precisely tracking back the source of milk. This model is developed by integrating various technologies which will enable a user to track all production to in transit movement of milk and check its nutritional value every day. DesigoMilk has the following results:
 - ❖ Highly effective model for restoring and developing indigenous cow breed.
 - ❖ Increase in farmer's dairy income by 30%.
 - ❖ Urban population getting high quality milk at very competitive price.

DesigoMilk is expanding their operations to employ around 80 people in the next business year resulting in an expected turnover of Approx Rs. 4 Crores.



A farm of Desigo Milk

AIKYA ORGANICS PVT. LTD.

Cultivate chemical-free food through zero-budget natural farming



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Business Idea: Aikya Organics, an enterprise that creates market linkages for women-led farmer producer organizations who are cultivating chemical-free food through zero-budget natural farming.

Born and brought up in a small village in Uttar Pradesh, Jitendra witnessed how agricultural farming has changed from being economically viable to being unviable source of income. He observed the drift in his own house wherein his grandfather was a proud farmer to his father finding agricultural farming not a very economically safe venture. He himself soon realized that farmers were spending way more than what was required on production. Plus with addition of hazardous chemicals and pesticides the yield was getting unsafe for consumption.

From a rural boy who studied in Government schools to completing his MBA from IIM-Lucknow, Jitendra developed his desire to work in the field of Agriculture. His zest took him to Copenhagen Business School-Denmark wherein he got an opportunity to travel to 18 countries of Europe as an exchange student which made him get an answer to his longing question “What do I want to work for? That introspection led to a series of decisions, which later took the shape of “Aikya Organics”.

Aikya organics is trying to create market linkage for women-led farmer producer organisations which are cultivating chemical-free food through zero-budget natural farming. They are working in Kanpur & 5 other districts of Uttar Pradesh with 1200 women farmers, where they are growing organic food. Aikya coordinates with the farmers at 4 levels: training of the farmers to grow organic food, conserve and promote indigenous seeds, aggregate & process their produce in their Farmer's Producer Company and finally sell organic food in the market in B2B and B2C format. Their mission is to create an alternate Agri value chain by promoting zero budget nature farming among women led farmer's groups; helping them in food processing; and providing them a market space in which they can grow, trade and consume chemical-free food.



Range of products developed under brand name “Dhaanika”

A real progress towards achieving a secure and sustainable farmer income requires a multi-pronged approach that would intervene from seed-level to marketing the produce. As a seed to fork company, Aikya Organics intervene at multiple levels with the farmers. Aikya Organics undertakes the following keys activities:-

1. Train the women farmers on organic farming.
2. Organize them into Self-help groups and install seed banks & tool banks.
3. Organize them into Farmers Producer Organization (FPO).
4. Install processing & packaging unit under FPO (Owned & operated by women farmers).
5. To sell the packaged organic products under “Dhaanika” Brand in B2C and to bulk buyers in the country.

Aikya Organics have impacted 6000 lives with a network of farmers and aims at impacting more than 20000 in the coming next 3 years. Currently having 100+ families as their regular customers Aikya is in process of setting up a brand store in Kanpur city. The store will augment our reach to urban families for B2C sales. Aikya Organics plan to reach 1000 families. As a B2C strategy Aikya Organics plan to launch more brand stores (Company owned and franchise stores) in Kanpur and Lucknow with 1000-1500 family base for each store on monthly basis and with more investment plans in action, Aikya Organics want to focus more on building its B2B customer base in Tier-1 cities like Delhi NCR, Bangalore, Hyderabad etc.

Targeting a turnover of Rs. 50 Crores in the coming 5 years Aikya Organics will be providing employment to around 5000 women in the targeted years.



Team Aikya Organics with partner FPO members

ASM KRISHIYOG AGRITECH PVT. LTD.

Agricultural supply chain



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Business Idea: Increase the profitability of small farmers by integrating four different services: input supply, institutional credit supply, extension services and marketing service.

Ashwin Mahavadi is the founder of an agritech startup Krishiyog. He pursued his B.Tech from IIT Guwahati and his Masters from UC Berkeley. Thereafter he worked for over 6 years as an Earthquake Engineer of Nuclear Power plants in Southern California. His resolve to do something with a huge social impact has seen him move back to India and foray into agriculture.

As an avid organic consumer, he observed that there was a gap in supply of authentic organic fresh produce in Hyderabad. Thereupon, he started Advaita Organics to supply organic fruits and vegetables to consumers directly. As sourcing became difficult, he started working with farmer groups to help them adopt sustainable agricultural practices. This brought him closer to the farming community and the underlying structural problems. With a renewed resolve and better understanding of the agriculture ecosystem he then started Krishiyog. He believes that one of the major drawbacks in addressing the agrarian crisis is the reductionist approach adopted by policy makers and NGOs.

Vision of Krishiyog is to increase the profitability of small farmers by integrating four different services: Input supply, Institutional credit supply, Extension services and Marketing service. Ashwin has also observed that given the very distinct nature of the problems posed by scale in Indian agriculture, collective strengthening is the only forward. To this end, Farmer Producer Organization (FPO) seemed to be an ideal vehicle to reach out to small farmers. After visiting quite a few FPOs across the country and understanding the low success rate of these ventures, he set a medium-term goal of making FPOs viable.

As part of the above effort, his team built software that besides working as an ERP to the FPO, it helps local entrepreneurs in collecting data from farmers and providing integrated services to farmers. He now is working with FPOs and

KRISHIYOG

individual farmers across Karnataka, Maharashtra, Andhra Pradesh and Telangana to provide marketing service to the farmers. Krishiyog procures fruits straight from farmers and post-processing, supplies them to organized retailers in Hyderabad. Their team is now expanding and they are setting up collection centers across the four states. Going forward, they wish to provide other services to their existing farmer base and integrate them using the software.



Meeting with Chief Executive Officer of FPOs.



Field visit to a Farmer at Karnataka.

Ashwin is providing direct employment to around 10 people and is expecting a turnover of around Rs. 1.5 Crores after one year of operation.

SWAZEN ORGANIC PVT. LTD.

Promoting market for the indigenous local crops like Beetroot, Karaundas, Carambola, etc and making a value addition to such crops



SHALU NATHANI

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🎓 Master of Business Administration

“A Healthy Way for a Better Tomorrow”

Business Idea: Swazen is an effort to bring people back to their roots by focusing on innovative organic food products that fuel passion for healthy lifestyle by reintroducing traditional crops like beetroot, Carambola and Karandas, etc., in their regular diets which serves as a healthy way to eradicate the problem of nutrition imbalance.

Swazen is a combination of two words Swa (swasthaya & swad) and Zen (utmost power of satisfaction). It's an effort to bring people back to their roots by focusing on innovative organic food products that fuel passion for healthy lifestyle by reintroducing traditional crops like Beetroot and Karaundas in their regular diets which serves as a healthy way to eradicate the problem of nutrition imbalance.

Hailing from a small town of Kushinagar in Uttar Pradesh, Shalu Nathani experienced that no boundaries can stop you if you aspire to dream big and turn it into reality. Something very positive inspired and motivated her to take a step further in order to do something excellent.

Her personal experience changed her perception and thinking which eventually led to an initiative. Her mother was suffering from lack of hemoglobin and doctor suggested her to eat beetroot and iron supplements. It was not feasible for her to consume it very easily due to its taste. And this encouraged her to take an initiative to let people aware about its benefits and create a healthy and tasty alternative. So, she created an alternative to the existing food chain in the form of organic confectionery products.

