

National Innovation Foundation Annual Report 2005-2006

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1. The Year at a Glance

The year 2005-06 was marked by a significant augmentation of the database of innovations and traditional knowledge practices. The Fifth National Scouting Campaign which started on January 1, 2005, seemed to indicate the number of innovative and traditional knowledge practices in NIF's database would inch closer to the 100,000 mark by the time it ended in December 2006. By the end of the fourth round (December 31, 2004), thanks to the support of the Honey Bee network collaborators, NIF had reached almost all corners of the country, and had in its database 63,368 innovations and traditional knowledge practices. The table below presents the progress over the years.

Table 1: Innovations and Traditional Knowledge Practices in NIF database (validated and finalized entries)

National Campaign	Number of Practices Scouted	Cumulative Total
First: March 1, 2000 – January 31, 2001	1643	1643
Second: February 1, 2001 - December 31, 2001	19461	21104
Third: January 1, 2002 - December 31, 2002	25809	46913
Fourth: January 1, 2003 - December 31, 2004	16455	63368

But then, mere scouting is not enough. Intensive value addition and business development have to follow. Enquiries from over 200 people from 32 foreign countries indicate that there is a demand for Indian grassroots technologies across the globe. Within India, the dissemination process was strengthened as a result of sustained television coverage through programmes like 'India Innovates' on NDTV. BBC and Discovery Channel have joined in as well. When Discovery wanted to introduce a series 'Beyond Tomorrow', based on the achievements of modern technologies, NIF's grassroots work provided it an ideal base.

But then, the disbursement of only about Rupees ten lakh of MVIF funds for business development and product development and about Rupees sixteen lakh for scouting and documentation showed that the emphasis had not yet shifted adequately towards markets. We hope that in the years to come, we will be able to convert more and more innovations and traditional knowledge into market-friendly products and services.

Social diffusion is no less important than commercial diffusion. Thus a new business plan competition, Pratyancha, was introduced. Students from various academic institutions were

asked to submit social diffusion plans for selected technologies of NIF. Since this was the first attempt, several technologies which could have been diffused through commercial channels were included as well. The aim was to involve young people in this innovation movement.

The Fifth National Campaign for scouting grassroots innovations and outstanding traditional knowledge, which started on January 1, 2005, is going on. It will take time for the entries to be collated, but initial indications are that the number of districts from where responses are being received is higher. The first few hundred entries have been received from over 180 districts. The wide coverage of NIF's message implies a greater moral and professional burden on delivering results. In the fourth round, the scouting activities for herbal knowledge had slowed down. The main reason was that NIF could not provide any incentive, either material or non-material, to the thousands of innovators and traditional knowledge holders identified so far. In fact, NIF could not honour any herbal healer because of constraints in validating their knowledge.

During the course of the year, the GIAN cells and the regional collaborators communicated details about the campaign through students and by systematically reaching out to people with the help of the District Administration, Panchayats, public bodies and established NGO



networks. Media attention to grassroots heroes in recent times has contributed immensely to our campaign and product dissemination efforts. The spirit of innovation in the strategies for scouting is manifested in the ways in which NIF forges new partnerships and reaches out to places where peoples' genius rests unsung.

'Shodhyatras' have been organized with support from SRISTI, Honeybee Network and IIM-A for a few years now. But every yatra has a unique focus and unveils new ways in

which scouting happens. The fifteenth and sixteenth shodhyatras were held in Himachal and Kerala, respectively. We reached remote corners of these two states and discovered innovations in impromptu street corner meetings. Volunteers of NIF, SRISTI, Honey Bee network and its other collaborators like SEVA, PEDS, walked from village to village and celebrated creativity and innovation at grassroots. The objectives of the Shodhyatra remained the same - documenting traditional local knowledge and felicitating knowledge holders, especially women centenarians. Twenty five women centenarians were thus honoured. They were rich in their knowledge of ecosystems and various aspects of coastal fishing. As before, children were involved through biodiversity contests.

This year also saw departure of an old colleague who had helped in laying down the foundations of NIF. Much of the credit for expanding S and D activities should go to Ms Riya Sinha, who shouldered various responsibilities at NIF, including those of National Coordinator (Scouting and Documentation) and Chief Innovation Officer. She left NIF for personal reasons in October, 2005, but will remain in touch with NIF. On the one hand we have had problems of high attrition, and on the other, there are examples like Riya's where colleagues not only stayed on for a long time but also helped significantly in the organization's growth. Her compassionate leadership during all the three Award Functions

held so far was noticed by all the innovators and their families. This year was full of activity, but was also marked by reflection and deliberation on the mission and dream of making India innovative.

2. Review of Activities: NIF

The National Innovation Foundation has a significant dual role to play in terms of coordinating regional arms as well as directly overseeing projects. True to the aspiration of decentralization, the organization performs the two roles with utmost clarity and considered involvement. The highlights of NIF's activities during the year are best understood through a discussion of the functional teams that form the basis of the organizational structure.

