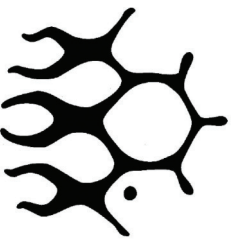




HIMACHAL PRADESH INNOVATES

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HONEY BEE NETWORK

www.honeybee.org

Regional Collaborator
Dr. Arun Chandan, Dharamshala

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PREFACE

National Innovation Foundation has been pursuing the mission of making India innovative and a creative society since 2000 with the active support of Department of Science and Technology, Government of India. We have not been equally successful in scouting and documenting innovations and traditional knowledge practices in every state.

Thanks to the support of volunteers of Honey Bee network, we have been able to discover many unsung heroes and heroines of our society who have solved local problems without any outside help.

Despite various constraints, NIF has put together a small book celebrating creativity, innovations and traditional knowledge from Himachal Pradesh. I am

conscious of its limitation in terms of coverage and outreach. But if we could uncover so many examples of the ability of local communities and individuals to solve problems on their own without outside help, how much more can be done if state and private sector agencies join hands with NIF actively.

I invite the state government and its various organs to actively support our quest to uncover many more creative communities and individuals in rural and urban areas. NIF will then help in building value chain around them.

The book is divided in three parts. The mechanical and other agricultural innovations are given in part one.

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Selected examples of herbal traditional knowledge are given in part two. And the illustrative innovations from other parts of the country having implications for the development of Himachal Pradesh are given in part three.

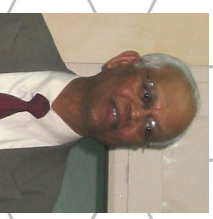
By no stretch of imagination, could we claim that we have achieved a great deal. We have merely made a simple point. There are a large number of people who may not have been educated much, may in fact be economically poor also, but still have the ability to solve a few problems so well.

The challenge really is to work out a synergy so that no creative voice remains unheard, and no solution remains localized and unrecognized.

By adapting public policy in support of grassroots innovators and traditional knowledge holders, we can make economic development process more inclusive and sustainable.

I hope that NIF will have the opportunity to work closely with the State government in future and expand the knowledge base, add value to selected technologies and help them diffuse commercially or through non commercial social channels for improving the livelihood of the majority of the people.

R. A. Mashelkar, F R S
Chairperson, Governing Council
National Innovation Foundation
Ahmedabad



Towards a creative, compassionate & collaborative India

The Honey Bee network¹, starting with a handful of volunteers twenty years ago, triggered a movement to scout, spawn and sustain unaided creative and innovative urges in the unorganised sector of our society.

The National Innovation Foundation (NIF) set up in 2000 by the Department of Science and Technology, while building upon the Honey Bee philosophy has taken this initiative forward.

Under the inspiring leadership of Dr. R. A. Mashelkar, Chairman NIF and former Director General, CSIR and Prof Anil K. Gupta, Executive Vice Chairman NIF and Professor, Indian Institute of Management, Ahmedabad, NIF has taken major initiatives to serve the knowledge-

rich, economically poor people of the country. It is committed to making India innovative by documenting, adding value, protecting the intellectual property rights of the contemporary unaided technological innovators, as well as of outstanding traditional knowledge holders on a commercial as well as non-commercial basis.

With major contribution from the Honey Bee Network, NIF has been able to build up a database of more than 75,000 ideas, innovations and traditional knowledge practices from over 450 districts of the country.

Through the collaborations with CSIR, ICMR, BSI and other R&D institutions, NIF helps in getting these technologies validated and value added. *Pro bono* arrangement with patent firms has helped NIF to file individuals across the world in different sectors. The network acknowledges the innovators, knowledge producers and communicators so that they do not remain anonymous.

¹ The Honeybee collects pollen from the flowers and in the process links one flower to another enabling cross-pollination. Similarly, the Honey Bee Network strengthens people-to-people contacts, learning and networking by pooling the solutions developed by

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154 patents (including seven filed in USA and a PCT application) on behalf of the innovators and outstanding traditional knowledge holders of which twenty six patents have been granted in India and three in USA.

Micro Venture Innovation Fund at NIF has provided risk capital for 102 projects, which are at different stages of incubation and the total amount disbursed is close to eight million rupees.

Receiving nearly four hundred product inquiries from around fifty five countries for various technologies, NIF has succeeded in commercialising products across countries in five continents apart from being successful

in materialising thirty cases of technology licensing with the help of partner agencies.

NIF has proved that Indian innovators can match anyone in the world when it comes to solving problems creatively. Where they perform better than rest is in generating greater sustainable alternatives by using local resources frugally.

Those who see poor only as the consumer of cheap goods, miss the knowledge richness at the grassroots level. The Grassroots to Global (G2G) model that NIF is propagating is all set to change the way the world looks at the creativity and innovations at grassroots.

