

Knowledge Partner



Innovations in **INDIAN AGRICULTURE**

— *Select Case Studies* —



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Foreword



Agriculture, by way of significant contribution to employment & livelihood creation, continues to be the mainstay of the Indian rural economy. The sector remains crucial for the national economy in order to create a ripple impact on services and manufacturing sectors of the economy, to meet food and nutritional requirement of domestic population and to contribute to macroeconomic stability of the nation.

Despite its critical role, the sector has been suffering from major hindrances and road blocks which have restrained its growth. Fundamental problems on the production, intermediary and marketing front have confined the sector's growth from achieving its true potential. Challenges including small land holdings, unsustainable farming practices, information asymmetry, disaggregated marketing structures, wastages across the supply chain and inefficient/ inadequate infrastructure have plagued agri supply value chain in India.

Innovations in technology, products, institutional mechanisms, structures, processes, among others are key enablers for tiding over some of the bottlenecks plaguing the sector. Initiatives in ICT, e-commerce, m-commerce, financial services, payment solutions, among others, have ensured last mile connectivity of market information and financial services. Numerous technological and product innovations have ensured sustainable farming methods through adequate water usage, chemical usage and made farm management much easier for the producers. Innovations in the sustainability pace, including renewable energy and efficient resource farm management have the doubled edged benefit for the users as well as the environment. Many of such innovations have changed the dynamics of farming for countless farmers including smallholders.

I am glad to present the YES BANK-NSFI Knowledge Report – '**Innovations in Indian Agriculture: Select Case Studies**', which highlights key innovations and best practices in Indian Food and Agriculture space.

I am confident that the content of the Knowledge Report will provide important insights to policy makers, industry leaders and stakeholders to conceptualize and execute innovative models continuously for boosting growth and sustainable development of the Indian farm economy.

Thank You.
Sincerely,



Rana Kapoor

Managing Director & CEO 

Chairman 

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1

Agri Marketing-Input & Output



| mKRISHI Platform-TCS | | |
|----------------------|--|--|
| 1. | Name of the Innovation | Progressive Rural Integrated Digital Enterprise (PRIDE) business model powered by the TCS's mKRISHI platform. |
| 2. | Name of the Innovator (Person / Agency) | Tata Consultancy Services (TCS) |
| 3. | About the Innovator | <ul style="list-style-type: none"> ✓ TCS has developed mKRISHI® platform to help farmers benefit from technology interventions in agriculture and allied sectors ✓ mKRISHI® mobile agro advisory system is a patented mobile based personalized service delivery platform |
| 4. | Brief about the challenge the innovation / technology is addressing | Forward & backward linkage, productivity, value addition, micro finance & insurance and business related statutory compliances. |
| 5. | How does the innovation / technology addresses the mentioned challenge | Digitize the information gathered: <ul style="list-style-type: none"> ✓ Enables two-way data and information exchange ✓ Personalized Agri-Advisory ✓ Repositories of knowledge such as virtual knowledge banks, Agriculture Experts, Procurement Officers and other stake-holders in the agri eco-system ✓ CROPS™ (Crop Rotation, Optimization and Planning System) ✓ Personalized and Localized Weather Forecast ✓ AgriKnoB™ (Agriculture Knowledge Base) and ✓ AgriCommS™ (Agri Commerce System) enabling forward and backward linkages |
| 6. | How is this innovation a better alternative over the current scenario? | Currently, mKRISHI offers a bouquet of agricultural services such as agro advisory, best practices, alert services, weather forecasts, agricultural input aggregation, agri supply chain management services etc. among many others. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers |
| 8. | Contact details for further information | Mr. Rajesh Urkude Head – mKRISHI® Planning & Operations, TCS Phone: +91 8097001948/9930305754 Email: rajesh.urkude@tcs.com |

| AgroStar | | |
|----------|--|--|
| 1. | Name of the Innovation | Direct to farmer “m-commerce platform” |
| 2. | Name of the Innovator (Person / Agency) | AgroStar |
| 3. | About the Innovator | <ul style="list-style-type: none"> ✓ AgroStar aims to transform the agriculture sector by providing “m-commerce” platform for the farmers to buy quality and branded crop inputs through mobile ✓ Agro star is headquartered in Pune and is currently operating in the states of Rajasthan, Madhya Pradesh, and Maharashtra |
| 4. | Brief about the challenge the innovation / technology is addressing | <ul style="list-style-type: none"> ✓ Timely availability of crop inputs (seed, nutrients, crop protection etc.) ✓ Authenticity and quality of the product. ✓ Customer satisfaction |
| 5. | How does the innovation / technology addresses the mentioned challenge | <ul style="list-style-type: none"> ✓ Provides authentic and quality products from reputed companies ✓ Door step service- the ordered products are available at the doorsteps ✓ Quality Service- Farmers experience a timely and effective customer experience ✓ Availability- Farmers have the choice to choose from wide variety of available product (seeds, crop protection, crop nutrition and hardware) ✓ Use friendly- farmers just need to give a missed call at the specified number (1800) to avail the facility |
| 6. | How is this innovation a better alternative over the current scenario? | Farmers can trust the quality of the products. The timely availability of the product under one umbrella supplements the opportunity cost incurred on search for quality products. Farmers have the choice to select the best out of the available lot. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers |
| 8. | Contact details for further information | ULink BioEnergy Pvt. Ltd. Unit # 4D, 2nd Floor, B-3 Cerebrum IT Park, Kalyani Nagar, Pune – 411014 Phone: 020 41504243 Email: info@agrostar.in Web: http://www.agrostar.in/ Source: http://www.thealternative.in/business/10-technological-innovations-revolutionizing-indian-agriculture/ |