2.1 Scouting and Documentation (S& D)

The Scouting and Documentation team at NIF forms the backbone of the organization and performs the core functions of campaign management and documentation which in turn set the pace for value addition, product development and social diffusion. It processes the entries received directly or from various collaborators spread across the country. Apart from this, the members of the S&D team visit innovators all over India to document their innovations/ practices/ personal profiles. Most of the communication, either with the collaborators or with the innovators, is handled by the S&D team; for this purpose, it works in close coordination with the VARD, IPR, IT&D and BD teams.

The specific tasks undertaken by the S&D team during the period 2005-06 are as follows:

2.1.1 Screening of Fourth Round Entries

After the first round of screening, the accepted entries went through a second round of short-listing for presentation to the Research Advisory Committee in May-June 2006. NIF wrote to various Technical Institutions, Professionals and experts requesting their help in evaluating the short-listed entries and has received replies from many of them.

2.1.2 The Fifth Campaign

The Fifth Campaign started on January 1, 2005. NIF has so far received 865 innovations/practices (including Professional-100, PKD-44) from 183 districts of the country (Table 2). Most of them have been received directly from the innovators. We are still to organize the entries from our collaborators who are in the process of scouting and documenting the innovations in their areas of operation. These entries would form the bulk of the final collection that would be accepted into the database. The fifth campaign will end in December 2006 and we hope to receive thousands of entries of high quality by that time. The table below presents a categorization of the initial entries to illustrate the range of fields covered.

Table 2: Category-wise distribution of innovations/practices received directly during the fifth campaign (till February 2006)

Broad Categories	Sub-categories	No. of Innovations/Practices
Agriculture	Agro-Processing	3
	Agronomy	8

	Food Processing	4
	Horticulture	4
	Soil Management	2
	Sericulture	1
	Plant Variety	1
	Plant Protection	3
	Rural Machinery	15
	Water Management	6
	Forestry	1
Animal Science	Animal Science	14
Artisan	Artisan	2
Energy	Energy	32
Engineering	Engineering	61
	Civil/Construction	6
	Electrical	37
	Electronics	14
	Mechanical	57
	Power	4
	Transport	20
Household Innovations		39
Human Health Practices		342
Ideas		95
Others		94
Total		865

2.1.3 Grant Disbursed

In order to augment its scouting and documentation efforts in areas where it cannot reach directly, NIF disbursed around Rs. 16 lakhs as grant to its regional collaborators.

2.1.4 New Collaborations

NIF has built upon the Honey Bee philosophy to establish linkages with like-minded people and organizations. We have been very lucky and are proud to have such people associated with us from time to time in our endeavour to make India innovative. NIF's efforts in Jammu and Kashmir got a sudden impetus when our innovators, Mr. Zahoor Ahmad Shah and Mr. Mushtaq Ahmad Dar, became our collaborators. We have received many entries scouted by them from various areas in and around Anantnag. Talks have been on with Brig. Ganesham from Hyderabad to strengthen our S&D activities in Andhra Pradesh. Kerala IT Mission, a Government of Kerala initiative, has shown keen interest in the NIF model and possibilities are being explored for a possible tie-up with them as well. NIF also had two rounds of dialogue with Self-Employed Women's Association (SEWA) at Ahmedabad and Delhi to discuss and work on the strategies to develop a good work relationship with them. NIF is keen to develop this because the contribution of women in our National Register of innovations and ideas is not significant. Women, anywhere, are a great repository of traditional knowledge and any Register of knowledge would be incomplete without major contributions from women. A delegation from Michigan University visited National Innovation Foundation in March, 2006. The focus of the meeting was to develop a partnership which would use the resources at both ends for the larger benefit of the stakeholders. The team from Michigan University showed keen interest in the activities of NIF.

2.1.5 Children's creativity



NIF also joined hands with Central Board of Secondary Education (CBSE) to unearth the creativity of our children. NIF in collaboration with CBSE organized a National Competition for innovations and ideas for students. The competition generated very encouraging results. More than 100 entries were received from schools in twenty states. While the number of entries received was small, the range of creative ideas was wide. NIF appreciates the efforts and endeavours of CBSE in aiding its mission of

making India truly innovative. With CBSE's active cooperation we expect to scale up the process of scouting, documenting, disseminating and recognizing creative ideas, innovation and interesting applications of traditional knowledge from diverse regions, cultures and communities. Apart from this NIF brought out a special children's issue in September, 2005 with a special guest editorial by the President Dr. A.P.J. Abdul Kalam.

2.1.6 Prior Informed Consent Form

NIF has always tried to fulfil its ethical responsibilities towards knowledge providers. In the context of the knowledge economy, it becomes not only essential, but also mandatory, to ensure protection of the intellectual property rights of the innovators. Seen in the Indian context, the PIC form is a pioneering effort to safeguard an innovator's rights considering that there are no IPR laws in the country that can protect Traditional Knowledge. Apart from that, obtaining prior informed consent from the innovator also supports NIF's aim and mandate to diffuse and commercialize technologies. NIF has made an attempt to ensure this by drafting a Prior Informed Consent form for the innovators and TK holders. Over the years, NIF has been improving this form on the basis of the feedback and observations received from the innovators, collaborators and affiliated NGOs. However, certain obstacles to obtaining relevant information through the PIC have been recurring. These include the problems in explaining adequately the implications of the conditions in the PIC form, translating the PIC form into local languages for the convenience of the innovator, explaining the technical terminology in the PIC form, etc.