The Honey Bee Network strongly believes in sharing knowledge among the providers of innovations in their own language, which is achieved by publishing local language versions of Honey Bee

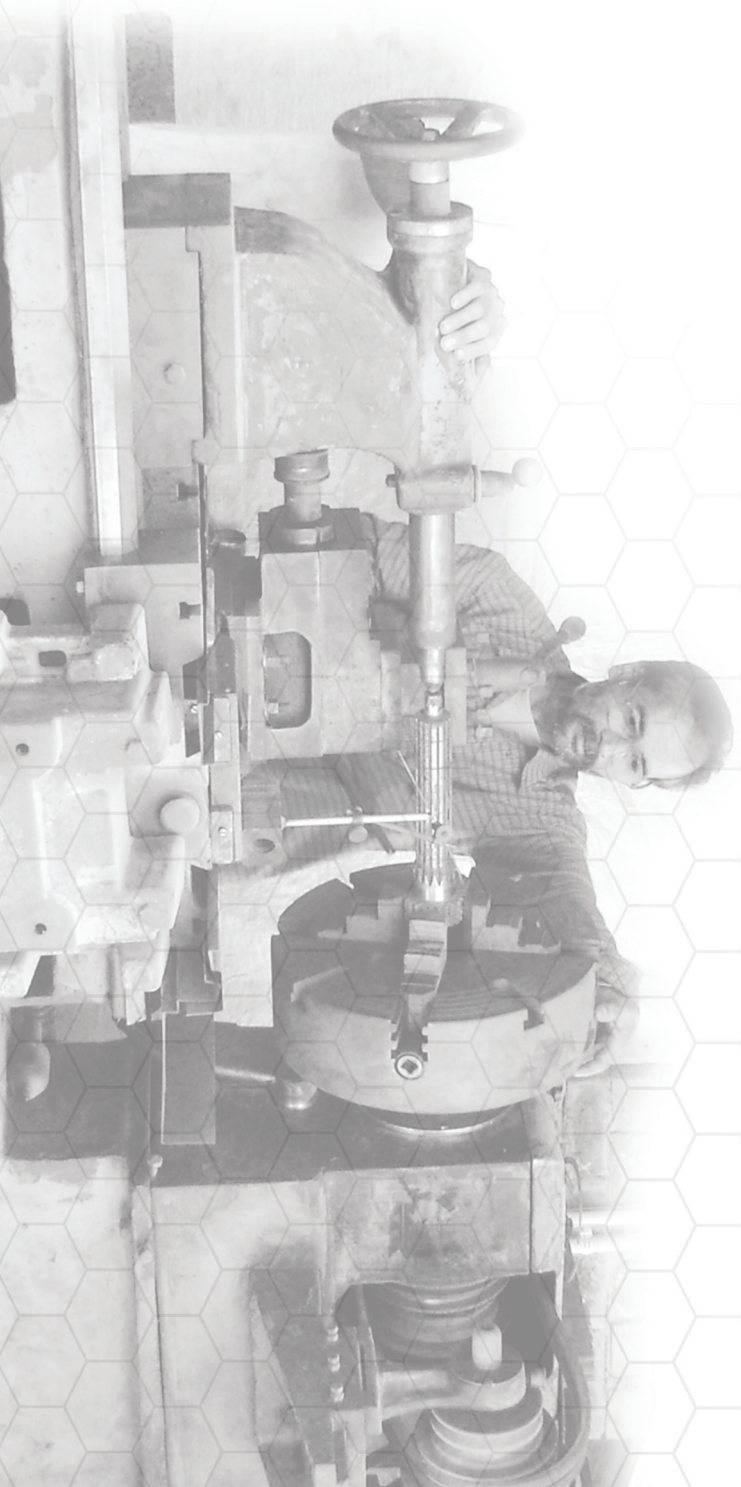
newsletter. It also ensures that a fair share of benefits arising from commercial exploitation of local knowledge and innovations reaches the innovators and knowledge providers.



PART I

INNOVATIONS from HIMACHAL PRADESH

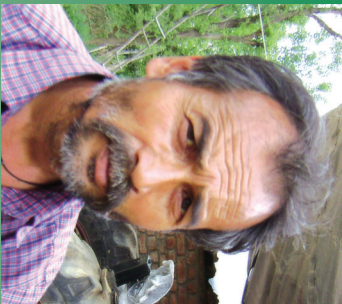
This section contains path breaking innovations
originating from ignited mind of Himachal Pradesh



Modifications in Gears

Anybody who has driven on mountainous roads knows that while descending on the slopes, one needs a kind of locking mechanism in the gear to prevent slippages. Mr.Kamal Narayan has modified the old gears which may get worn out and may cause accidents if not replaced or repaired.

He has modified the gear arrangement to prevent slippage even in the new vehicles. This innovation has been found very useful by the heavy vehicle drivers. Its dissemination, however, is localised.



**Kamal Narayan
Pradhan 'Gorkha'**
Kangra





Portable painting system

Often, users need a small portable spray painting system to meet local needs including indoors. Mr. Singh has developed such a system using available parts such as compressor, air tank and a spray gun.

Weighing hardly ten kilograms and costing one third of the commercial systems, it works very well. By using a tube in place of air tank, the innovator projects that the cost can be reduced for certain type of jobs.