PUSA Solar Driven Cold Storage Vegetable Cart

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|----|--|---|
| 1. | Name of the Innovation | PUSA Solar Driven Cold Storage Vegetable Cart |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | During summers, keeping vegetables in cart by cart vendors becomes extremely difficult. This innovation can help vendors to store vegetables by retaining their moisture even during summers. |
| 5. | How does the innovation / technology addresses the mentioned challenge | This machine has cold storage chamber which remains cold through cooling pad and water tubes. This machine has 100 watt solar voltaic panels which charges 12 volt battery which enables vendor to safely store vegetables during the night. |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ Solar driven and can work at night also ✓ Saves vegetables from heat ✓ Retains moisture ✓ Highly useful for vegetable vendors |
| 7. | Who are the beneficiaries of the innovation / technology? | Vegetable vendors |
| 8. | Contact details for further information | Head, Division of Agricultural Engineering ICAR-IARI, New Delhi-110012 Phone: 011-25842294 Fax: 011-25842294 Email: head_engg@iari.res.in |

Karnataka e-Mandi

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| 1. | Name of the Innovation | Karnataka E-Mandi: e-Auction for Agri Market |
| 2. | Name of the Innovator (Person / Agency) | NSPOT, NSEiT, Govt. of Karnataka |
| 3. | About the Innovator | NSPOT and NSEiT has entered into a teaming agreement to jointly offer solution to the auction market-place, whereby NSEiT will be the implementation partner for e-Auction solution to the clients bringing in vast domain experience of NCDEX in Commodities space, and proven technology solution expertise of NSEiT in this domain |
| 4. | Brief about the challenge the innovation / technology is addressing | <ul style="list-style-type: none"> ✓ Asymmetry in trading system ✓ Inappropriate price discovery mechanism ✓ No linkage of APMC with final consumer |
| 5. | How does the innovation / technology addresses the mentioned challenge | It creates transparent integrated e-trading mechanisms coupled with establishment of Grading and Standardization systems which will facilitate seamless trading of commodities across the APMCs. Linkages to warehouse based selling by availing pledge loans are part of the action plan to encourage farmer participation |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ Facilitate creation of an eco system for better price discovery ✓ Increase the arrivals in the markets by ensuring transparent system ✓ Implement Mobility solutions for wider reach ✓ Standardization of processes to help farmers to realize remunerative prices. ✓ Integrated with mobility solutions using SMS, Windows Mobile, Android and iOS |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers, Government |
| 8. | Contact details for further information | Rashtriya e Market Services Private Limited No.16, Karnataka State Agricultural Marketing Board, 2nd, Raj Bhavan Road, Bangalore 560 001 Phone : 080-22864866 Source: ReMS website |

| Exchange Traded Forwards- NCDEX | | |
|---------------------------------|--|---|
| 1. | Name of the Innovation | Exchange Traded Forwards: bringing more power to the Indian Farmer |
| 2. | Name of the Innovator (Person / Agency) | NCEDX (National commodity & derivative exchange limited) |
| 3. | About the Innovator | NCDEX is a multi-commodity exchange promoted by national level institutions. It provides a platform for market participants to trade in a wide spectrum of commodity derivatives. |
| 4. | Brief about the challenge the innovation / technology is addressing | <ul style="list-style-type: none"> ✓ Market accessibility- wide reach both for the buyers and sellers. ✓ Lower transaction cost- services are offered at a lower cost if operated under the institutional framework. ✓ Risk mitigation-the stakeholders are unaffected by the price fluctuation in the market. ✓ Organized market- integration of the fragmented market through an online platform. |
| 5. | How does the innovation / technology addresses the mentioned challenge | <ul style="list-style-type: none"> ✓ The buyer and seller have the freedom to operate from any part of the country. ✓ The critical information are passed to the buyers, small traders, and business people in processing and marketing of the products. ✓ Price fluctuation is restricted by fixing the price at the time of planting or harvesting by the producers. |
| 6. | How is this innovative is a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ Information asymmetry both for the producers and buyers incurs a high search cost. ✓ Price fluctuation in the market puts the producer at a higher risk. |
| 7. | Who are the beneficiaries of the innovation / technology? | Producers (Farmer producer organizations) and buyers |
| 8. | Contact details of the person who can be contacted to know more (also can provide link to youtube/ webpage/ document source) | NCDEX, Akruti Corporate Park, 1st Floor, Near G.E. Garden, L.B.S. Marg, Kanjurmarg (West), Mumbai - 400 078 Phone : (+91-22) – 66406789 Fax : (+91-22) - 66406899 E-mail: askus@ncdex.com Web: http://www.ncdex.com/index.aspx |

2

Financial Inclusion and Financial Services



YES Kisan Dairy Plus

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| 1. | Name of the Innovation | YES Kisan Dairy Plus |
| 2. | Name of the Innovator (Person / Agency) | YES BANK Ltd. |
| 3. | About the Innovator | YES BANK has steadily built a full-service commercial bank with Corporate, Retail and SME Banking platforms. In line with its knowledge banking approach, Yes bank has established an exclusive Food and Agri Research Management team that constantly endeavors to work towards innovating financial products for the producers. |
| 4. | Brief about the challenge the innovation / technology is addressing | Dairy farmers seldom received timely payment for their produce. Also financial inclusion/ account opening of dairy farmers is a major challenge. |
| 5. | How does the innovation / technology addresses the mentioned challenge | Key Product Proposition: Comprehensive suite of financial products, tailor-made for dairy farmers ✓ Instant Milk Payment (as applicable, in association with the respective dairy) ✓ Basic Saving Bank Deposit Account (BSBDA) with ATM-cum-Debit Card ✓ Free unlimited withdrawals on any bank's ATM ✓ Withdrawals at YES BANK's specially deployed YES Sahaj Micro ATM |
| 6. | How is this innovation a better alternative over the current scenario? | Through this system farmers gets the payment on the same day. The farmer can now experience the services of a formal financial institution firsthand, a first-of-its-kind experience for many of them. |
| 7. | Who are the beneficiaries of the innovation / technology? | Dairy farmers |
| 8. | Contact details for further information | Mr. Nitin Puri YES Bank Ltd, 7 th Floor, Bldg 8B DLF Cyber City, Gurgaon-122001 Phone: 9811192918 Email: nitin.puri@yesbank.in |