NIF's efforts are now geared towards improving and simplifying the primary PIC form and at the same time drafting a secondary PIC form for technologies and practices which can be commercialized so that the intellectual rights of the innovator are protected as well as the terms of benefit sharing as expressed by the innovator are specified.

As of now, out of the initial 865 innovations/ practices received for the fifth competition, 343 have been accepted. PIC forms have been sent to all of them and 35 have already been returned. We anticipate that the other PIC forms will be received soon in due course of time.



2.1.7 Shodhyatras

NIF supported SRISTI and Honey Bee Network in organising the 15th and 16th Shodhyatras held in May and December 2005 respectively. The 15th

Shodhyatra was organised from May 15 to 22, 2005 from Majhin (Jwalaji) to Dadh (Chamunda) in Himachal Pradesh while the 16th Shodhyatra was undertaken from December 27, 2005 to January 2, 2006 in the Idukki Ranges of Kerala, from Kumuly to Kattappana. Over the years Shodhyatras have developed into a major learning experience for all involved in them.

2.1.8 Saatvik 2005, the Traditional Food Festival

NIF supported SRISTI in organizing the 'Third Traditional Food Festival' on December 10-11, 2005 at IIMA. The overall objective of the festival was to encourage conservation of biodiversity and the knowledge system associated with it, through market mechanisms. The festival, unique in its kind, received tremendous support from the people and civil society organizations of Ahmedabad.



2.1.9 Foundation Day: February 28, 2006

NIF celebrated its Sixth Foundation Day on February 28, 2006 in Ahmedabad. The event was marked by the screening of the Discovery Channel video featuring four of our innovators for the gathered audience and organizing of an idea contest for the people. The awards were given by the EVC. Prior to the Foundation Day Celebrations, an awareness campaign was done in the vicinity to make people aware about the activities, aims and objectives of NIF.

2.1.10 Communications with the Media

The activities of NIF got a big thrust with the interest shown by premier national and international television channels. Discovery Channel India profiled a few of our innovators for its television program '*Beyond Tomorrow*' and held press conferences in Ahmedabad, Kolkata, Bangalore and Delhi. NDTV India started a regular series '*India Innovates*' in English and '*Aavishkar India*' in Hindi on its channel NDTV Profit profiling innovators across the country. These programs generated a lot of interest among the people and hundreds of enquiries were received within a month. BBC London had a program on grassroots innovations, where Prof. Gupta, EVC-NIF shared his views. DD-News also showed interest in profiling some other innovators for their program on grassroots innovations.

2.2 Value Addition and Research Activities (VARD)

The VARD team has provided technical and financial support to the innovations that have a potential for various incubation activities like prototype development, testing, design optimization and developing proof of concept model. VARD has extended value addition support to various technologies in collaboration with the GIANS. It has also played an instrumental role in the selection of award winning entries for the fourth round by coordinating with the members of the Research Advisory Committee (RAC). As per the prioritization advised by scouting and documentation team, the VARD section scrutinized the technical aspects of nearly 360 entries (exploratory and accepted category) to ascertain the novelty in each innovation.

2.2.1 Portfolio Generation

Innovative practices and technologies with similar applications were pooled together. Three such portfolios of related technologies in coconut/ areca nut husking, sprayer and automobiles were generated. These portfolios would be useful in technological benchmarking, value addition for development of new products and information sharing among the innovators.

2.2.2 Institutional networking

A non-disclosure agreement has been signed with Indigene Pharma, Hyderabad for research collaboration on practices from NIF's database. A presentation of selected entries in the area of human health was made to CSIR Laboratories in Lucknow (CIMAP, CDRI and NBRI).

Indian veterinary research institute, Izatnagar has selected fourteen veterinary practices for diseases like mastitis and reproductive disorders for validation and value addition at two of their departments. An MoU for three years will be signed shortly between IVRI and NIF. VARD coordinated with IPR department for developing the terms and conditions.

There were many other instances of collaboration with institutions, colleges and federations.

2.2.3 VARD - Animal Health Veterinary Institutional links

A Research Advisory Committee (Livestock) meeting was organized on October 25, 2005 to evaluate green grassroots technologies reported as cures for various livestock ailments. The workshop was attended by seven veterinary institutions *viz.*, Bombay Veterinary College (Mumbai, Maharashtra), Madras Veterinary College (Chennai, Tamil Nadu), College of Veterinary Science (Anand, Gujarat), College of Veterinary Science (Dantiwada, Gujarat), Indian Veterinary Research Institute (Izatnagar, Uttar Pradesh) and Rajiv Gandhi College of Veterinary and Animal Sciences (Pondicherry) and Animal Husbandry Department, Government of Gujarat (Gandhinagar, Gujarat). During the meeting *five projects* were sanctioned for conducting trials on unique practices for curing poultry diseases, lameness, and reproductive disorders in livestock.

