

PART III

INNOVATIONS

for BIHAR

This section contains details of national innovations, which are deemed suitable for introduction in Bihar





Arvindbhai Patel
Gujarat

Auto Air Kick Pump

This innovation is a low cost, portable, compact aid to inflate tyre tubes/punctures of any vehicle having kick start or auto start mechanism so as to fix the problem on the spot and enable the rider to reach the nearby gas station or repair shop.

This device uses the existing air inside the compressor, so that, while kick starting, this air is utilized and transferred to the tube. A pinch of polymer granules is also inserted to seal the leakage in the tube.



Unicool- the Natural Water Cooler

Refrigerators that operate on the principle of heat transfer and earthen pots that work on the principle of evaporation, are the options available for getting cool water today. Arvindbhai has combined both. In his natural water cooler, water is passed through cloth covered copper coils, which are continuously being wet by a dripper. The water from the cloth evaporates taking the heat energy from water inside the coil, thereby lowering its temperature and making it cold. Cool water without electricity isn't it a nice idea!





N Sakthimainthan
Tamil Nadu

Hand Operated Water Lifting Device

An efficient way of pumping water to meet requirements in a cost effective way is always a challenge in rural India.

Developed from locally available materials, this hand operated water lifting device is simple in design, delivers high discharge and is low cost compared to conventional hand pump, bucket pump, and bicycle operated pumps.



Earthen kitchen products

Tawa/pan

Non stick tawas have become an essential part of our kitchens to prepare low oil food but are costly. Their non stick coating also doesnt last long. Blending traditional and modern technology, Mansukhbhai has developed a clay tawa with a black non-stick food grade coating. Being non-metallic, the rotis, dosas and other items cooked on it give a different taste and feel altogether.

Mitticool

A fridge for the common man that does not require electricity and keeps food fresh too. With this basic premise in mind Mansukhbhai came up with Mitticool, a fridge made of clay. It works on the principal of evaporation. Water from the upper chambers drips down the side, taking heat from the inside gets evaporated, leaving the chambers cool. Cool and affordable, this is the option to keep food, vegetables and even milk fresh naturally for days.



Mansukhbhai Prajapati
Gujarat



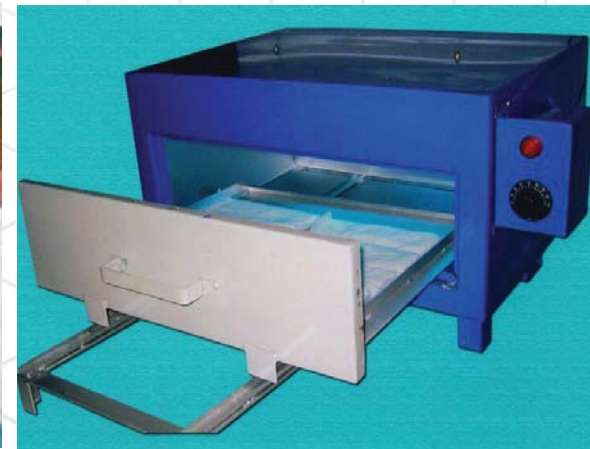
A. Muruganandam
Tamil Nadu

Sanitary Napkin Making Machine

Sanitary napkins, a universal product, have a very low penetration in India due to high selling cost and the traditional trend of using cheaper but unhygienic clothes. The innovator has developed a machine that produces quality sanitary napkins at a low cost.

The machine prepares sanitary napkins with standard material while cutting down the cost in production. It requires 3 to 4 persons to produce 2 pads per minute. Costing less than half of conventional options, this machine produces sanitary pads @ Rs.1/pad approximately.

The innovator has partnered with R. K. K. Trust for setting up a women based enterprise in Mewat district. The enterprise will be managed by rural women from the district who will be engaged in manufacturing and marketing the sanitary pads locally.



