HIMACHAL PRADESH INNOVATES

This section contains details of Innovations for Himachal Pradesh.
Imagine being stranded on the road with a two-wheeler with a puncture — a flat tyre. This innovation is a low-cost, portable, compact aid to inflate tyretubes 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 nearby gas station or repair shop.

This device cleverly uses the 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. This innovation is a low-cost, compact, portable, and easy-to-use solution for riders with a puncture — a flat tyre. This innovation is a low-cost, portable, compact, and easy-to-use solution for riders with a puncture — a flat tyre.

Auto Air Kick Pump
Millions of villagers in India face the problem of the hoisting rope sliding away inside the well when left free, with chafing of hands and crashing of the bucket. This simple, low-cost innovation is a pulley stopper that solves the problem. A ratchet is attached to a pulley for preventing the movement of rope towards the well interior, reducing slippage, accidents, and injuries to women and children. The innovation is available in three models - Ganga, Narmada, and Saraswati. This innovation has been developed by Amrutbhai Agrawat from Gujarat. Pulley with stopper.
Every village in India has women who walk miles with heavy water pitchers on their heads, causing considerable discomfort and long-term injuries. This innovation is an alternative that consists of a shoulder-slinging unit fixed with water canisters balanced on either side.

The water carrier has two washable plastic containers, each with a capacity of 20 liters. The front and back of the unit feature metallic handle grips for holding and picking, a soft flexible shoulder strap, and a tap for taking out water.

This versatile unit allows for easy and comfortable water transportation, reducing the physical strain on women and improving their quality of life. "Jalpari" is the name of this innovative water carrier.

Madhav Sawant
Maharashtra

PART III
INNOVATIONS FOR HIMACHAL PRADESH
Fruit Harvesting Device

Madhav Mahajan

Fruit harvesting device that can be used to harvest fruits quickly, saving time and increasing output. It is suitable for harvesting upright branches. It is lightweight, durable and is suitable for harvesting fruits like mango, sala, guava, orange, etc.

The novelty lies in the design of replaceable cutting blades and the hooking angle given to the oval shaped ring that assists in harvesting the fruits on upright branches. It is light weight, durable and is suitable for harvesting fruits like mango, sala, guava, orange, etc.

Part III

Innovations for Himachal Pradesh

Himachal Pradesh Innovates

04

04

04
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 muga silk is a pleasing golden shine which illuminates color and protects from UV radiations up to 80% as per laboratory tests.

This innovative product is a durable, stain free, water proof umbrella better than that offered by conventional umbrellas.

Beauty Care Umbrella
Imagine the 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. The innovation which uses the power of mobile telephony to trigger electrical control switches has made it possible by this brilliant and revolutionary technology.

Imagine the village where the farmer has the luxury of being able to stay at home and switch his pump in the field on or off as required during the day or at night. Mobile operated switches.

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

A developed from locally available materials, this hand operated water lifting device is simple in design, has high discharge at low cost compared to conventional hand pumps, bucket pumps, and bicycle operated pumps.

Hand operated water lifting device
Multi Purpose Wood-working Machine

Many small carpentry workshops have difficulty in using multiple machines due to high initial costs, space constraints, and maintenance considerations. This multipurpose machine is built to address all major workshop needs, allowing completing the sequence of woodworking operations in one place, and allowing better control on finished product, using less space.
Sanitary napkin making machine

A. Muruganandam

Tamil Nadu

Sanitary napkins, a universal product, have a very low penetration in India due to high selling cost and cultural trend of using cheaper but unhygienic clothes. Enter this machine, which produces low cost, hygienic solutions at Rs. 1/pad.

The machine prepares sanitary napkins with identical absorbent material as conventional options. This machine produces sanitary pads @ Rs. 1/pad.

3 to 4 persons to produce 2 pads per minute, costing less than half of that of conventional ones by cutting down the cost in production. It requires 3 to 4 persons to produce 2 pads per minute, costing less than half of that of conventional ones by cutting down the cost in production.

Sanitary napkins, a universal product, have a very low penetration in India due to high selling cost and cultural trend of using cheaper but unhygienic clothes. Enter this machine, which produces low cost, hygienic solutions at Rs. 1/pad. The machine prepares sanitary napkins with identical absorbent material as conventional options.
Modern life with its fast pace and sedentary lifestyle has created the need for solutions incorporating relaxation and invigoration. Maruti Jhoola is a unique health chair with multiple capabilities, functions and settings for various postures and seating dynamics.

It is ergonomically designed and serves the purpose of seating as well as exercising with a capacity to accommodate a person weighing 120 kgs. It can double up as a hammock or a jhoola. The health chair has established itself as useful for people suffering from arthritis and joint ailments.

Maruti Jhoola – the health care chair
Peeling of garlic in a fast effective way is a requirement in the pickle industry. This product is a food-grade, fully automated machinery designed for bulk quantity peeling of garlic without damaging them. It is a cost-effective machine, having innovative design, with continuous feeding system. It can be operated by one person.

The second product is also used in the pickle industry, but for cutting lemons. It is a cost-effective machine, having innovative design, with continuous feeding system. It saves labour, with low capital and operating cost. It frees the industry from capacity constraints caused by shortage of labour in peak seasons.

Garlic Peeling & Lemon Cutting Machine
Fast and efficient milking of cows is a requirement across rural India and this product is an efficient step in that direction. The product is a low-cost, manually operated device that helps farmers to milk the animal hygienically and reduces drudgery in the process.

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

Raghav Gowda
Karnataka

Manual Milking Machine
Cutting of wood effectively and efficiently is achieved by this machine. The equipment is cost efficient, and is manually operated with both hand and foot pedal options. Most importantly it is mobile, and can be taken to any worksite and has more productivity compared to manual sawing.

This equipment consumes lesser time and labour compared to available saws and has a mechanism and linkages similar to manually operated sawing. The work of three labourers can be done by one labour using this machine. Cutting of wood efficiently and effectively is achieved by this machine.

**Manual Wood Cutting & Bamboo Cross Cutter**

Assam

Karuna K. Nath

PART IV

INNOVATIONS FOR HIMACHAL PRADESH

54

HIMACHAL PRADSH INNOVATES
Electricity supply in the hills is always a problem with either the difficulty of access or distribution or disruption and blackouts. This equipment is a hydro electric turbine, and is specifically designed for electricity supply in the hills, costing Rs. 30,000 initially. It meets the individual electric needs of a rural household.

Modified Hydro electricity Turbine

G. K. Ramaker

Karnataka
We are in the century where finding alternate energy sources is a critical necessity. This system encapsulates energy generation using sewage water. This arrangement is a system to generate electricity through slow moving sewage water passed through a cylindrical drum. The helical blades inside the cylindrical drum provide desired effeciency to the system. 

Power Generation through Sewage

K. Balakrishna

Karnataka

PART III

INNOVATIONS FOR HIMACHAL PRADESH
Energy generation and pumping water for irrigation is a perennial rural need. The innovator has used the bamboo powder, used as a by-product from a bamboo lathe machine also invented by him, and mixed it with a resin to create the strong material to fabricate the lightweight hydro generator which helps in generating energy.
Rural women walk many tens of miles with heavy load on their head, which causes stress, discomfort, and eventually head and neck injuries.

**Panjhar*: A head load reducing device

The product is an ergonomically designed device fixed on top of the head. Positioned to carry weight, transfers the weight carried on the head to the shoulders, which is better with two extended supporting rods from the sides of the device. The device causes less stress, discomfort and eventually head and neck injuries.

**Khimjibhai Kanadia**

Gujarat