Table 3: Validation of animal health practices

Sr. No.	Ailment	Veterinary Institutions
1	Marek's disease	Bombay Veterinary College, Parel, Mumbai, Maharashtra
2	Ranikhet disease	Bombay Veterinary College, Parel, Mumbai, Maharashtra
3	Bloat in large	Bombay Veterinary College, Parel, Mumbai, Maharashtra

	ruminants	
4	Lameness	Bombay Veterinary College, Parel, Mumbai, Maharashtra
5	Anestrus	College of Veterinary and Animal Husbandry, Anand, Gujarat
6	Endoparasite infestation	Rajasthan Rural Institute for Development Management Agency (RRIDMA), Udaipur, Rajasthan
7	Tapeworm infestation	College of Veterinary Sciences, Parbhani, Maharashtra
8	Reproductive ailments	Centre for Advanced studies in Veterinary Physiology, Indian Veterinary Research Institute (IVRI), Izatnagar, Uttar Pradesh
9	Wound	SRISTI laboratory, Ahmedabad, Gujarat

New initiatives were taken to identify other potential veterinary institutions to speed up the validation trials. The Rajasthan Rural Institute for Development Management Agency (RRIDMA), Udaipur, and College of Veterinary Sciences, Parbhani expressed their interest in evaluating animal health practices and two projects have been taken up at these institutes. NIF had documented a large number of animal health practices for curing wounds and fractures. A preliminary screening of unique medicinal plants was carried out at SRISTI, Ahmedabad and this resulted in the development of two unique antibacterial ointments.

Village meetings were held along with the potential innovators who had shared their wisdom. The relevant activities like validation trials, animal health product development and royalty were discussed in detail. Accordingly, voluntary consent in the form of Prior Informed Consent (PIC) with the traditional knowledge holders was obtained for the practices that had commercial potential.

Animal health products for industry interface: The various validation trials and field visits conducted for the unique herbal practices had generated 10 animal health products with potential for promoting industry collaboration. These products were for livestock ailments like bloat, endoparasites, anestrus, retention of placenta and wounds.

2.3 Business Development Activities

The Business Development team has actively pursued matters related to technology commercialization and entrepreneurship development. It has provided support to the various GIANS for incubation and has operationalized the MVIF. The major initiatives are mentioned below:

Some key milestones in Business Development:

- Micro venture finance and incubation support have been arranged for more than 11 innovations.
- In the year 2005-2006, two technologies were licensed by NIF through its regional office at GIAN-NE, at IIT Guwahati in Assam. The benefits have been shared with the innovators and other stakeholders as per the Prior Informed Consent framework.
- NIF and its regional offices have generated a total of 245 enquires till date for 16 products/innovations from 40 countries worldwide.
- Micro Venture Innovation Fund (MVIF): This year, a total amount of **Rs 9,85,447** was sanctioned to 11 projects through the MVIF Program.

Milestone I: Micro Venture Innovation Fund assisted projects

	Innovation	Innovator	Coordinating agency	Date of sanction	Amount Sanctioned
1	Tile Making Machine	Sukhranjan Mistri	GIAN-North	26.08.05	4,500.00
2	Bamboo Strip / Stick Making Machine	Imli Toshi Namo	GIAN-NE	07.04.05	9,000.00
3	Small Garlic Peeling Machine	Uddhav K Bharali	GIAN-NE	02.07.05	30,000.00
4	Groundnut Digger cum Separator	Yusaf Khan	GIAN-North	16.07.05	3,55,916.00
5	Innovative Rotavator	Rambhai Lallubhai Patel	GIAN-West	13.07.05	1,57,500.00
6	Passion Fruit Juice Extractor	Mr. Uddhab K. Bharali	GIAN-NE	04.10.05	25,000.00
7	Wood Apple Jam	Mr. Ashok K. Chakraborty	NIF	18.11.05	5,500.00
8	Rural Multipurpose Dryer	Imli Toshi Namo	GIAN-NE	15.12.05	12,250.00
9	Automatic Pump Operator	Manihar Sharma	GIAN-NE	15.12.05	99,541.00
10	Peelers for CIMAP (Safed Musli Peeling Machine, Medicinal Leaves Grinding Machine, Multipurpose Peeling Machine)	Uddhav K Bharali	GIAN-NE	3.01.06	86,100
11	Dual security alarm system	Aminuddin Ahmed	GIAN-NE	Feb 2006	2,00,140.00
			Total Amount Sanctioned		9,85,447.00

Milestone II: List of Technologies Commercialised by way of Manufacturing or Marketing License from NIF through its Regional Office at GIAN-NE