Swazen aims to promote indigenous local crops like Beetroot, Karaundas, Carambola, etc., for the economic and food security of small and marginal farmers along with providing healthy food options to masses. These crops are low water intensive, less labor intensive and pest free crops and are rich in nutrition and antioxidants. Swazen incentivizes farmers and also trains women to process the crops and then connect them to high value markets. They work with a holistic



approach of Conservation-Cultivation-Commercialization-Promotion.

Swazen is bringing 100% pure, organic and enriched foods through a process that's natural in character and rooted in the sound and scientific methods of age-old traditions and unique from what is already available in the market in the form of confectionery products like jam, jelly, salsa and candies of beetroot, karandas, carambola etc. by inculcating traditional method using local Indian crops.

Swazen as a company encourages sustainable grass root level initiatives to create wealth for the community i.e., farmers and rural people leading towards rural development. Healthier human resource would give positive economic and societal outcomes. Their products are good friends of our heart and richest in health promoting antioxidant, nutrients and free from pesticides and formalin. Since these crops are the least cost intensive crops which are widely ignored, value addition to this crop can generate a profitable income for its farmers.

Available in affordable price range and exciting flavors, products of Swazen are being hugely appreciated. Their commitment is making changes in the lives of people by managing the environment; protect health and secure livelihoods and economic security for all. Shalu is presently providing employment to approximately 20 people with an expected turnover of around Rs. 15-20 Lacs in the next year.



EF POLYMER PVT. LTD.

Eco-Friendly Water Retention Polymer Startup



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Business Idea: To create a natural super absorbent polymer which is mostly used for retention of water. It is a substance which absorb high quantity of water and store it for very long time and supply it to the trees and crops when require also provides enough moisture to the soil causes less requirement of water and high production with limited water supply.

“Your limits- it’s only your imagination”

The above statement suits perfectly with the way Mr. Narayan Lal Gurjar and Mr. Buddi Prakash Gurjar solved the problem that they came across. With an aim to resolve the issue of water scarcity, EF polymer works as an eco-friendly water retention polymer. Initially bootstrapped with funds from their family and friends, this Udaipur-based start-up makes a super absorbent polymer designed to absorb water in the soil, retain it for a long time, and supply it to the crops on requirement basis. The product is natural, and is made to preserve the integrity of the soil.

Explaining the working of the polymer, team EF Polymer said “We made the product out of bio-wastes that not only prevent soil and water pollution, but also gives high nutrition to the plants by slowly disintegrating in the soil”. The basic formula behind the polymer is “maximum production with minimum use of water and fertilizers”.





Application of EF Polymer's flagship product "Fasal Amrit"

Initially testing the utility of the Polymer at local level, Narayan Lal introduced the polymer at his own farm and to the neighbouring farms. Realizing the competence of the product, EF Polymer soon became an obvious choice for farmers at local level. Its water-absorption properties, makes it ideal for use in water-scarce areas. The start-up is currently supplying its product to nurseries, farmers, vertical agriculturists and horticulturists. In the coming time, the start-up aims at reaching more number of farmers based on their agricultural requirements.

With the developed Eco-Friendly polymer, the start-up focuses on the water-retention facility of the product which absorbs water in huge amount and stores it for long time and then releases water slowly allowing the plant to get continuous supply of water. It works as an anti-drought mechanism and reduces the water requirement of plants. Generally, a farmer irrigates his field on every third day for high value crops, but

with the EF polymer, a farm only needs to be irrigated once in every six days. It is eco-friendly product and causes no bad impact on crops as well as soil. So it is completely pollution free and easy to use and gets disintegrated easily in soil.

By providing employment to 70 people, Buddhi Prakash is focussed to achieve a turnover of Rs. 75 Lacs by next year.

PRAGUNA SOFTWARE TECHNOLOGIES PVT. LTD.

Corporatization of agriculture



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Business Idea: Hire My Farmer incubates the farmer in the field of Agriculture by reducing the burden to the nation and encourages the farming as a corporate profession

Moinuddin, Founder of “Hire My Farmer” has given his services to reputed companies and worked on Integration solutions for around 10+ years for companies like Infosys, IBM, Iron Mountain services.

When he was funneled up with responsibilities on his daily routine IT Job in the year 2015, he went through the old newspaper during his shift job in his leisure hours that triggered something in his mind and realized that there is “No IT systems supporting the agriculture industry”. He started digging about agriculture ecosystem, farmers and the way it is structured to bring the service management layer for the Farmers and Agriculture Industry.

Root cause analysis was done to the farmers' problems and solution was identified in the year 2016 and he even secured the solution by getting IPR protection over it. He soon realized that a disruptive change is actually needed for the traditional protocol of farmers where services have to be modernized and integrated for a better life of Agricultural sector. Later the wireframes were designed with a strong Business Rule Engine which solves three problems:-

- ❖ Cost of Farming issues
- ❖ Complex Middlemen eradication
- ❖ Individual customer access to farmers issue

Impact of the Solution provided by Moinuddin:

- ❖ Pre-production can be planned with Retailers/Manufacturers.
- ❖ Geographical information system on Farmers operation will actually makes ease of operations for involving multiple companies/ departments to work on different Research and development operations for future.
- ❖ Farmers profile showcased to public view on his expertise of farming and



Hire
My Farmer

his experience, it will be maintained along with the report of the land, profit of crop's, crop's yielded investment return's, quality of crop's etc.

- ❖ Farmers represents their expertise on their profile and are free from boundaries to get funded from any individual on their cropping grid/themselves for the growth on the cropping investments.
- ❖ This strategy overcomes the burden to nation in order to handle the situation of the farmers in the nation to balance crisis.
- ❖ Quality of the seed inputs will be funneled to the farming lands for better quality on their productivity depending on the production plan and MSP values will be achieved.
- ❖ Updated real-time information like health of the crops, yield, and farmer details can be tracked and dashboard's can be sourced to the Agriculture dependent systems or departments for provisioning of data.
- ❖ Reducing the operational burden for the crop dependent business by making the logistics and warehouse management ease to access and manage.

Pursuing what has been planned “Hire My Farmer” will employ 4 non-farmers per village and are in processing of releasing offer letters for the farmers. With this they want to target minimum 10,000 productive farmers in upcoming 1-2 years. Currently they have targeted Andhra Pradesh and are planning to expand to Rajasthan, Uttar Pradesh, Karnataka, Tamil Nadu, and Telangana in next 1-3 years. Hire my farmer is targeting to employ 10 people as part of its workforce and is targeting an expected turnover of Rs. 17 Crores.



Snapshots of developed technology

BEWUST FOODS

Manufacturing 100% whole millet snacks



TANU SHREE SINGH

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Business Idea: Making 100% millet (Bajra, Jowar etc.), based convenience foods like cookies, cakes & brownies using natural fats, and regulated amount of sugar/salt having no chemical loads.

Tanu Shree Singh from Lucknow, came to Rajasthan for her Masters, pursued her government funded research on Bajra (Pearl millet) from Rajasthan Agricultural University and it was during this phase of life that she developed profound interest in sensible nutrition through millets. Tanu holds a Gold Medal and National Fellowship in Foods and Nutrition from Maharaja Sayajirao University of Baroda.

She is a research enthusiast and is an avid reader of Clinical Nutrition.