TCS-AIC Annapoorna

| | | |
|----|--|---|
| 1. | Name of the Innovation | TCS- AIC-ANNAPOORNA (Crop Insurance) |
| 2. | Name of the Innovator (Person / Agency) | Insurance solution from TCS BaNCS |
| 3. | About the Innovator | TCS BaNCS, an integral part of TCS Financial Solutions, deployed core insurance modules and value-added services for AIC (Agriculture Insurance Company) so they could speed up service delivery and achieve greater business agility. |
| 4. | Brief about the challenge the innovation / technology is addressing | <ul style="list-style-type: none"> ✓ Quick response to customer needs, reduce the lead time to respond ✓ Improved efficiency in operations and higher productivity and business growth. ✓ Weak and remotely located farmers can also avail the benefits without travelling to AIC offices. |
| 5. | How does the innovation / technology addresses the mentioned challenge | <ul style="list-style-type: none"> ✓ Implementation of core business modules such as business partner maintenance, policy insurance, policy serving, documentation, etc. ✓ Direct electronic payment to reduce the time to credit the claim in the farmer's account. ✓ It also allowed AIC to quickly collect the premium and invest to have better returns. |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ Doubled the number of farmers enrolled in crop insurance schemes (increase by 126%) ✓ Tripled the total land acreage insured (increase by 212%) ✓ Increased sum insured (increase by 215%), quintupled its gross premium income (increase by 395%) |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers and AIC (Agriculture Insurance Company) |
| 8. | Contact details for further information | <p>Mr. Rajesh Urkude Tata Consultancy Services Limited Email: rajesh.urkude@tcs.com Web: www.tcs.com</p> |

3

Farm Management



| CropIn Technology Solutions | | |
|-----------------------------|--|---|
| 1. | Name of the Innovation | CropIn |
| 2. | Name of the Innovator (Person / Agency) | Mr. Krishna Kumar |
| 3. | About the Innovator | Mr. Krishna Kumar was one of the fast track executives in General Electric but later started a new venture “Cropin” |
| 4. | Brief about the challenge the innovation / technology is addressing | Boosting the sustainable production to feed growing population, unleashing the agricultural potential of currently less productive countries and their small farmers. |
| 5. | How does the innovation / technology addresses the mentioned challenge | Cropin’s cloud and mobile applications equip large or small agribusiness & farmers with decision-making tools for data-driven farm management. Some the features of Cropin are highlighted below. <ul style="list-style-type: none"> ✓ Get 100% farm visibility and forecast on production ✓ Monitor & manage crops pest & disease issue in real time ✓ Ensure quality production, procurement, compliance & traceability ✓ Engage Growers- Farm Managers – Management on real time basis ✓ Get access to weather feed and forecast for farm ✓ Share the farm digitally with consultant, buyers, bank, insurance, input companies in real time etc. ✓ Perform analytics and get more insights on season wise farm performance |
| 6. | How is this innovation a better alternative over the current scenario? | Cropin brings mobile and cloud based solution for agri universities, agencies, private companies etc. to reach out 140 million farmers in the country and guide them instantaneously. Farmer can directly use cropin mobile app to get help on agronomy or can connect with agri-ecosystem instantly. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farming companies, seed companies, input companies, NGOs, development agencies, government agencies, banks, insurance companies and farmers. |
| 8. | Contact details for further information | Mr. Krishna Kumar Phone: 9986079552 Email: Krishna.kumar@cropin.in |

Eruvaka Technologies Pvt. Ltd.

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|----|--|--|
| 1. | Name of the Innovation | Smartphone based aquaculture pond management solutions |
| 2. | Name of the Innovator (Person / Agency) | Eruvaka Technologies Pvt. Ltd. |
| 3. | About the Innovator | The company is based out of Vijayawada (Andhra Pradesh) with an objective to inculcate the use of technology in the field of aquaculture. It develops on farm diagnostic equipment for the aquaculture farmers to diminish the risk and enhance their farm productivity. |
| 4. | Brief about the challenge the innovation / technology is addressing | <ul style="list-style-type: none"> ✓ Digital monitoring of the fish/ shrimp ponds. ✓ Reduced investment over a period of time. ✓ Reduced power consumption which ensures higher profit margin. ✓ Higher productivity from the fish ponds. |
| 5. | How does the innovation / technology addresses the mentioned challenge | <ul style="list-style-type: none"> ✓ Smartphone monitoring- remote monitoring of the farm data to ensure higher output. ✓ Reduced power bill- the algorithms control the equipments on an automated way. This decreases the power consumption, thus ensuring higher profit margins ✓ Cloud analytics- the analytics empowers the farmers to control the feed on the basis of water quality data, thus ensuring a higher FCR (Feed Conversion Ratio) ✓ Voice alerts- whenever the water quality drops, the farmers are informed through instant messages. This ensures the quality of the produce and minimizes the chances of shrimp mortality |
| 6. | How is this innovation a better alternative over the current scenario? | The digitalization enables the aquaculture farmers to monitor the pond on a remote basis. This reduces the risk and cost of production and ensures higher quality of the produce. |
| 7. | Who are the beneficiaries of the innovation / technology? | Aquaculture farmers. |
| 8. | Contact details for further information | Eruvaka Technologies Pvt. Ltd., 5th floor Sri Hari Towers, Besides Mary Stella College, NH5 Frontage Rd, K P Nagar, Vijayawada, Andhra Pradesh – 520008 Email: info@eruvaka.com Web: http://www.eruvaka.com |