	Innovation	Innovator	Licensee	Profile of licensee	Date of licensing	Nature of rights
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1	Usman agarbatti stick maker	Usman Shekhani	M/S Virasa Enterprise	It is a small partnership start-up firm that deals in marketing of various products viz. medical equipments, Feng Shui agarbattis, bamboo screens etc.	1 st May 2005	Non-exclusive marketing rights for NE states
2	Areca nut peeling machine	Udhab Kumar Bharali	Sanwormal Agarwal		3 rd March 2006	Exclusive for Assam state and non exclusive for other parts of India

Milestone III: Enquiries for products

International Queries for innovations and source of queries		
Sr. no.	Innovation/product	Countries
1	Coconut/palm tree climbing device	USA, United Kingdom, Vietnam, Australia,
2	Entech oil expeller	USA, United Kingdom, Australia, Philippines, Canada, Kenya, Colombia, S. Africa, Switzerland, Poland,
3	Garlic peeling machine	Slovenia, USA, Turkey, Peru, Singapore, Iran, Venezuela, Pakistan
4	Pomegranate deseeding machine	USA, Australia, Turkey, Venezuela, Hong Kong, Israel, Netherlands, Thailand, UAE
5	Cassava peeling machine	Congo, USA, Benin, Nigeria, Kenya, UAE, Uganda
6	Aaruni tilting cart	Uganda
7	Coconut defibering machine	China
8	Coconut dehusker	Mexico, New Zealand, USA
9	Lemon cutting machine	S. Africa
10	Milking machine	Bangladesh, Uganda, Ecuador
11	Entech oil expeller	Indonesia, Belgium
12	Palm leaf mat weaving machine	Fiji
13	Rain Gun (Chandraprabha)	Sudan
14	Tea making machine	Bangladesh
15	Tile making machine	Bangladesh
16	Trench digging machine	Pakistan

Milestone IV: Mapping of Commercializable Technologies

Altogether 149 innovations have been short listed from all the four competitions based on the parameters of novelty and techno-commercial viability. A detailed analysis of the market potential, in terms of revenue as well as geographical reach is being done, which should facilitate the identification of potential entrepreneurs for technology transfer.

Milestone V: Initiatives for diffusion of innovation with high social impact

With the aim of diffusing innovations that have a high social impact or which can be taken up by NGOs or its activity centres, the Business Development team initiated discussion with Janvikas, Saath Charitable Trust and Medhavi, NGOs working in the area of diffusion or livelihood generation. Based on their feedback, a portfolio of technology suitable for socially diffusion is being identified and developed.

A meeting was arranged with Mr. Naveen Chand, partner 'Pariskar', a Section 25 Company providing consultation to SHGs in Andhra Pradesh on livelihood opportunity, marketing infrastructure, financial and monitoring requirement. Initial attempts on working with SHGs around enterprise building through the diffusion of traditional technology and knowledge are being made.

Milestone VI: Mapping of Social Innovation for Diffusion

Thirty one innovations from all the competitions have been short-listed based on their social impact, drudgery reduction potential and contribution to the lifestyle development. These innovations can be provided to the NGOs working in the areas of livelihood generation, and social and gender empowerment.

Milestone VII: Brainstorming session on 'Improving Delivery of Incubation System & Processes at NIF and GIANS'

A brainstorming session was conducted with participation from NIF staff and Prof. Sarin, from XLRI on April 26, 2005. The deliberations revolved around mapping of innovations that had been recognized by NIF, case studies, successful commercialization cases, strategies followed for commercialization, resource and capability mapping, portfolio strategy for 2005-06 and related key concerns. Further it was agreed that one hundred and twenty six innovations from the first three competitions would be mapped, according to the novelty and degree of difficulty in marketing. Also two to three models for providing incentives and motivation of the staff such as schemes for benefit sharing, ESOPs, Co-op Society, forming a separate company etc., were discussed. The session was thought provoking and action oriented. It calls for further small group reflection and work design so that the concerns can be worked upon effectively. A consensus emerged that there needs to be a differentiated screening of entries for two purposes i.e. award and for commercialization.

Milestone VIII: Website Development

In its effort to commercialize grassroots innovations, the BD team felt the need to have a better web presence. The BD section assessed its incubation requirement and the need to promote its incubation services and then revamped the website www.nifindia.org/bd. The contents are as follows:

- **About us:** This section gives a contextual understanding of our incubation process and our partners.
- **Technology Matchmaker:** A section is dedicated to technology licensing, with a subsection on cross-sectional and cross-regional application of the innovation, and a technology forum for technology users to post problems and identify suitable applications.
- **Incubation Services:** This section contains a detailed overview of the incubation service such as Business Idea and Technology, Business Planning and Guidance,

Dissemination Support, Networking with Strategic Partners and Financial Support (MVIF).