While living in different cities for work, Tanu faced lot of difficulty in finding safe and healthy snacks while her nutritionist eyes use to scan all labels, and food claims on snacks available in market. So the thought of solving this issue, passively seeded during that time, but it was when Reema (co-founder) attended a meet of “i-start Rajasthan” that these two passionate women decided to professionally pursue entrepreneurship, and thus happened Bewust Foods.

Bewust is a Dutch word which means “Consciousness”. Through Bewust, transparency and safety in packed foods and consumer awareness is conveyed. Social media channels of the company, keep informing the consumers not only about the products but general nutritional facts as well. Providing just calories with taste is something everybody is doing, creating a food product which actually fulfills the nutritional requirements without putting human body at the risk of metabolic diseases is certainly a challenge, and therefore it is Sensible Nutrition that Bewust is aiming not merely nutrition.

In Indian market where extreme abuse of refined flour, artificial flavor, and chemical is rampant, working people are more and more prone to metabolic aberrations now. Even if the product is not made up of Maida, it will have some unsafe fats or other toxins which is eventually increasing the cancer incidences.



By purchasing millets directly from the farmers and creating healthier ready to eat snacks, Bewust is reducing dual burden. Daily intake of millets will help in reducing risk of diseases like Diabetes, Hypertension, Cardiac problems and even cancer in the country. Also local farmers will be encouraged to grow low cost intensive crops like Pearl Millet and Sorghum.

After a thorough R & D, Bewust team developed cookies, brownies, and cakes using 100% millet flour with safer fats and regulated sugar/salt. To not become just any other industrial packed food item Bewust follows a “close to nature” philosophy. This is why there are no industrial fats, sugar syrups, chemical preservatives or any possible toxic agents used in the products. But, Taste is the Hero of Bewust, because mere nutrient profile will not stand a chance in India, given the rich taste buds Indians possess.



With women being their preferred choice for employees, Bewust Foods is expecting to employ around 15-20 more employees and is targeting an expected turnover of Rs. 1.3 Crores.

AARAMBH AQUAPONICS

Combination of Aquaculture (raising fish) & Hydroponics (soil-less farming)



TEJAS RAJVIHAR REDDY

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Business Idea: They design, build and operate Aquaponic Farms and give Aquaponics Design and Farmer trainings

Coming from a drought prone region, Rain Water Harvesting was the only option available to keep the agriculture alive and hence Tejas started hunting for methods to find water efficient and nature friendly ways of producing food and as a result “Aquaponics” was selected. Basically a combination of Aquaculture (raising fish) and Hydroponics (soil less farming) Aquaponics allows fish and plants to grow together in one integrated system. The fish waste provides an organic food source for the plants, and the plants naturally filter the water for the fish.

At Aarambh Aquaponics, Tejas has designed, built and operates efficient low-cost Aquaponic Farms and conduct Aquaponics Training Workshops. Major benefits of Aquaponics include superior quality of produce, consistent supply at fair price, a range of fresh vegetables and a chemical free produce. Aquaponics is adaptable to following threats to Agriculture:

- ❖ Decline of Soil Fertility
- ❖ Excessive usage of Pesticides
- ❖ High Water Requirement
- ❖ Decline of Traditional Agricultural Wisdom
- ❖ Climate Change

Apart from working extensively on Rain Water harvesting Tejas under Aarambh Aquaponics, has built a pilot rooftop Aquaponics system in a village in Anantapur, Andhra Pradesh. He is currently constructing a scalable and replicable Model Farm and also developing Aquaponics Training Curriculum in English & Regional Indian languages.

AARAMBH AQUAPONICS



Pilot farm of Aarambh Aquaponics



Production at pilot farm of Aarambh Aquaponics

Tejas has plan to employ around 10 people in his business operations with an expected turnover of around Rs. 25 Lacs.

GO NATURO AGRO FOODS PVT. LTD.

Agricultural supply chain : food processing and marketing of Agri-produce



SWAPNIL SHARMA

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Business Idea: Fruits, Vegetables & Grocery through app based platform on E-Rickshaw.

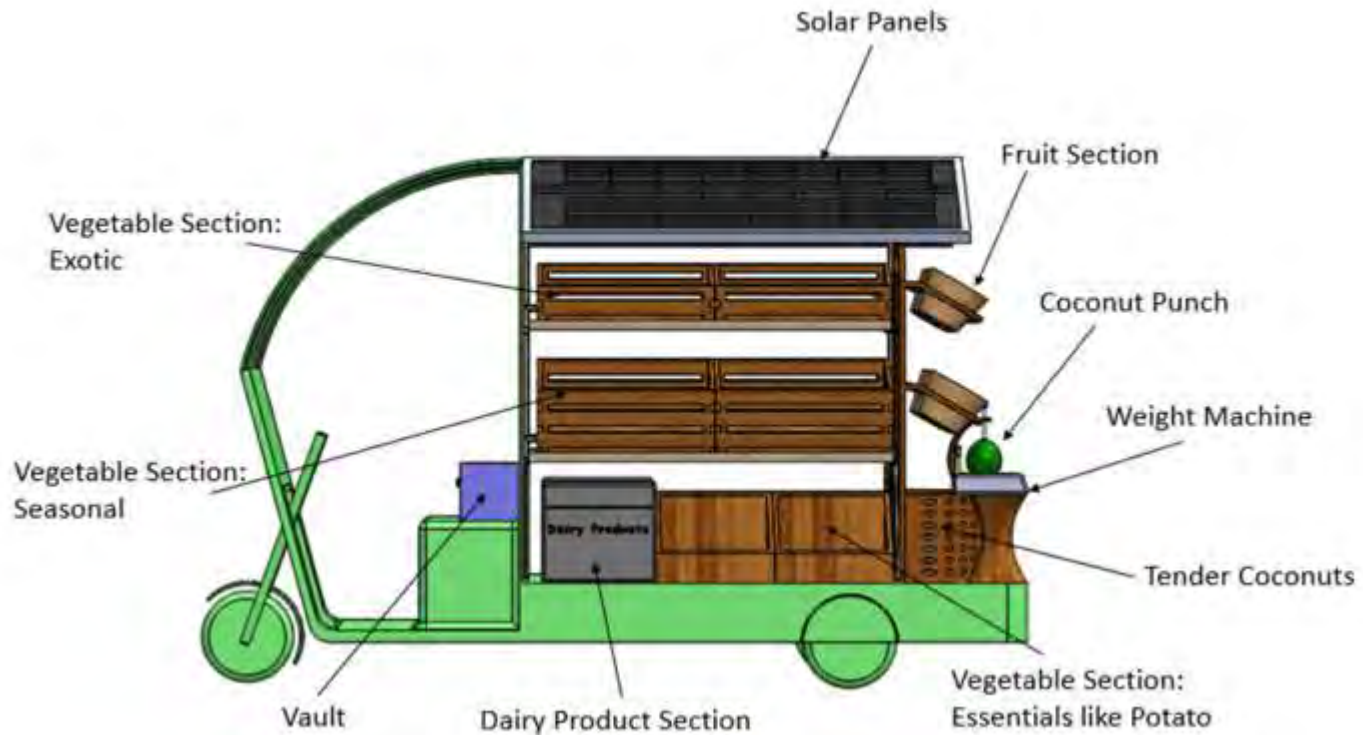
Aiming to grow company on QPAC - Quality, Price, Availability & Convenience, “Go Naturo Agro Foods Pvt. Ltd.” is an Agri-business company managed by team of experienced & dynamic Entrepreneurs who believes in ideas & their successful implementation. They started the company in 2013 and started doing business from 2014 onwards.