NPK Liquid Bio Fertilizer

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| 1. | Name of the Innovation | NPK Liquid Bio fertilizer |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI, New Delhi |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) New Delhi is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | Indiscriminate use of NPK fertilizers results in loss of soil fertility and also deteriorates soil health. Injudicious use of fertilizers increases the cost of production. |
| 5. | How does the innovation / technology addresses the mentioned challenge | Through NPK fixing bacteria (<i>Rhizobium</i> , <i>Azotobacter chroococcum</i> , <i>Azospirillum brasilense</i> and <i>Pseudomonas strata</i>) which makes NPK available to plants. Provides NPK together through bacteria. Makes availability of 25-30 kg Nitrogen, 20-25 kg Phosphorus and 10-15 kg Potassium per hectare. |
| 6. | How is this innovation a better alternative over the current scenario? | Currently huge fertilizer application is degrading our soil health. This innovation is very good alternative of providing NPK to plants without use of chemical fertilizers. ✓ Liquid composition and easy to use. ✓ Can be stored at room temperature upto 12-24 months. ✓ Saves 25-30 % NPK fertilizers. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers |
| 8. | Contact details for further information | Head, Division of Microbiology, ICAR-IARI New Delhi Phone: 011-25847649 Fax : 011-25847643 Email: head_micro@iari.res.in |

PUSA Compost

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|----|--|---|
| 1. | Name of the Innovation | PUSA Compost |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI, New Delhi |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | The traditional method of manufacturing compost is very tedious and also the end product is very bulky which requires more labour & logistic cost. Utilizing crop remains and other decomposable waste to prepare quick and high quality Pusa compost. |
| 5. | How does the innovation / technology addresses the mentioned challenge | After harvesting a particular crop this technique utilizes crop remains, animal wastes, fruit and vegetable waste. |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ Quick and easy to make. ✓ Utilizes crop remains and other decomposable waste. ✓ Needs very low investment and machinery. ✓ NPK rich compost as compared to normal compost. ✓ Increases population of beneficial microbes in the soil. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers |
| 8. | Contact details for further information | Head, Division of Microbiology, ICAR-IARI New Delhi 110 002 Phone: 011-25847649 Fax : 011-25847643 Email: head_micro@iari.res.in |

PUSA STFR Meter

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|----|--|---|
| 1. | Name of the Innovation | Pusa Soil Test and Fertilizer Recommendation Meter (Pusa STFR Meter) |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | Nutrient deficiency is the major problem and farmers often apply fertilizers without any scientific recommendation. This increases the cost of production, lowers farm profits and leads to soil health deterioration. |
| 5. | How does the innovation / technology addresses the mentioned challenge | Pusa STFR Meter is a programmable digital system that analyses soil parameters quantitatively and shows crop specific fertilizer recommendations. It is highly useful in areas where soil testing facility is unavailable. |
| 6. | How is this innovation a better alternative over the current scenario? | Its accuracy is much superior to other soil testing kits which give qualitative results based on visual colour comparison. It is portable and can be operated both by battery and electricity. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers and researchers |
| 8. | Contact details for further information | Head, Division of Soil Science and Agricultural Chemistry, ICAR-IARI, New Delhi-110012 Phone: 011-25841494 Email: head_ssac@iari.res.in |

Eco Friendly Waste Water Management

| | | |
|----|--|---|
| 1. | Name of the Innovation | Eco friendly waste water management |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | Management of waste water/low quality water is essential to reduce pollution. Severe water shortage is the emerging challenge. The demand could be met by enhancing water use efficiency. |
| 5. | How does the innovation / technology addresses the mentioned challenge | The new system reduces metal pollutants besides degrading organic and inorganic pollutants and its energy requirement is less than 1% as it does not require operating aerators. |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ Zero chemical application ✓ Zero sludge generation, ✓ 50-65% reduced treatment cost, creation of surface water source enabling managed aquifer recharge ✓ Less than 1% energy requirement. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers and society |
| 8. | Contact details for further information | Project Director (WTC) ICAR-IARI New Delhi-110012 Phone: 9811041187 Email: rk132.iari@gmail.com |

Vinifet Technologies - Kisan Raja

| | | |
|----|---|--|
| 1. | Name of the Innovation | KisanRaja – Smart Irrigation Automation Solutions – IoT for Agriculture |
| 2. | Name of the Innovator (Person / Agency) | Mr. Vijay Bhaskar Reddy Dinnepu |
| 3. | About the Innovator | Mr. Vijay Bhaskar Reddy Dinnepu is the Chairman and CEO of Vinifinet Technologies Pvt. Ltd. He brings more than 16 years of design and development experience in various categories of networking and embedded software including Gigabit Ethernet Switching, Routing and Deep Packet Inspection (DPI). He holds a Master’s degree in Computer Science and Engineering from Indian Institute of Technology (IIT), Madras and a Bachelor’s degree in Chemical Engineering from Sri Venkateswara University, Tirupati. His dream is to get the best use of his technical experience to bring in a change in the lives of rural India. |
| 4. | Brief about the challenge the innovation / technology is addressing | <p>Farmers face the following challenges in irrigating their crops:</p> <ul style="list-style-type: none"> ✓ Physical effort and inconvenience: Farmers travel to fields often at odd hours just to switch ON/ OFF the motor due to untimely, erratic and highly unreliable power supply which requires fuel consumption, in addition to time. Also, in larger farms with multiple water pump sets, the farm worker has to go around to start/stop each of the motors ✓ Loss/ Damage to irrigation equipment: Motors and starters often get damaged due to voltage fluctuations, faults in three phase connectivity, and running of motor while water is not getting pumped. Expenses to repair a motor pump often run in excess of INR 5,000, subsequently loss in crop yield ✓ Wastage of Resources: Significant wastage of water and electricity, soil erosion and fertilizer runoff, excessive watering results in soil erosion, wastage in fertilizers used and hence a loss in productivity, exploitation of ground water |