- **Technology Catalogues:** 62 detailed technology catalogues have been posted on the website covering 18 technology categories. The visitor has the option of responding either by email or filling up a letter of intent clearly specifying his/her requirement. For some innovations, a two-page Investment Opportunity Document is attached.
- **Students' Initiative:** This section contains the student participation initiatives from BD viz. SCAI, DISHA, DISHA-Social, SAAKAR and internship.
- **Advance Search option:** This section facilitates advanced site search for technology licensing based on an entrepreneur's specific requirement.
- **Knowledge Resource:** This section contains articles of Prof. Gupta and Dr. C. K. Prahlad, and resources such as industrial clusters of India, portfolio analysis of stoves etc.
- **FAQ:** This section contains a set of frequently asked questions and answers taking into consideration the requirements of various stakeholders in the technology development and diffusion chain. The stakeholders can be the entrepreneur, venture capitalist, innovator, retailer, mentors, government agency, NGOs etc.
- **Glossary:** A list of commonly used terminology at NIF.
- **Press Room:** This contains regular news update from the BD section.
- **Join:** This section is dedicated to the "champion"/ mentor with a provision for online enrolling.
- **Feedback:** The web visitor can provide feedback on the site
- **Disclaimer & Terms of use:** This fulfills legal requirements.

Milestone IX: Development of E-catalogue

Handouts and e-brochures on 62 technologies, covering 18 product categories, have been prepared. The brochure contains the following information:

- Technology category
- Technology description (product positioning statement)
- Market opportunities (global market)
- Application domain
- Cross-sectoral application
- Technology status
- IPR status
- Minimum bid for technology licensing fee
- Investment opportunity documents
- Features
- Technical details
- Innovation profile

Milestone X: Posting on Technology / Trade portal

www.birchbob.com

www.dir.vorras.net

www.alibaba.com

www.asean-trade.com

www.foodprocessing_technology.com

www.ebay.com

Milestone XI: Developing Incubation Network

The BD section has been experimenting with local incubation associates for catering to the local markets and identifying entrepreneurs. Mr. Dayal Singh, Delhi has been appointed as one of our incubation associates for Delhi. Currently he is actively pursuing market research and scouting entrepreneurs for natural water cooler, rain gun, lemon cutting machine and garlic peeling machine. A product information brochure and financial assistance of Rs 50,000 have been provided in the initial phase against preset target.

Milestone XII: Developing User Manuals for Commercializable Technology

Taking into consideration the problems faced by the users in operating innovative products as well as to create a customer friendly image, the BD section has started to develop user manuals. In the initial stage, user manual of garlic peeling machine has been developed by Mr. Sathish (SEVA).

Milestone XIII: Meetings and Exhibitions

After identifying specific areas of synergy with established corporate players and with the objective of developing partnerships, a team from Mahindra & Mahindra (M&M) - R & D division was invited to our office on 4th May 2005. The areas identified are:

- Small low cost tractor: incorporating grassroots design perspective.
- Farm implements.
- Involving some of the grassroots innovators having relevant background in R&D activities with specific assignments.

Milestone XIV: Showcasing in Trade Fairs, Technology Fairs, Rural & Urban Exhibitions

Some of the innovations were demonstrated to industry stakeholders to generate opportunities for commercialization and to get feedback from experts for product development.

- Three prototypes of innovations related to stoves i.e. Kerogas Stove (Sarfuddin Kazi), Super Auto Stove (Balubhai Vyasyo), Pressure-pump (Dineshbhai Asodiya) were demonstrated to the stove industries from Rajkot on 1st April 2005. Interaction with experts from the industry resulted in identification of areas for value addition in the innovations.
- The prototype of a tea making machine was demonstrated to Mr. Zakria M. Gheewala of Musaji Tea Co. Pvt. Ltd. (a tea processing business, supplying branded tea to hotels and restaurants) at NIF office on 3 May 2005. A few suggestions for improvement/ modification in the product were generated during the discussions.
- A Technology Summit (with Russia), was held at Hotel Vasant, New Delhi, where NIF showcased 20 technologies which had the potential to be commercialized. There were over 50,000 visitors in three days. The BD team also made presentations to 9 provincial departments for seeking opportunities in South Africa.
- The NIF team participated in the Jyoti Gram Exhibition organized by Gujarat Electricity Board at Bavla, Gujarat from June 5-7, 2005. Seven prototypes were exhibited, including Mitticool and natural water cooler, which were installed at the venue for sampling and consumer feedback.

Milestone XV: Partnering with the Voluntary Sector

In its endeavourer to reach out to the voluntary sector, and to provide exposure to development sector students in rural development and social empowerment, NIF has joined

hands with CAPART, a funding agency working under the aegis of the Ministry of Rural Development. Under this partnership one young professional, under the Young Professional Scheme, has been placed with the Business Development section to provide him/ her exposure in social and commercial diffusion of innovations.

Milestone XVI: Student Activities

As mentioned in last year's annual report, a total of 30 local SCAI chapters have been set up at leading educational institutes to facilitate scouting, spawning innovations, conducting market research and scouting for potential entrepreneurs. These continue to function.