They started first with Fresh Category (Fruits & Vegetables) and started procurement from Farmers and Terminal Market. They have provided solutions to Retail chains and have supplied Exotic and other Indian vegetables but in packaged form. They have an experience of exporting melons to gulf countries as well. They have also explored the HORECA segment wherein they have supplied Fruits &Vegetables to premium hotels in Jaipur viz. ITC, The Lalit, Hotel Mansingh etc.

Last year they have forayed into Grocery, wherein they tied up with a company based out of Gwalior and started selling Wheat Flour, Mustard Oil, Sugar etc. in their Brand. In the recent times they have brought out packaged drinking water under their own brand “Go Naturo Jal” and simultaneously have tied up with a company named NextOn to market frozen products.

Describing the product and the service, Swapnil says, the very Project of E-Rickshaw came to his mind while looking at the on-line chains where they have high transportation cost and sometimes the cost of transportation exceeds the actual cost of the product. Moreover, there are problem related to freshness and assortment at their end. So, by looking at all these issues they came up with an idea of mobile Electric Rickshaw. E-Rickshaw Model (Electric Rickshaw powered with an on-line GPS enabled Mobile App; which will help us selling F&V along with Grocery & Dairy directly to our customers or institutional clients).

All in all the idea is to deal directly with customers by cutting the cost of



Model picture of modified E-Rickshaw for selling of Fresh F&V along with Grocery items directly to the customers (through Hub & Spoke Model).

transportation. With the above idea in action, Swapnil aims to employ 20 people in his team and is targeting a turnover of Rs. 1.26 Crores for the next term.

KISAN TREAT AGRI TECH INDIA PVT. LTD.

Digital platform based on "Soil2Sell" model for Farmers on ground assistance and transparent market linkage



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Business Idea: "Soil2Sell" field assistance and Transparent Market Linkage: current approach in Rajasthan (Jaipur, Kotputli, Hanumangarh, and Ganganagar) & Haryana (Gurugram)

Parikshit is an agripreneur and started his entrepreneurship journey with a software company to develop latest technology solutions to improve efficiency in manual business processes. He successfully completed Irrigation management project in Rajasthan & Dairy farmers automation project in Haryana. While working on some technology-oriented farmers' and upliftment project, he became curious towards Agri-Tech sector. He started traveling in rural India to understand ground level problems of the agriculture sector and how a farmers can be converted into an Agripreneur to build a sustainable agribusiness ecosystem.

He passionately spent around 13+ years in rural India, traveled around 15 states, interacted with approx. 15,000 farmers and finally he came up with a sustainable agriculture establishment project named "Pranam Kisan".

Pranam Kisan majorly focuses on objectives like:

- ❖ Organizing "The Middleman" in Agri supply chain, instead of eliminating them.
- ❖ Unique Agri-wallet availability and performance based economic credit rating of all the stakeholders i.e. providing financial assistance to farmers.
- ❖ Digital platform for all Agribusiness stakeholders to create a Sustainable Agriculture Eco-system.
- ❖ To integrate farms, farmers, vendors/traders & customers at a common platform to organize the agribusiness sector.
- ❖ To eliminate limitations of the traditional supply chain by technology and



PranamKisan started their first “Kisan Pool”
2.5 acres farm based out at Gurugram.

information to farmer with financial assistance and direct access of farms to consumers to build a sustainable agriculture ecosystem.

Pranam Kisan is about to start its operations in Jaipur in coming months and have already started working on ground with farmers in Hanumangarh, Ganganagar, Kotputli and Bassi area of Rajasthan. In next 3 years they will be expanding in 5 more states (Chandigarh, Ludhiana-Punjab, Indore-Madhya Pradesh, Lucknow-Uttar Pradesh and Himachal Pradesh).

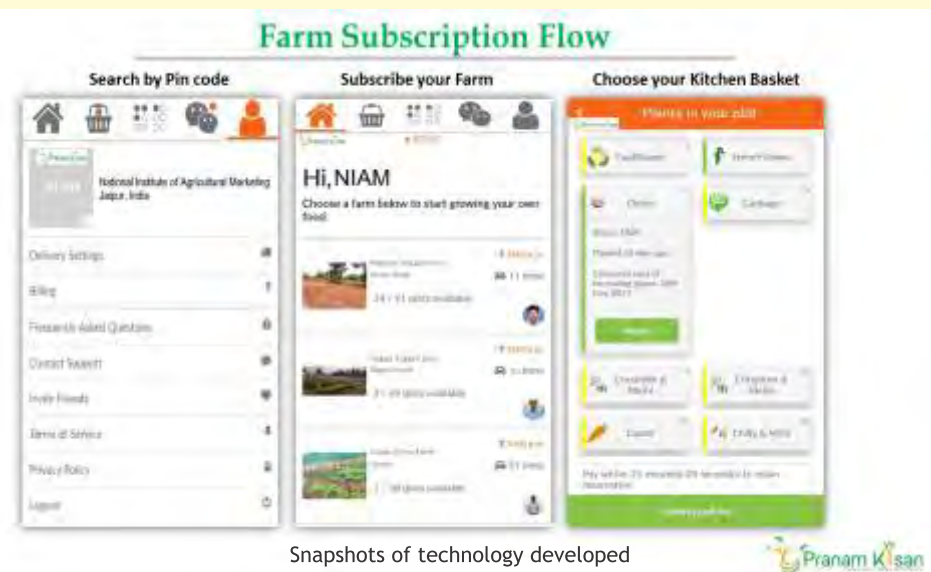
Pranam Kisan will be providing employment to around 70 people and their targeted turnover for the coming year is Rs. 1.32 Crores.

strengthen the existing agribusiness stakeholders.

- ❖ To provide assured income to Farmers with Agri Employment Plan.

Pranam Kisan aims to provide access to affordable and quality service to farmers as well as consumers in India. With these inputs every individual farmer will be trained and will be made aware of advanced agricultural practices and holistic farming approach. Rural Agri Support Centers, Rural Call Centers, Big Data Analysis, and Small-Scale Agri processing units will create new employment opportunities at village level and simultaneously individual farm revenue will be increased substantially.

Pranam Kisan is linking every individual process of Agriculture on a single digital platform to minimize demand and supply gap, provide authentic and refined



Snapshots of technology developed



NUDGE TECHNOLOGIES PVT. LTD.

Advisory services for farmers through android app



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🎓 Bachelor of Technology

Business Idea: Nudge makes international trade easier and accessible to farmers, using data and technology. We are building a supply-driven demand company, which will give producers a push towards better markets and help them earn higher incomes.

With international trade taking leaps and bounces, it is the need of the hour for Indian farmers to actively participate in the international arena with their products and hence “NUDGE” comes to the rescue. By making International trade accessible and easy for farmers, it is the vision of the Nudge to help producers earn the best value of their produce.

By collaborating with the Farmers Producer Organizations (FPO), Nudge has been able to export through its tech-first market identification and fulfilment platform in an effort to sell high quality products at higher prices.

Global trade barrier has been leading to farmers being unable to practice trade at international front. Many importing markets impose stringent standards for agricultural products (for example pesticide content etc.) which are difficult for Indian producers to adhere to. Farmers have been losing out on opportunities to export because of the entire process being complex and risky. Such high barriers cut the cord for farmer to better markets which are willing to pay higher income for their produce.