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| 5. | How does the innovation / technology addresses the mentioned challenge | KisanRaja solution allows the farmer to remotely control the agricultural motor using his mobile or landline. An IVRS (Interactive Voice Response System) in local language helps in making selections for switching ON or OFF. Farmers also receive alerts for faulty power supply, motor not starting, lack of water in the well/bore, and attempt of device/ motor theft. |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ Reduced government's power subsidy bill or improved margins for farmers ✓ Longevity of ground water resources ✓ Increase in personal productivity and per capita income of farmers ✓ Improved margins for farmer, with reduction in labor, fuel, equipment maintenance and fertilizer costs <p>KisanRaja offers a holistic solution for crop irrigation problems; where motor pumps can not only started through a remote; but, integrated with soil moisture sensors, they get turned off automatically when crop receives just right amount of water.</p> |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers- Primary beneficiary, Others- Municipal authorities and state agencies, Corporate & other private organizations. |
| 8. | Contact details for further information | <p>Mr. Vijay Bhaskar Reddy Dinnepu Vinfinet Technologies Pvt Ltd. Second Floor, Trilochan Complex, Opposite to Govt School, Munnekolala Main Road, Gandhi Nagar, Munnekolala, Marathahalli, Bangalore -560037 Email: vijay@kisanraja.com vijaybrd@gmail.com Phone: +91-9886910823/+91-9972337626 Web: www.kisanraja.com</p> |

| Yuktix Technologies | | |
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| 1. | Name of the Innovation | Agricultural Crop Management System |
| 2. | Name of the Innovator (Person / Agency) | Yuktix Technologies |
| 3. | About the Innovator | Yuktix is creating sensors based devices and does indigenous hardware design and cloud for data analytic. It provides sensing solutions for field agriculture, greenhouse climate control and postharvest warehouses. |
| 4. | Brief about the challenge the innovation / technology is addressing | Agricultural productivity of the best performing Indian states for key crops is lower than that of some African countries. About 40% of all produce in India goes waste. Using sensors, agriculture practitioners can get better data to arrive at decisions which reduces wastage, improves production and leads to efficient utilization of resources. |
| 5. | How does the innovation / technology addresses the mentioned challenge | The technology solution comprises of sensors and wireless data-loggers that transmit field data to the cloud. This data can be monitored and analyzed to make better agricultural decisions i.e. <ul style="list-style-type: none"> ✓ Optimal usage of pesticides and fertilizers ✓ Right amount of irrigation at the right time ✓ Post-harvest management of stored produce ✓ Managing internal environment of greenhouse (humidity and light). |
| 6. | How is this innovation a better alternative over the current scenario? | The current scenarios comprises of guesswork based on perceived weather patterns which leaves the crops susceptible to the varied weather and pest risks. Large growers sometime, do make use of weather data, but in absence of visualization and associated crop advisory, this data fails to make any impact |
| 7. | Who are the beneficiaries of the innovation / technology? | <ul style="list-style-type: none"> ✓ Companies involved in contract farming ✓ Agri-input companies (Fertilizer and seed companies) - ascertain the right composition of inputs to be used. ✓ Warehouses, greenhouses and data providers to crop insurance. |
| 8. | Contact details for further information | Mr. Rajeev Jha Email: rjha@yuktix.com Phone. +91-9886124428 Web: www.yuktix.com |

Ayurvet ProGreen Hydroponics

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| 1. | Name of the Innovation | Ayurvet Hydroponics for production of paddy nursery and green feed towards conservation natural resources and address food and feed security needs |
| 2. | Name of the Innovator (Person / Agency) | Ayurvet Limited |
| 3. | About the Innovator | Leading Indian organization which believes and practices traditional knowledge with modern science. It is actively involved in providing 360 degree solution to the farmers through use of science, technology and skill development towards sustainable integration of livestock and agriculture. |
| 4. | Brief about the challenge the innovation / technology is addressing | The major concern today is to conserve the natural resources water, land towards improving the food security. In addition it is important to look at the optimizing the time efficiency for faster food production. |
| 5. | How does the innovation / technology addresses the mentioned challenge | The technology Ayurvet ProGreen Hydroponics conserves water, land, labor and time for production of paddy nurse mats which can be transplanted using paddy transplanter. This helps in addressing the food security. Similarly it produces value added green feed for livestock to address the fodder security needs of the livestock for higher milk production and fertility. |
| 6. | How is this innovation a better alternative over the current scenario? | In the current scenario, only conventional methods of doing the paddy nursery, which use more natural resources and time. This technology address the same. The same is true for fodder production. The fodder produced through Ayurvet Hydroponics is more nutritious and can be harvested throughout the year at any temperature |
| 7. | Who are the beneficiaries of the innovation / technology? | Agriculture and Dairy Farmers Research Institutes |
| 8. | Contact details for further information | Dr Anup Kalra Email: akalra@ayurvet.com info@ayurvet.com Web: www.ayurvethydroponics.com |