Milestone XVII: Business Plans and Other Diffusion Plans

DISHA-Social: A Diffusion Plan Competition

With the objectives of enhancing social wealth and harnessing creativity for sustainable development, one of the chapters of SCAI launched a diffusion plan competition for mixed-return and open-source technology that could have a high social impact. Students with an orientation towards rural development and social work were invited to participate. The Plan is a rolling competition, having January and July (every year) as cut off dates for project submission. The total prize money is Rs. 80,000 per half yearly project cycle, with the winner receiving Rs. 20,000.

The competing students develop diffusion plans, identify stakeholders, prepare information education and communication (IEC) material and short-list potential funding agencies. NIF plans to submit the diffusion plans of some of the innovations to the identified funding agencies for social diffusion. In the first year of its launch, 20 educational institutes have been short-listed taking into consideration regional spread and specialization. The development of the web site for the competition has been completed (www.scai.org.in).

SAAKAR

Saakar is an event for scouting entrepreneurs among the students from different educational institutions and generating in them an inclination as well as capacity to start a business on any of the grassroots innovations or products from the traditional knowledge available in the NIF database. Students are also offered venture capital to convert their business plans into enterprises.

PRATYANCHA

National Innovation Foundation (NIF) launched PRATYANCHA 2005, which was a one of its kind, nation-wide diffusion plan competition, aiming to realize unexplored socio-economic impact of grassroots technologies. The competition was open to students with an orientation for social and rural development.

The objective of the competition was to enable students to understand community needs and identify appropriate grassroots technologies to fulfil them. Participants are expected to develop viable plans for diffusing grassroots technologies that have potential to enhance social wealth, improve people's lifestyles and facilitate sustainable development. A good diffusion plan would encompass stakeholders' analysis, a blueprint of the intervention and practical implementation of the outreach proposition through non-governmental Networks and Community Social Arrangements leveraging existing programs and policies of governments.

The overall prize amount for the competition is over Rs one lakh; the prize for the Best Diffusion Plan was Rs. 25,000, and for the first runner up Rs. 15,000 and second runner up Rs.10,000. In addition, there was a Special Prize of Rs. 25,000 for the team which successfully managed to convert its diffusion plan into reality.

NIF, in coordination with the agri-business club of IIM-Ahmedabad, as part of the latter's festival Amaethon 2005, organized events for enterprise development planning and for preparing strategies for diffusion. Nine teams participated this year.

Milestone XVIII: Interns working with NIF

The BD team has been inducting interns from premium business schools from all over the country. In the last one year, 8 interns from leading educational institute such as IITs, IIMs, JBIMS, IIFMs and IIIT were inducted. The interns were assigned a variety of projects with NIF and its incubation partners, with the overall supervision, induction and logistics coordinated by the BD team.

2.4 Intellectual Property Rights

During the year 2005-2006 NIF filed thirteen patent applications. Besides prosecution of patentable technologies, IPR cell probes into protection of all other Intellectual Property Rights. GIAN West under the Patent Assistance Cell filed three design applications in the year 2005. The IPR cell at NIF has also submitted nine examination reports issued by the various patent offices.

NIF also filed 1 **US patent** application and 1 PCT application. Two US patents were procured through SRISTI: "Adaptive Agricultural Machine" (Bullet Shanti) of Mansukhbhai Jagani Patent No. **6854404** dated Feb 15, 2005, and "Tractor having a convertible front end and variable track width and related methods" of Bhanjibhai Mathukia Patent No. **6902022** dated June 7, 2005. Patent filling for the successful entries of 4th RAC (Mechanical and Agriculture) is under progress. Firms like Anand & Anand, Surana & Surana, Global Business Solutions, and THT-Boston (USA) have given their *pro bono* services to NIF.

Table 4: Patents Filed

	Competition	Innovation & Innovator	Country	Law Firm	Status	Application No.
1	Third	An Automatic String /Thread Winder, Rameshbhai Kasturbhai Panchal	India	Direct	Filed-GIAN-W Draft-NIF	Awaited
2	Third	Cassava Peeling Device	India	Anand & Anand, New Delhi	Filed by NIF	719/kol/2005 F.D. 9/8/2005
3	Third	Safed Musli / peeling device for herbs	India	Anand & Anand, New Delhi	Filed by NIF	Awaited
4	Third	Pepper Separator	India	Surana & Surana, Chennai	Filed by NIF	1685/Che/2005
5	Third	Garlic Peeling Machine	PCT	International Bureau - Geneva	Filed by NIF	PCT/IB2005/003545
6	Fourth	Mobile Paint Mechanism	India	Anand & Anand, New Delhi	Filed by NIF	123/MUM/2006
7	Second	Banana Slicer	India	Global Business Solutions	Filed by NIF	292/CHE/2006
8	Fourth	Variable Power Generator	USA	THT, Boston, USA	Filed by NIF	Awaited
9	Fourth	Variable Power Generator	India	Anand & Anand, New Delhi	Filed by NIF	Priority date Awaited
10	Fourth	Telephone operated electric switch	India	Anand & Anand, New Delhi	Filed by NIF	618/DEL/2006
11	Fifth	Protection device for preventing accidents in railway tracks	India	Direct	Drafted and filed by GIAN-NE	357/KOL/2006 /24/06
12	Fifth	Mobile Security system	India	Direct	Drafted and filed by GIAN-NE	256/KOL/2W6 /24/06
13	Fifth	Dual Security alarm system	India	Direct	Drafted and filed by GIAN-NE	355/KOL/2W6 /24/06