Nudge has been developed by evaluating existing data and real time factors to built customized export plans for producers with main focus being on high income. The Artificial Intelligence of the Nudge analyzes various contributing factors for trade and serves a platform with an easy YES or NO decision for producer to make. Nudge aims in having farmers as the beneficiaries of the product with having minimum quality standards to export.

Nudge's fulfilment platform identifies the best possible markets to export to, identifies the buyer, negotiates the prices and fulfils the transaction by handling all the logistics which includes: transportation, customs, insurance, traceability,

packaging, and labelling. Advisory services for farmers are available through WhatsApp Chabot, phone number, web portal or android app.



Screen-shot of tech platform



Team Nudge at FPO office

Nudge has aimed its pilot market in Kandhamal, Odisha and is currently working with foundations and FPOs from various areas including Kanpur, Jaipur, and Karnataka. Team Nudge believes that technology and data-driven decisions will bring process innovation in the export sector and drive higher incomes for farmers.

Nudge technologies will be providing employment to around 8-10 people and is targeting a turnover of Rs. 40 Lacs by next year.

FYSI WORLD

Eco-friendly products from Banana fiber



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🎓 Master in Technology

Business idea: Converting natural banana fibres into eco friendly products by extracting the fibre from the banana trees.

With a mind set to contribute towards the society and with a thought of making an impact on public at large, Vishnu started working with his mother who has been a Jute bags manufacturer, towards real life problems relating to education, healthcare and skill development. And soon he realised that Agriculture is the sector where in he needs to spend his efforts or through which he can create an impact. Considering the fact that agriculture is the major practice followed as means of earning in most of the rural regions in India, Vishnu started developing eco-friendly products from banana fibre.

Vishnu evaluated the statistics of banana cultivation and came to the conclusion that banana is an ancient fruit being cultivated all over the world. India is world's largest banana producer with an annual cultivation followed by China, Philippines, Ecuador and Brazil. India accounts for 22 percent of the global banana production. And banana fibre is a major substitute to the pulp industry. With so many beneficial characteristics, this fibre has gained popularity in the fashion industry as well. Moreover, the fibre is eco-friendly and biodegradable compared to other synthetic fibres.

Brooding over the problem Vishnu came to the conclusion that, farmers who cultivate banana have no use of the tree once the fruit is harvested from the tree and those trees are cut down and dumped to make the farms clean & ready for next harvest cycle and this cleaning process of farm increases farmer's expenditure. In India the banana cultivation is as high as of 830.5 thousand hectares & total production reaches around 29,779.91 thousand tons and making India number one in global production.

Working upon this problem, Vishnu at "FYSI WORLD" concentrated on converting these natural fibres into eco-friendly products by extracting the fibre from the trees and making it suitable for its use in eco-friendly manner. His major focus currently is on the use of this fibre for apparels, including fabrics suitable for

FYSI WORLD

shirts, sarees & other handicrafts. As banana fabrics is soft, lightweight, skin friendly and can quickly absorb moisture. Banana looks like linen and can give a tough competition to linen in the fabric sector.

Talking about milestones reached Vishnu has been successful in extraction of banana fibre, handmade banana yarn, banana cotton yarn, banana jute yarn, banana fabric handmade, banana cotton fabric, banana sarees and banana jute non-woven.



Aiming to enter the market soon, Vishnu with FYSI World has targeted to create a sustainable ecosystem where a banana cultivating farmer can earn 5000 rupees per every harvest, and such cultivation should help in improvement of rural women empowerment, and weaver's income, gradually leading to increase in utilization of eco-friendly products. Vishnu will be employing 22 people in his team and is expecting a turnover of Rs.1.7 Crores for the next year.

PRIYA TRADERS & EXPORTS

Value added goods, manure, and construction materials from Coconut Husk



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🎓 Master of Science

Business Idea: Coconut husk processing into husk chips, coco peat, blocks, grow bags and husk powder boards for constructing insulation house.

Understanding the contemporary environmental issues like raise in pollution, lack of Agricultural waste management Senthil looked for a green solution for such problems and found his answer in material from the coconut husk.

At Priya traders & exports, they use the Agricultural by-products (Biomass) for creating value added goods, manure and construction materials from coconut husk. This way they minimize the artificial fertilizers and over use of plastic materials which eventually end up in adding to environment pollution. For increasing the farmers' income in sustainable way, they have come up with the project which produces organic fertilizers from Agriculture Biomass waste and is carried out by small farmers groups and self help groups. This also helps in women empowerment in rural and urban areas and contributes to sustainable income and employment to young skilled and unskilled labours. Major focus of the initiative is on the below products:-

1. Manure from organic farm waste like coconut husk, coir pith (coco peat), coconut Husk chips, grow bags and coconut biomass from leafs for soil less organic horticulture.
2. Construction and packing materials from coconut husk and shell (medium density boards).
3. Bio degradable, disposable plates to eliminate the plastic items.
4. Panchakavya from cattle farm for organic agriculture and health care products.
5. Coconut husk and biomass based building materials as an insulator in farm houses and organic storage facilities.

The project aims to demonstrate the potentials of (fresh) coconut husks as raw

PRIYA TRADERS & EXPORTS



material for the production of environmentally safe and high performance construction materials. This can be achieved by retting procedures or mechanical decortications. The residual pith, however, contains a large amount of lignin, which can act as a thermosetting binder resin for the coir fibers.

The project area is located in Coimbatore district, extends over Pollachi South block, Tamil Nadu. Currently they are focusing on creating cluster of self help group mainly from the nearby villages and create common facility center which contains modern machinery and processing facility. This will create employment in this area and women empowerment in Agriculture organic fertilizer and organic growth medium and horticulture industry.

The existing range of coir products produced in the Project are: Coir Husk chips, Coir pith and Growth medium Nutrient Management, Bio fertilizers. Going ahead they would like to promote organic inputs on Farmers Field by Husk based Manure, Vermi-compost bio fertilizers. The biomass compost of the coconut tree also can be used to integrate manure management and the husk based growth medium which is rich in phosphate, organic manure (PROM) and Vermi compost which is very good for the Phosphate solubilizing and potassium mobilizing Bio Fertilizer. It has nitrogen fixing property as well. It can be made into a variety of growth medium for Horticulture and Agriculture crops. It's proven that these unique properties of the husk chips and coco pith can add value to the rural employment and women empowerment. The production of virgin coconut oil and the women employment is their future milestones.

Working with a team of 16 they have been able to gain a turnover of Rs. 15 Lacs and are expecting an increase upto Rs. 25 Lacs in the coming year.

M/S SRI MITHRAA MILLETS

To increase the production of the millet



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Business Idea: Traditional Millet food Mixes, Millet Cookies and Herbal Millet foods.

Coming with an experience of 25 years Mr. K. Suresh, the founder of the startup M/s Sri Mithraa Millets aims at achieving a green revolution by making millets a part of everyday meal for the contemporary world. India has the dubious distinction of being the world's diabetic capital; recording 72.94 million diabetic patients in India. Kerala, Tamil Nadu and Punjab according to Endocrinologist and dialectologists have the largest no. of diabetic patients. To solve the problem of diabetes in India and as an agricultural graduate to contribute his share towards society Mr. Suresh took an initiative to create health awareness about millets and their advantages.

Eating millets can control diabetes, they are gluten free, rich in protein and fibrous and rich in vitamins, calcium iron, magnesium and zinc. Millets like jowar, ragi, bajra were an integral part of an Indian diet earlier but now they have lost market. These millets are introduced back in the market and come with ready to make packets to cater larger customers.