| Ayurved Herbal Innovations for Methane Mitigation | | |
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| 1. | Name of the Innovation | Herbal Methane modulator |
| 2. | Name of the Innovator (Person / Agency) | Ayurved Limited |
| 3. | About the Innovator | Leading Indian organization which believes and practices traditional knowledge with modern science. It is actively involved in providing 360 degree solution to the farmers through use of science, technology and skill development towards sustainable integration of livestock and agriculture. |
| 4. | Brief about the challenge the innovation / technology is addressing | Methane emission is one of the biggest challenge in livestock, impacting the global warming, This is produced during fermentation and is released by animals by belching. The innovation helps in controlling the methane production. |
| 5. | How does the innovation / technology addresses the mentioned challenge | The herbal modulator effectively works and interacts with the microflora and minimizes the methane production by 10%. |
| 6. | How is this innovation a better alternative over the current scenario? | In the current scenario, this is the first methane mitigation solution provider which also improves production. |
| 7. | Who are the beneficiaries of the innovation / technology? | Dairy farmers, Society, Environment |
| 8. | Contact details for further information | Dr Shivi Maini Email: shivi@ayurved.in, info@ayurved.com Web: www.ayurved.com |

PUSA Carrot Planter

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| 1. | Name of the Innovation | PUSA Carrot Planter |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | <ul style="list-style-type: none"> ✓ Traditionally carrot is sown by hands which need high labour and irrigation ✓ With this innovation, farmers can sow carrot on raised bed and can save water with high production ✓ Tentative Cost is around~90,000/- and working capacity is - 0.5 ha/hour |
| 5. | How does the innovation / technology addresses the mentioned challenge | <ul style="list-style-type: none"> ✓ This machine sows the carrot in 20 cm raised bed in scientific estimated distance (75 mm x 50 mm) ✓ This makes cultivation efficient in terms of water use efficiency and yield |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ Easy installation and saves time and labour. ✓ Increases production and saves water and other inputs ✓ Efficient weed management ✓ Highly useful for large scale production |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers and seed Industries |
| 8. | Contact details for further information | Head, Division of Agricultural Engineering ICAR-IARI, New Delhi-110012 Phone: 011-25842294 Fax: 011-25842294 Email: head_engg@iari.res.in |

| PUSA Carrot Harvester | | |
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| 1. | Name of the Innovation | PUSA Carrot Harvester |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | Traditionally carrot is harvested by hands which needs high labour and causes wear and tear to carrots. This machine can harvest carrot efficiently without any damage. |
| 5. | How does the innovation / technology addresses the mentioned challenge | <ul style="list-style-type: none"> ✓ This machine harvests the carrot by its cutting blade from 1.3 mm wide carrot bed without any damage. ✓ Cost is 48,000/- working capacity- 0.5 ha/hour |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ Easy installation which saves time and labour ✓ Increases production and minimize damage to carrots ✓ Efficient harvesting ✓ Highly useful for large scale harvesting |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers and seed Industries |
| 8. | Contact details for further information | Head, Division of Agricultural Engineering ICAR-IARI, New Delhi-110012 Phone: 011-25842294 Fax:011-25842294 Email: head_engg@iari.res.in |

Zamindara Farm Solutions

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| 1. | Name of the Innovation | Affordable mechanization- Rental Model |
| 2. | Name of the Innovator (Person / Agency) | Zamindara Farm Solutions |
| 3. | About the Innovator | Zamindara farm solutions started in the year 2005 to facilitate farm mechanization for the farmers with small land holdings. At present, it operates as a large equipment bank which brings together the equipment suppliers and farmers. |
| 4. | Brief about the challenge the innovation / technology is addressing | It addresses the issue of farm mechanization for the small scale farmers at an affordable cost thus contributing to high yield, low labor cost, timely cultivation and higher income which otherwise was a dream for them. |
| 5. | How does the innovation / technology addresses the mentioned challenge | It facilitates the farm mechanization in two ways: <ul style="list-style-type: none"> ✓ Radio taxi model-farmer is oblivious to the use of the farm equipment. An expert is sent with the equipment to get the work done as per the requirement. ✓ Library model- the equipment is rented and farmer has the expertise to use it. |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ Huge costs are incurred by small farmers to buy farm equipments, which put them in huge debt. ✓ Extra cost comes as interest that has be paid on the borrowed capital. ✓ Most of the equipments are not used regularly, hence purchasing those blocks the cash flow. |
| 7. | Who are the beneficiaries of the innovation / technology? | Small Scale farmers |

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| 8. | Contact details for further information | <p>Zamindara Farmsolutions Pvt Ltd Ferozepur Road Fazilka - 152123 (Pb) Phone: (+91) 1638-262141, 263155 Web: www.zamindarafarmsolutions.com Email: contact@zamindarafarmsolutions.com Source-</p> <ul style="list-style-type: none"> ✓ http://www.thehindu.com/news/national/other-states/usaidd-replicates-fazilka-model-of-farm-implements-library/article4795242.ece ✓ http://timesofindia.indiatimes.com/city/chandigarh/His-business-model-for-small-farmers-caught-UNs-attention/articleshow/43277570.cms?from=mdr ✓ http://www.hindustantimes.com/punjab/zamindara-farm-solutions-impresses-nepalese-team-in-custom-hiring/story-aoR4gKmwhpL6ZDy48KBijP.html |
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4