Gurjeet Singh
Dharamshala



Dynamic Shoes Generating Energy

Eight years ago, three students from Kullu thought of a question that may have occurred to many. They conceived an idea of shoes, which can charge batteries while walking. The more you walk, the more energy you harness.

The idea was to use a small dynamo fitted in the sole of the shoe such that with pressure, it will move and charge the batteries. The energy generated will be used for running different gadgets. The prototype was much appreciated by the former President, Dr. A.P.J.Kalam during the second award function in 2002.



Sunil Kumar

Pankaj Sharma

Pooja Sharma

Kullu



BOSS Water Missile

Three friends together in Kangda have designed a two wheeler scooter based fire brigade. Using the first letter of their names, they call it “BOSS Water Missile”. It can be used to extinguish fire in small lanes where normal fire brigade vehicles cannot reach. In addition to the water carried with the scooter, one can also attach a pump to spray the water with higher intensity.

The same scooter based sprayer can also be used for spraying pesticides or for sprinkling water in the gardens and has potential for national level diffusion. In similar lines, Sheikh Jangid from Maharashtra has developed a paint sprayer attached to the scooter. Such affordable devices can provide low cost means for generating self-employment.



Thermo Water Lifting Pump

In hill areas, one finds enormous amount of pine needles which can be used more effectively. Mr. Goyal has developed a biomass based thermal water lifting pump using pine needle reserves.

Efforts will be made to diffuse the technology through targeted incentives for renewable energy.

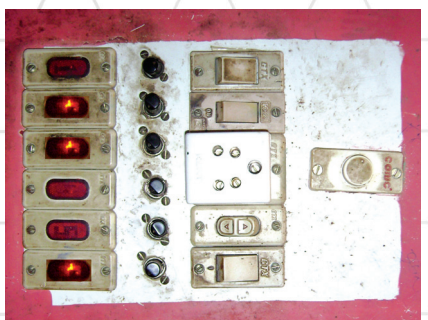


Tej Singh Goyal
Mandi



Multi-way switch

Satish Kumar is a young electrician with a very creative mind. Many times, in large buildings or bigger houses, one can have only two way switches, but he has developed a multi way switch which enables switching on or off lights or a device from multiple points. Several people can switch on the light or a device without having to go to the master switch. He has also developed a control panel which displays the on and off status of different appliances connected to the system. If a house has multiple doors having switches for the common doorbell, under normal circumstances, one would not know which door should be opened. With his device one can find out from which door did the bell ring. It is a simple low cost improvement which can improve convenience.



Satish Kumar
Hamirpur



Varun Kumar Saini*
Una

PART I : INNOVATIONS FROM HIMACHAL PRADESH

Blitz- The car from the junkyard

The innovator, Mr. Varun has designed a small car assembled by pooling together used parts and components sourced from different four wheelers. It has a unique gear shifting mechanism and can make the ride very comfortable.

Such innovations reflect the the spirit of problem solving and retrofitting and encourages more people to solve problems through their own imagination and limited resources.

*Engineering student. As per its mandate, NIF does not consider such professionals for awards or financial support, but only helps in providing visibility or linkages.





Redefining passion with fruits

Growing apples in plains is not generally seen but Sitaram Thakur has made it possible. Supported by his brother, using grafting and other techniques, he has not only grown apples in the plains, but has made many more horticultural innovations.

He has developed techniques to grow and cultivate mango and sweet lime round the year. He has modified several farm implements. His experimental spirit is worth emulating.



Sitaram Thakur
Una



Traditional herbal healer and bone setter

Traditional knowledge and specialised skills is getting eroded very fast. There are very few traditional bone setters and healers whose knowledge and skills have been acquired by the young people.

Mr. Thakur serves society with an extraordinary spirit of service. Efforts include detailed and systematic documentation of such skills , developing next generation apprentice system to keep their effective knowledge traditions alive and kicking.



Rumi Ram Thakur
Hamirpur



15th Shodhyatra

May 15-22, 2005

Majheen to Dadh Chamunda, Kangra

Shodh Yatra is a journey for the search of knowledge, creativity and innovations at grassroots.

Shodh Yatra is an attempt on the part of SRISTI, NIF and Honey Bee Network to reach out to the remotest part of the country with a firm belief that hardship and challenges of natural surroundings are the prime motivators of creativity and innovations.

Shodh Yatra aims at unearthing such traditional knowledge and grassroots innovations that have

not only simplified the lives of men, women and farm labourers but have also significantly contributed towards the conservation of bio-diversity.

The yatris, during the 15th Shodhyatra, over eight days traveled a distance close to 150 kilometers honouring innovators, traditional knowledge holders and centenarians on the way. Bio-diversity contests and recipe contests were also organised at various places. The participants included scientists, students, innovators, farmers and traditional knowledge holders.



57th SARDAR VALLABH PATEL HIWARI MAHOTSAV
Sponsored by the Government of Gujarat
May 18 to 22, 2005
70th Anniversary of the formation of India

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