Mithraa Millets' mission is :

1. To create an awareness of health consciousness in young generation.
2. To motivate the farmers to increase the areal production of millets. (Major/ minor millets).
3. Make healthier you and healthier world.

They purchase the millets from small and marginal farmers and self help group and employers at Mithraa Millets do the processing, sorting, grading, packaging and marketing. Thus they help the farmers in employment and at society level to create health awareness about diabetes and its impact

SRI MITHRAA MILLETS



Mithraa Millets is currently working with 8 employees with current turnover of Rs. 20 lakhs and is expecting a turnover of Rs. 25 Lakhs for the coming year.

KRASHAK - KALPMERU SOLUTIONS PVT. LTD.

Multi-vendor E-commerce platform for buying and selling Agri and allied products and services



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- 👤 Company Secretary

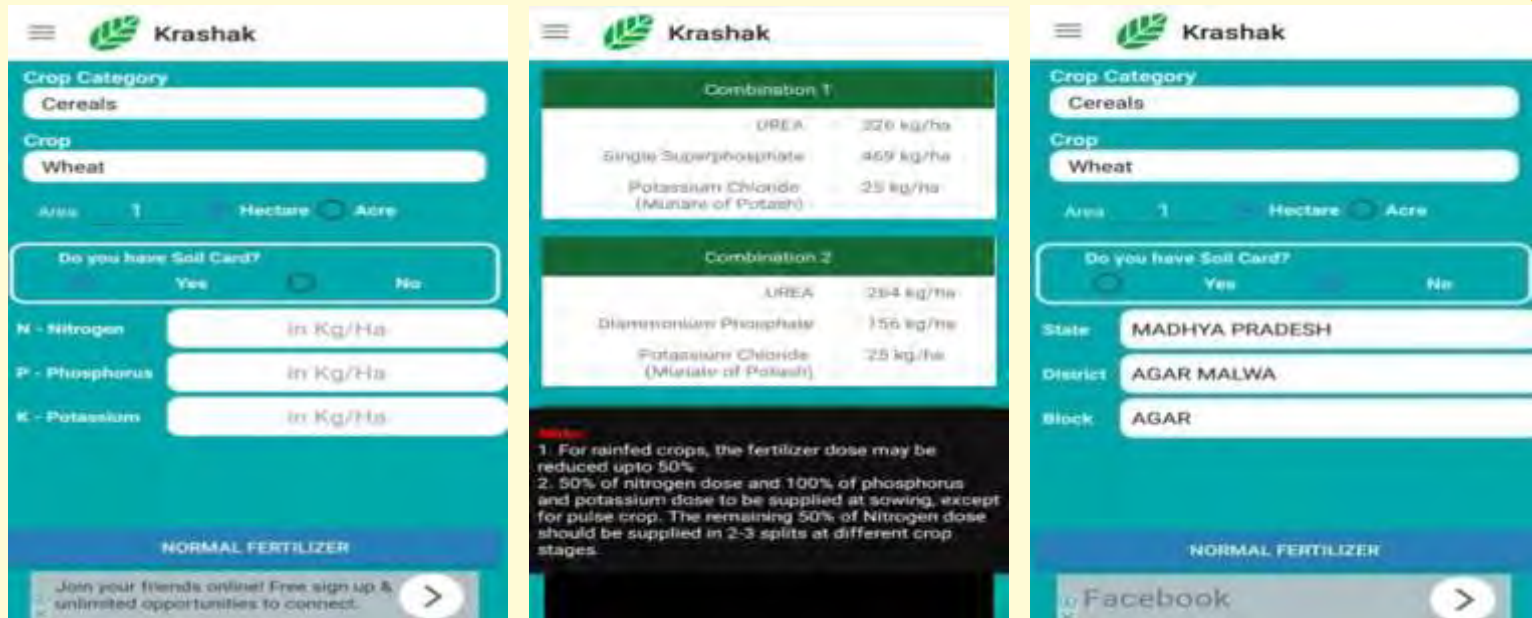
Business Idea: E-commerce Integrator Platform for agri input to provide agri input product & services to farmers at their doorstep at competitive price

Aiming to resolve the severe unrest amongst the farmers' community in India, Anuradha got hold of the grass-root problems that a farmer faces in making benefit out of his harvest. As per her evaluation, there are multi factors attributing to this unrest, ranging from poor advice on fertilizer dosage to understanding of right time of sowing. Anuradha has observed that farmers have been unable to make profit out of their yield even after having a proper yield because of post harvest infrastructure he lags behind in the area of warehouses, cold storage facility and absence of direct marketing infrastructure. Problems like unawareness of value addition & processing facilities and fund management forces farmers to sell the produce at a very low price or almost in loss.

In such circumstances, there was need of a model where farmer gets the price of value added products, without the hassle of marketing or post harvest management and at the same time get inputs at best price with free agro advisory. A physical as well as an e-platform was required to build the value and supply chain, which removes middlemen and brings maximum benefits to farmers.

It is at this point of time that Anuradha Singhai founded “KRASHAK” in the form of mobile app, the pioneer fertilizer dose calculator with inbuilt soil health data of the whole country at block level in 2017. Later on, she moved on to farmer led Value and supply chain management and founded Kalpmeru Solutions Pvt. Ltd in 2019 with the same brand name- KRASHAK.

KRASHAK today is pioneer in farmer led disruptive supply chain, where farmers bring in their produce and without transferring the ownership (selling), get it cleaned, weighed, sorted, processed, warehoused/cold storage and sells directly to buyers. The most important feature is the immediate finance and additional incentives on value added products.



The image displays three sequential screenshots of the Krashak mobile application interface, which is designed for farmers to input crop details and receive fertilizer recommendations.

Screenshot 1 (Left): Shows the initial input screen. The user has selected 'Cereals' as the crop category and 'Wheat' as the crop. The area is set to 1 Hectare. A 'Do you have Soil Card?' section has 'No' selected. Below this, there are input fields for Nitrogen (N), Phosphorus (P), and Potassium (K) in Kg/Ha, all currently empty.

Screenshot 2 (Middle): Displays fertilizer recommendations for the selected crop. It shows two combinations:

Combination 1	
UREA	320 kg/ha
Single Superphosphate	469 kg/ha
Potassium Chloride (Muriate of Potash)	25 kg/ha

Combination 2	
LIFEA	294 kg/ha
Diammonium Phosphate	156 kg/ha
Potassium Chloride (Muriate of Potash)	25 kg/ha

Below the recommendations, there is a red 'Warning' section with the following text:

1. For rainfed crops, the fertilizer dose may be reduced upto 50%.
2. 50% of nitrogen dose and 100% of phosphorus and potassium dose to be supplied at sowing, except for pulse crop. The remaining 50% of Nitrogen dose should be supplied in 2-3 splits at different crop stages.

Screenshot 3 (Right): Shows the location selection screen. The user has selected 'MADHYA PRADESH' as the state, 'AGAR MALWA' as the district, and 'AGAR' as the block. The fertilizer recommendation section is partially visible at the bottom.