Information Services



e KUTIR-Agri Kiosks

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| 1. | Name of the Innovation | Agri Kiosks in India - Improving Small Farmers' Lives |
| 2. | Name of the Innovator (Person / Agency) | Mr. K.C. Mishra founder and CEO of eKutir Rural Management Services Pvt. Ltd. |
| 3. | About the Innovator | 30 years of leadership exposure to rural banking, microfinance, agriculture development & education, technology services at national, regional and local level. He was named an Ashoka Fellow in the year 2012. |
| 4. | Brief about the challenge the innovation / technology is addressing | 78% of the 760 million farmers cultivate less than 5 acres of land. They are poverty stricken because of lack of awareness and information, missing linkages between soil type, crops, required nutrition and markets, unjustified margins taken by middlemen, inadequate access to financing and irrelevant agricultural R&D. |
| 5. | How does the innovation / technology addresses the mentioned challenge | e-Kutir's local entrepreneurs run franchisee kiosks at the village level, serving them in a 15 km radius and also benefitting agri products buyers and suppliers. e-Kutir allows entrepreneurs- equipped with tablet or mobile phone and an internet data card ensuring wireless connection, to directly link small holding farmers with the market (direct orders from buyers, aggregate purchase of inputs) and with agro experts who can advise them. |
| 6. | How is this innovation a better alternative over the current scenario? | Services provided by eKutir to farmers are seed selection, nutrient management, crop planning, harvest & marketing, pest & disease management, farmer portfolio management tool, supply chain and farmer risk assessment. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers & Rural Entrepreneurs |
| 8. | Contact details for further information | Mr. K. C. Mishra Flat no. 3/1, Shree Maa Enclave, N/2 43, CRP Ekamra Kanana Rd, Nayapalli, Bhubaneshwar, Odisha 751015 Phone: 0674 255 5550 |

Ekgaon Technologies

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| 1. | Name of the Innovation | Mobile based farm advisory services |
| 2. | Name of the Innovator (Person / Agency) | Ekgaon Technologies |
| 3. | About the Innovator | Ekgaon services have enriched lives of over a million rural households in India alone over the last twelve years of efforts. Ekgaon is a unique 'For Profit' social enterprise focused on providing utility services to farmers, rural businesses, under-served rural women and the large urban migrant labour population. |
| 4. | Brief about the challenge the innovation / technology is addressing | <ul style="list-style-type: none"> ✓ Farm advisory service is based on provisioning of information on 'when I need' delivery model, thus hand-holding the farmers during the cropping season with smart advisory generated utilizing several databases with multiple-variables helping to predict next logical-steps in crop cycle management ✓ Through its integrated market platform shop. ekgaon.com provide market linkages to the small farmers ✓ The ekgaon OneVillage OneWorld Network is a rural producer connect platform for leveraging mobile communication technology for encouraging sustainable platform has over 9,00,000 women and 3,00,000 farmers spread across villages of India. Development of women-self-help-groups (SHGs) and small farmers across India |
| 5. | How does the innovation / technology addresses the mentioned challenge | Agri services- on time advisory ensure higher productivity, lower cost of production and ensure crop and soil health. The advisory service is currently offered in Hindi and Tamil language. It also provides information across 12 parameters including weather, commodity prices, soil nutrient and crop management. |

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| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ The innovation incorporates a holistic approach in addressing many prominent issues on a single platform ✓ It reduces the information asymmetry by providing real time information on weather and market to facilitate higher profit margin |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers, under-served women, agribusinesses and migrant laborers. |
| 8. | Contact details for further information | <p>Mr. Vijay Pratap Singh Aditya CEO D-15, Lower Ground Floor, Kailash Colony, New Delhi -110048, Phone: +91 11 40551490 Email: info@ekgaon.com Web: http://ekgaon.com/ekg/index.php</p> |

| CABI-Direct2Farm | | |
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| 1. | Name of the Innovation | Direct2Farm |
| 2. | Name of the Innovator (Person / Agency) | CABI |
| 3. | About the Innovator | CABI is a not-for-profit international organization that improves people's lives by providing information and applying scientific expertise to solve problems in agriculture and the environment. CABI helps to address the issues of global concern, such as food security through science, information and communication. |
| 4. | Brief about the challenge the innovation / technology is addressing | <ul style="list-style-type: none"> ✓ Skill Gap: Direct2Farm is helping farmers to acquire new knowledge and skill using ICT and human mediation to adapt with the change in physical, economic and political environment ✓ Information Gap: Direct2Farm helps the farmers with information that is contextualised and hyper-localised, which addresses the information asymmetry and enables in price discovery and better bargaining power. |
| 5. | How does the innovation / technology addresses the mentioned challenge | Farmer information are gathered on as many as 80 parameters to identify skill and information gap. Specialised farmer groups are formed to impart them with the required information and Farmers are notified either through the voice mail or dialling the toll free number (1800-114-151) on various topics. They can also talk to the agri-experts empanelled by CABI. |
| 6. | How is this innovation a better alternative over the current scenario? | In Direct2Farm, each subscriber farmer is profiled by CABI's on ground partners, so that system knows the exact information need of each individual farmer. Thus the system cuts down information search time significantly and also sends predictive messages to the subscribers alerting them about particular agronomic activity or pest lookout. Hence, Direct2Farm is a narrowcast approach while most other ICT services are broadcast approach. Secondly, CABI organises farmers' meets (named Krishi Vichar Gosthi) where farmers are exposed and trained about how to use ICT tools for accessing information. Thirdly, CABI uses these meets for user testing and new concept development using human centric design. Hence Direct2Farm is more users friendly and adoptable. |

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| 7. | Who are the beneficiaries of the innovation / technology? | Farmers and Agri-business, dealers, suppliers, retailers and others in agriculture ecosystem. |
| 8. | Contact details for further information | Mr. Sharbendu Banerjee Phone no. : 011-48782205 Email: s.banerjee@cabi.org Web: www.direct2farm.org www.direct2farm.wordpress.com www.cabi.org |