An Improved Dual Pod Variety of Chick pea- “Sushil Laxmi”

The most distinctive feature of the variety is that it bears two pods per axil as compared to single pod per axil, which is a common feature of all the varieties that are available in the market. Plant is tall (50-60cm), spreading and has bushy type growth habit. Foliage is dark green and seeds are attractive, bold (25-30 gram/100 seeds) and brown in colour. The variety has been reported to be tolerant to wilting and insect pest attack in farmer's field, yielding on an average 14 - 16 quintals per acre under irrigated conditions and 12 - 13 quintal per acre in unirrigated conditions.



Balasaheb Patil
Maharashtra



Raghav Gowda
Karnataka

Manual Milking Machine

Fast and efficient milking of cows is a requirement across rural India and this product is a efficient step in that direction. The product is a low cost, manually operated device that helps farmers to milk the animal hygienically and also reduce drudgery in the process.

It is easy to use with simple controls and can be easily operated by women as well. The creation of suction and low vacuum makes it suitable for other applications.



Aloe Vera Gel Extractor

The innovator has developed an effective multipurpose unit capable of pulverizing, steaming, and extraction of oil for herbal applications.

With this device, the innovator uses the specially designed pressure cooking chamber to extract the essence from Aloe Vera. Being a compact portable unit, it can be quickly and easily transported and used anywhere, to process herbs and deliver on demand. The present machine has a capacity to process 100 kg of Aloe Vera per hour.



Dharamveer
Haryana



Amrutbhai Agrawat
Gujarat

Aaruni-the tilting bullock cart

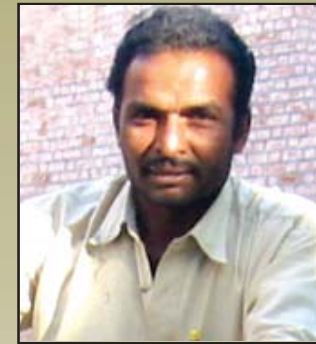
In a traditional bullock cart, with two wheels, part of the load is borne by the draft animals on their shoulders and neck. Moreover, the harnessing system makes it difficult to negotiate sharp bends or turns in the road. This causes galls on the neck of the bullocks, which affects not only the efficiency of the animals but also their stamina. This cart is thus designed to overcome the shortcomings of the traditional carts by having an extra wheel to balance the load. In addition, the cart has a tilting mechanism that is based on the rope and pulley system, which can be controlled by a lever located alongside the cart driver.



Bullet Santi

Like other drought prone regions, Amreli region has severe labor shortage, few farm animals or mechanized implements to conduct farming operations. To address this need, the innovator designed a unique unit: the 'Bullet Santi'.

Using the chassis, drive and power of an Enfield Bullet motorcycle in front, the innovator has retrofitted an attachment with two wheels at the rear with a tool bar to fit farm implement options. This meets various needs such as ploughing, weeding and sowing seeds. Being a unique local solution, the machine has proven to be cost effective and fuel efficient. Bullet Santi can plough an acre of land in half an hour consuming only two litres of fuel.



Mansukh Bhai Jagani
Gujarat



Dulal Choudhary
Assam

Beauty Care Umbrella

Protection from harsh rays of the sun is a requirement in most parts of a tropical country like India. An umbrella made from traditional yet multifaceted material is a boon for the common man.

This innovative product is a durable, stain free, water proof umbrella produced from muga silk. It has a pleasing golden shine, which illuminates colour and protects from UV radiations up to 80 percent as per laboratory tests, better than that offered by conventional umbrellas.



Mobile operated switch

Imagine a village where the farmer has the luxury of being able to stay at home and switch his pump in the faraway field on or off as required during the day or at night. This is made possible by this brilliant and revolutionary innovation which uses the power of mobile telephony to trigger electrical control switches.

The farmer can remotely know the status of the pump in his cell phone and turn the motor on or off by calling the particular configured number. It activates the switching by certain number of rings and hence incurs no call charges.



Prem Singh Saini
Haryana





Prakash Singh Raghuvanshi
Uttar Pradesh

Kudrat-9, An Improved Variety of Wheat

The innovator believes that every farmer should get good quality seeds to deliver high yielding varieties of crops. He has developed a number of improved wheat, paddy, mustard and pigeon pea varieties, which are high yielding, robust stem, having bold seeds with good smell, taste and which are resistant to major pests & diseases.