KRASHAK is doing the demand aggregation (buyer aggregation) for the value added products of farmers and getting the produce processed through multiple value chain partners, who are concentrated under the same gated premises near farmer cluster. The whole process is being managed by KRASHAK, with centralized management, centralized standard operating procedures, marketing, centralized inventory management and centralized billing. The model, at one hand, is doubling the farmers' income and on the other hand, creating lot of agro enterprises and job opportunities. The overall cost to final consumer is reduced and quality is assured. The whole system is supported by online buy-sell and virtual advisory and record keeping by farmers and FPOs. The e-commerce platform aggregates all the stakeholders and is emerging as Multi-vendor and multi location E-Commerce integrator platform for online buying & selling of agriculture & allied products and services.

Explaining the employment and turnover scheme, Anuradha said, they are planning to directly employ 34 employees and through indirect value chain the estimate will be around 200 with an estimated turnover of Rs. 1.58 Crores by next year.

GRAMHAL PVT. LTD.

A social enterprise that aims to build smallholder farmers' agency to access fair price



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🎓 Master in Public Policy -
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Business Idea: Gramhal builds smallholding farmers' agency and increases their income by unlocking post-harvest services of storage, credit, and market linkage.

The majority of 119 million smallholder farmers in India are involved in sustenance farming of food grains. The urgency of cash around harvesting season requires these farmers to quickly sell off their produce. Farmers transport their produce to the agricultural market at their own expense without knowledge of current market prices. Additionally, a long chain of intermediaries transfer their expenditures on the farmers, leading to unfair prices. After spending so much, the farmers are unable to negotiate or reject the price offered by the traders. This forces farmers towards distress selling leading to one farmer suicide every half an hour in India.

To solve this Vikas Birhma and Pankaj Mahalle founded Gramhal; a social enterprise that aims to build smallholding farmers' agency to access fair price by making agricultural market transparent, efficient, and competitive through a digital marketplace.

Gramhal's model builds a digital marketplace to connect farmers with the buyers. Their mobile application promotes village entrepreneurship by making it easy for youth in villages to enter into agri trade. The Village Level Entrepreneurs act as independent aggregators between the farmers and buyers, and procure farmers produce from their doorstep. The digital platform provides entrepreneurs end to





end services from connecting them to buyers, legal compliances, and credit facilities thus breaking trade entry barriers. This model makes agricultural market competitive, reduces the post-harvest expenditure for farmers, and shifts the price gain to farmers by eliminating various intermediaries.

Via its model, Gramhal aims to create a two-fold impact: Increase in farmers' income and Increase in agency. A direct link with the end buyer via village aggregator will shift price gains from intermediaries to the farmers leading to farmer's income. Further, the access to competitive market empowers farmers to make decisions on when to sell, whom to sell to, and at what price to sell.

Gramhal has a two-member founding team - Vikas and Pankaj, who are close friends, both come from small villages from Haryana in India and observed the experiences of agrarian hardships and vulnerabilities thus it motivated them to start Gramhal. With Gramhal they want to bring back hope in agriculture and make it economically sustainable for households and communities like theirs so that no farmer is stuck in the cycle of poverty. He will be employing 3-10 employees as part of his team and is expecting a turnover of Rs. 1-2 Crores by next year. The model on which Gramhal works:-



IMPACT SEHKAR PVT. LTD.

Work towards farmer sustainability and rural distribution using VLE (Village Level Entrepreneur) model by strengthening the Agriculture Advisory services



ANIL PAREEK

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Business Idea: Agriculture advisory service along with supply chain disruption & innovation by way of D2F (Direct to Farmers) supply of Agri-input & animal nutrition products.

A civil engineer by qualification, from selling computers in early 90's to setting up manufacturing unit for pesticides, Mr. Pareek has pursued everything passionately. After spending nearly 2 decades in Agri Inputs industry and watching the crisis ridden farm sector and deteriorating conditions of the farmers, (who, as Mr. Pareek says, “is the only man in our economy who buys everything at RETAIL, sells everything at WHOLESale and pays the FREIGHT both ways”). He got his startup idea when he saw the middle men/intermediary (Agri Inputs Distributors) making huge profit without doing any value addition and thought of starting his own Agri Input supply chain startup by eliminating the middle man.

His vision was to work towards farmer sustainability and rural distribution using VLE (Village Level Entrepreneur) model by strengthening the Agriculture Advisory services. India is currently home to 18% of world population whereas covers only 2% of landmass and ranks amongst top 14 exporters of agriculture products in world. Despite this, agri sector is facing number of issues like; reduction of arable land, lower yield per hectare, increase in pest attack, depletion of soil health due to excessive use of nitrogenous fertilizer causing imbalance, inefficient supply chain of Agri Inputs related to place, time and price, lack of timely information related to agriculture and gullible farmer's dependency on unscrupulous shopkeeper/middle man who gives inadequate/wrong information like excessive use of pesticides results in steep decline in yield.

With Impact Sehkar he wishes to transform agriculture into agribusiness and lift the face of agriculture from primitive to business oriented and to provide missing links in Agri value chain and deliver efficient products, technologies and services by innovation, disruption and process improvement. They will create “Sehkar Kisan Clubs” for farmers and will deliver agriculture advisory services for yield

IMPACT SEHKAR

improvement by way of seed treatment, use of spray adjuvant, micronutrient fertilizers etc along with sale of own quality inputs at below the market rates.



Impact Sehkar will be providing employment to 50 people with an estimated annual turnover of Rs. 1-2 Crores in the next year.

TINY TERRARIUM LLP

Plant decor company



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Business Idea: Introducing phyto-remediator plants and replacing synthetic home decors with live plants.

“Green, it’s not a colour anymore it’s a way of life”

Tiny Terrarium LLP is a Wayanad based indoor plant decor company. They believe that freshness and life to one’s indoor work and living environment determines the productivity as well as long life. At Tiny Terrarium they believe that as the representatives of the current fast growing society we are well restricted to the five walls of concrete buildings. 90% of us spend our time in indoor conditions. We knowingly or unknowingly are exposed to very serious polluted air conditions, which we think exists only in outdoors. It is proved that indoor air quality is being equally challenged as that of outdoor conditions.

They as a company addresses current environmental issues with realistic and practical advice to stimulate individual action against urban indoor air contamination and health- related issues. Indoor air pollutants have been ranked amongst the top five environmental risks to public health. House hold materials including wood, chemicals, plastics used in furniture and various other indoor products can release harmful compounds named Volatile Organic Compounds (VOC) affecting indoor air quality. The concentrations of VOCs are higher in indoors than outdoors. Indoor air quality (IAQ) is the quality of breathable air within and around buildings and structures. IAQ is known to affect the health, comfort and well-being of building occupants. Poor indoor air quality has been linked to Sick Building Syndrome; leads to problematic health including breathing problems (lung diseases).





Identifying plants and its need based production can bring a range of benefits to IAQ and its introduction to the workplace for absorbing toxins emitted by office/house hold products. Utilising plants for air filtration from the environmental pollutants, such phytoremediation efficiency exhibited by selected plants have been introduced in constructing live plant microcosm (potted plants, potted succulents and epiphytes). The use of house plants as a phyto-remediator for air contamination is a horticulture therapy to address the indoor air pollution. Common indoor plants may provide a valuable weapon against the rising levels of indoor air pollution. Top performing candidate plant species with phytoremediation efficiency includes Chamaedoreaseifrizii, Rhapis excels, Ficusrobusta, Dracaena deremensis, Philodendron oxycardium, Spathiphyllum "Mauna Loa" etc

Every interior plant design of Tiny Terrarium is customised to fit the need of their customers. They provide right combination of plant varieties, colour, sizes, and textures in elegant containers to complement indoors. They offer a wide variety of indoor plants along with a great selection of micro gardens includes potted plants, terrariums and plant boxes. They have introduced a bio-philic design- a concept used within the building industry to increase occupant connectivity to the natural environment through demonstrating a range of capacities of indoor plants to improve Indoor Air Quality (IAQ) and promote occupant well being. This portable, flexible, attractive, low-cost technology can complement any engineering measures and can be accommodated in any building. To ensure sustainability of the urban environment, a “three tier positioning plan” of plant microgardens are being suggested and implemented for improving IAQ - a vital building installation element.