5

Food Processing



Dehydrated Ripe Mango Slices & Powder

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| 1. | Name of the Innovation | Dehydrated Ripe Mango Slices and Powder |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | <ul style="list-style-type: none"> ✓ Fruits are highly perishable commodities due to high moisture content and higher metabolic activities ✓ Spoilage occurs due to microbial attack, auto oxidation and insect-pest attack |
| 5. | How does the innovation / technology addresses the mentioned challenge | <ul style="list-style-type: none"> ✓ Value addition helps to widen market scope and reduce post-harvest loses ✓ It also gives the product a higher value ✓ Mangoes can be processed and value added into various products |
| 6. | How is this innovation a better alternative over the current scenario? | Mango powder is rich in calcium, vitamin A & C. which can be used for the preparation of mango milk shake, juice mix, sharbbat, ice creams, flavours, food items etc. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers and mango based Industries |
| 8. | Contact details for further information | Head, Division of Post-Harvest Technology ICAR-IARI, New Delhi-110012 Phone: 011-25842155 Email: head_pht@iari.res.in |

PUSA Nutra Aonla Candy

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| 1. | Name of the Innovation | Pusa Nutra Aonla Candy |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | <ul style="list-style-type: none"> ✓ To meet the alternative requirements of vitamins and minerals. ✓ There is a growing popularity for alternate medicines, health foods and herbal products by the people |
| 5. | How does the innovation / technology addresses the mentioned challenge | Value addition gives the product a higher value. Novel red amla candy combines the biologically active components from amla and black carrots. It is a good source of anthocyanins |
| 6. | How is this innovation a better alternative over the current scenario? | Amla fruits are known for pharmaceutical applications in ayurvedic system and are high in ascorbic acid, ellagitannins and other phenolics. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers and amla based industries |
| 8. | Contact details for further information | Head, Division of Post Harvest Technology ICAR-IARI, New Delhi-110012 Phone: 011-25842155 Email: head_pht@iari.res.in |

PUSA Roasted Soy Nuts

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| 1. | Name of the Innovation | Pusa roasted soy nuts |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | Proteins are the building blocks of human body. They are essential for good health. Processed products are value added products to meet the requirement. |
| 5. | How does the innovation / technology addresses the mentioned challenge | It is highly acceptable among different age groups as it is free from any off flavor and TIA has been reduced by 90%. |
| 6. | How is this innovation a better alternative over the current scenario? | Soy nuts are rich in protein, are unique source of flavonoids which reduce cholesterol, are rich in minerals such as Iron and Calcium, inhibit bone deterioration and possess anti cancer activity |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers, soy nut based Industries and society |
| 8. | Contact details for further information | Head, Division of Post Harvest Technology ICAR-IARI, New Delhi-110012 Phone: 011-25842155 Email: head_pht@iari.res.in |

PUSA Pearl Puff

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| 1. | Name of the Innovation | Pusa pearl puff |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | There is a growing requirement of ready to eat food products with essential nutrients and minerals for good health. |
| 5. | How does the innovation / technology addresses the mentioned challenge | It is crunchy ready to eat food product. The product could be a boon to the people suffering from celiac diseases due to gluten allergy. |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ It contains about 13% protein, 5mg/100g iron and 3mg/100g zinc. ✓ Consumption of 100 g of this product can meet 25% of the RDA of Iron and Zinc in women. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers, Industries and society |
| 8. | Contact details for further information | Head, Division of Post Harvest Technology ICAR-IARI, New Delhi-110012 Phone: 011-25842155 Email: head_pht@iari.res.in |

PUSA Fruit Drinks

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| 1. | Name of the Innovation | Pusa fruit drinks |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | There are several fruits of indigenous origin having tremendous potential for value addition due to their medicinal values. |
| 5. | How does the innovation / technology addresses the mentioned challenge | It is thermally processed with no chemical preservatives and no synthetic colour or flavor. |
| 6. | How is this innovation a better alternative over the current scenario? | <ul style="list-style-type: none"> ✓ It contains natural antioxidants, vitamins and minerals. ✓ It has natural colour and flavor with shelf life of 1 year. ✓ It is absolutely safe even for small children |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers, Industries and society |
| 8. | Contact details for further information | Head, Division of Post Harvest Technology ICAR-IARI, New Delhi-110012 Phone: 011-25842155 Email: head_pht@iari.res.in |

Green Chick Pea Flakes

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| 1. | Name of the Innovation | Green chickpea flakes |
| 2. | Name of the Innovator (Person / Agency) | ICAR-IARI |
| 3. | About the Innovator | The Indian Agricultural Research Institute (IARI) is the country's premier national Institute for agricultural research, education and extension. Currently, the Institute has 20 divisions 5 multi-disciplinary centres situated in Delhi and 8 regional stations. |
| 4. | Brief about the challenge the innovation / technology is addressing | There is a growing requirement of ready to eat food products with essential nutrients and minerals for good health. |
| 5. | How does the innovation / technology addresses the mentioned challenge | <ul style="list-style-type: none"> ✓ It is ready-to-eat crunchy product and can be used as snacks ✓ Natural green colour of the variety has been retained in the flakes |
| 6. | How is this innovation a better alternative over the current scenario? | The product has low glycemic index, hence suited for diabetic people. |
| 7. | Who are the beneficiaries of the innovation / technology? | Farmers, Industries and society |
| 8. | Contact details for further information | Head, Division of Post Harvest Technology ICAR-IARI, New Delhi-110012 Phone: 011-25842155 Email: head_pht@iari.res.in |



YES BANK, India's fifth largest private sector Bank, is the outcome of the professional & entrepreneurial commitment, vision & strategy of its Founder Rana Kapoor and his top management team, to establish a high quality, customer centric, service driven, private Indian Bank catering to the Future Businesses of India.

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