“Kudrat -9”, an improved wheat variety, developed by him using simple selection is quite popular among the farmers in different parts of Uttar Pradesh, Madhya Pradesh, Chattisgarh, Maharashtra, Rajasthan, Gujarat and some parts of Bihar, Haryana and Punjab. This variety bears large number of ear tillers with lengthy spikes and has a hardy stem. The grain contains high protein and has great taste. The average yield of this variety is 55-60 quintals / hectares.



Herbal Growth Promoter

A herbal plant growth promoter, which is effective in protecting the plants from a broad spectrum of pests apart from providing necessary nutrition has been developed. It is named as “*Kamaal*” meaning wonderful, due to its performance. It is effective in field crops as well as in vegetable crops.

The main ingredients of the product are “*aak*” (*Calotropis gigantea*), “*reetha*” (*Sapindus trifoliatus*), “*dhatura*” (*Datura metel*), “*neem*” (*Azadirachta indica*), Tobacco (*Nicotiana tabacum*), and “*bhang*” (*Cannabis sativa*), etc.

The innovator has been supported under the Micro Venture Innovation Fund of NIF for commercialising “*Kamaal*”. The product is a good hit in the local market and is fetching steady income for the innovator. This product has also been supplied to the garden in Rashtrapati Bhavan.



Ishwar Singh Kundu
Haryana





Jai Prakash Singh
Uttar Pradesh

An Improved Variety of Pigeon pea- “Virat (JP-6)”

This new variety has coloured flowers, long leaves and bunchy type pods bearing at the top. The seed weight (19 – 20 gram/ 100 seeds), number of pods / plant (500 - 600), big size pods (3 – 5 inch), number of seeds/pod (5 – 6) and perennial yield (1st year 12 -14 quintal/ acre and 2nd year 14 – 15 quintal/ acre) is higher as compared to the local popular variety. This variety requires less quantity of seed (4 – 5 kg/acre) and maintenance as compared to other varieties grown in the region.



An Improved Variety of Pigeon pea- “Richa 2000”

This variety has coloured big flowers, long leaves and bunchy type pod bearing at the top. Topping is done periodically, which results in bushy growth. This variety has synchronous maturity with higher yield (24 quintals/acre), more branches / plant (12-14) and more pods/plant (700 – 800) than other local popular varieties of the region.



Rajkumar Rathore
Madhya Pradesh

End notes & References

* Scouted by Ambedkar Sansthan, Siwan, Bihar

** Scouted by Social Upliftment Trust, Hazaribagh, Jharkhand

*** Direct entry

**** Scouted by Sundaram Verma, Rajasthan

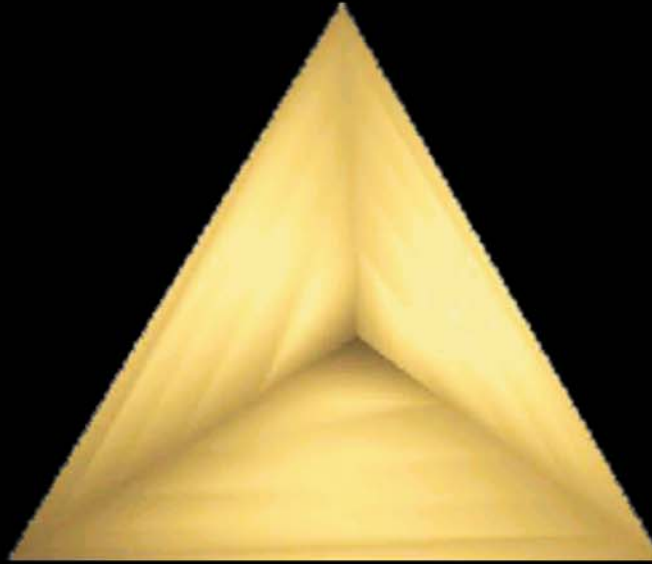
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Innovation



Investment

Enterprise



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