As a community based participatory Start-up they support a group of 10 unemployed women from rural areas of Wayanad. For the mother plants they depend on the marginal nursery farmers around 13 in number in and around their location. With limited resources available Tiny Terrarium has managed a turnover of Rs. 4.5 lacs in the last year and is expecting a turnover of Rs. 25 lacs by next year.



CONCINNITY AGRO 20 PVT. LTD.

Plug n Plant indoor hydroponics system



YASH VYAS

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🎓 Bachelor of Fashion Technology

Business Idea: A self-sufficient automated soil-free device which allows the growth of a wide variety of home-grown plants (Therapeutic, Ornamentals and Edibles)

Agro2o® (www.agro2o.com) is New Delhi based Agri-tech company. Agro2o®, started their journey with the dream of a better tomorrow, a dream where they are in-sync with the nature, at the same time progressive in their outlook. To realize this dream they are working on Hydroponics, a clean and sustainable technology which can put an end to the culmination of all that is wrong with the current process of growing plant practices. That's their mission at Agro2o® to be an enabler for this transformation towards clean and sustainable growing practices.

They are offering their first product Agro2o® Renaissance, a self-sufficient automated soil-free device which occupies a small space of your home but allows you to grow a wide variety of home-grown plants (Therapeutic, Ornamentals and Edibles) thus providing you with a holistic experience of growing.

Using sensors, advanced hydroponics and intelligent growing algorithms, Agro2o® Renaissance ensures optimum growth conditions for the plants and allows them to reach their full potential, guaranteeing the most exceptional quality, taste and yield. It is a self-sustaining device which can be controlled and monitored with a smart phone/tablet, allowing the user to never worry about their plants.

Their smart portable device to grow plants using 90% less water than traditional gardening methods enables faster growth and no soil-borne diseases without the use of fertilizers or pesticides. Their system is an amalgamation of technology and advanced hydroponics, offering convenience to grow plants with a push of a button.

One of the easiest and simple ways to grow plants is hydroponics and is also referred to as soil-less culture. In a hydroponic system, nutrients and water are



not lost through the soil but can be recycled to maximize efficiency. This sounds easy in theory but the ability to control the environment with more precision means a greater understanding of crop physiology is needed that makes it challenging for the people not familiar with farming and lack of expertise is needed to set up the system.

Further, indoor pollution is also as bad as outdoor pollution. Another challenge that we are facing today is the poor quality of air that is available for us to breathe. Growing plants inside the home and urban dwelling units is an easy and affordable way to combat indoor pollution. They are using an innovative approach to mitigate the complexities of hydroponics through automation and developed a novel user-friendly automated system that anyone can grow plant with ease.

Their objective is to help people grow plants inside their homes without being restrained by space or lack of time, knowledge or resources especially in the urban setting. At Agro20®, they strive for a better living where every human has ample scope to access clean, affordable and nutritious food in Concinnity with nature. They are starting this journey with the first goal of making hydroponics accessible to each and every household. Yash is planning to employ around 15 people and is expecting a turnover of Rs. 2.3 Crores.

SNV INNOVATIVES PVT. LTD.

Start up Initiative Transforming the Processing and Marketing of Makhana



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Business Idea: Innovative processing and marketing of Makhana introducing improved nutrition based baby foods, health drinks and nutribars.

Finding an answer to his question, that can a start up transform the lives of processors of agricultural produce in rural hinterlands by introducing simple and affordable technological alternatives that can be adopted easily without heavy investment on capital?

Explaining the plight of workers he says, quite often, these faceless, backroom boys carryout operations under inhospitable and unhygienic conditions with a tolling effect on quality of produce that fetches lower prices and lowers their remuneration. Therefore he thought can a startup intervene and introduce a methodology, a technique that may reduce hardships involved and introduce SOPs (Standard Operating Procedures) so as to lessen production losses in a cost effective manner.

Processors are a vital link between the farmer-sellers and the wholesalers. Raw agricultural produce is essentially processed in most cases before consumption. Therefore farmers' integration in AVCs (Agricultural Value Chains) is most often a processors driven integration. Processing is the bane of any agricultural system. Poorly processed produce do not fetch right price in the competitive market place. Fully automatic machines are available for improved processing and are expensive. Most processors are reluctant to go in for heavy investment leaving processors seek affordable processing devices.

Hardships and inefficiencies involved in processing of Makhana is a case in point and offer a challenge for a start up initiative. Processing of Makhana is notorious for involving extreme human hardship in roasting the seeds in iron panes over fire and smoke in a multistage process from 4 AM in morning to 3 PM in afternoon daily for months together resulting in several respiratory diseases including asthma. Thus, white Makhana makes the lives black. There is a strong requirement to introduce SOP in processing of Makhana at specific humidity and temperatures. Also, most of world's Makhana is processed in India's most backward state of

SNV INNOVATIVES

Bihar, in its most backward districts such as Darbhanga, Saharsa and Supauletc where industrial development has taken a backseat due to ravages of annual floods from rivers such as Ghagra and Kosi. There being not many other sources of employment, capital formation is poor, disabling the interested ones from buying a capital intensive mechanical solution.

SNV Innovatives Pvt. Ltd. has therefore taken up initiative with a view to put forth a comprehensive solution to the challenges enumerated above. For the purpose, Mr. VK Goel as the founder of the company has revived his earlier effort at developing a prototype of semi- mechanized processing machine at Darbhanga way back in Feb,2017. As per his research to find the solution he remarked that, Makhana was grown in Eurasia as evidenced by discovery of broken shells of Makhana alongside indented pieces of stone slabs and hammer. Perhaps these could have been used to manually hit the seeds on the slab with the stones. And therefore the possible solution could lie in mechanically hitting the seeds against an indented surface to break the hard shell encasing the kernel inside through impact of centrifugal force. Following the literature related on the topic it can be revealed that several types of seeds such as Tung seeds and Jatropha seeds had even harder shells and were already being separated from the kernel through the use of decorticators with the impact of centrifugal force. Mr. VK Goel has also learnt about the introduction of 'smokeless Chulha' by The Energy and Resources Institute (TERI) in order to reduce smoke and requirement of firewood for cooking in rural areas.

SNV Innovatives works majorly on two activities:

- ❖ Technical initiative at manufacture of machines and their sale to processors.
- ❖ Buyback of Makhana and in house production for sale variously in whole and in powdered form.

Looking at the social impact angle of the initiative SVN Innovations helps in integration of processors in Makhana Value Chain that will minimize their alienation through minimization of human drudgery which will lead to gradual spread of Makhana processing in 11 other states where it grows well. This improved processing will generate additional employment as an additional manpower will be involved in distribution and marketing, banking and value addition to Makhana cultivators.



DecorticatorPart of Semi-Mechanised Machine



Makhana Pop

SNV Innovatives is aiming to have a turnover of around Rs. 42 Lacs by next year and will provide employment to 5 people.

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