2.5 Information Technology and Dissemination Activities

The various activities concerning IT and dissemination undertaken at NIF during 2005-06 are summarized below:

1. **Entries in electronic database:** Most of the entries are received on paper through hand written letters and often these are in local languages. These entries have to be translated, edited and typed for incorporation in the electronic database. During the period under report, 8218 entries of the fourth competition were entered in the electronic database of NIF (National Register) along with 1466 entries of the fifth competition. There were 7200 Inward entries and 1910 Outward entries.
2. **Document Management System:** All entries scanned into the electronic database are made available in this system against the reference numbers of the entries.
3. **Web Server:** NIF's web server was upgraded with new patches to fight spam and viruses. Viruses affected our server twice otherwise it functioned optimally.
4. **Offline Server** is now split into three independent servers for better functioning.
5. **Intranet File Server:** This server was upgraded and consists of RAID Facility that allows mirroring to facilitate back-up and is running successfully.
6. **Intranet Mail Server:** A new independent mail/proxy server was installed, which is dedicated for emailing, maintaining log of sites accessed and overall control of appropriate usage of net facility. The mail server is functional but we are yet to make headway in the back-up of the web server to be hosted in USA.
7. **Application Web Server:** This is an independent server for deploying intranet applications, which are developed for NIF. All the websites/intranet applications, which are to be deployed online, are first hosted on the application server. This system is in practice.
8. **Software development:** Using open source technologies and with the help of a contractual IT team (CRANTI) and some summer interns, the following software was developed:
 - a. Reference Data Integration with NIF sanchalak.
 - b. Documents Search Engine integrated with NIF-sanchalak: this will allow all the scanned data to be searched and viewed using nifsanchalak.
 - c. Designed and Developed a forum for discussion at <http://www.nifindia.org/forum>
 - d. Websites designed and developed SRISTI website into CMS www.sristi.org.
 - e. Disaster Information Management System DIMS into cms www.sristi.org/dmis.
 - f. Developed Anilg blog sub-site: <http://www.sristi.org/anilg>.
 - g. Extension of BD website: <http://www.nifindia.org/bd>.
 - h. Upgraded GIAN Website <http://west.gian.org>.
 - i. Designed and developed NAPAlert Plant database system for reference and entered around 350 plants.
9. **Internet connection:** NIF switched to a faster and efficient leased line cable broadband connection through BSNL.
10. **A local server** on the net was set up for hosting honeybee.org: (Currently it is hosted with local vendor Net4India).
11. During the fourth award function, a higher level of IT involvement is projected for coordination of logistics, registration, accommodation and committee meetings so that processes and information flow become smoother.
12. **Dissemination Activities:**
 - **Multimedia CDs:** A total of 6000 CDs and 5000 campaign posters have been circulated during the 2005-06.

- **Building Linkages:** Drishtee Foundation is scouting for the fifth campaign through kiosks set up by them in Madhya Pradesh. However, technical know-how for software support and operation of the kiosk is provided by NIF.
- **Posters:** More than 50 posters were designed for Food festival, Tech Fest and RAC functions. The posters were printed in both English and Hindi.
- **Participation in Exhibitions and Fairs:** The National Innovation Foundation participated in various exhibitions and Fairs to spread awareness and establish contacts that could contribute eventually to the scouting or incubation processes. Among the significant events attended was the Food Festival organized by SRISTI for market assessment of innovations related to organic farming, food processing etc. NIF also participated in the Techbazar exhibition organized by ICFAI-DSIR at Hyderabad, Wardha Wardhan exhibition, Tech Fest IIT Powai, the Mind Bend symposium organized by SVNIT, Surat and the first Nepal Agro Tech Expo – 2006 at Shahid Rangshala, Biratnagar held during March 2-11, 2006, which was organized by Chamber of Industries, Morang (CIM), Ministry of Agriculture and Cooperation, Govt. of Nepal and Farmers' help Centre, Sunsari.

13. Geographical Information System (GIS):

The following GIS maps were prepared:

- 1st, 2nd, and 3rd round competition awardees
- 1st round competition District coverage
- 2nd round competition District coverage
- 3rd round competition District coverage
- 4th round competition District coverage
- 1st, 2nd, 3rd, and 4th round competitions' district coverage of unique practices.

An Interactive map was prepared on 1st, 2nd, and 3rd competition Awardees using a demo version of HTML Image Mapper 9.2. In addition to State and District-wise distributions, a source-wise distribution of accepted, exploratory and rejected entries/practices of 2nd round competition database was generated to assess the quality of data collection by various sources.

14. Website: Beta version of CMS based NIF website: www.nif.org.in, with desired changes in the layout of the site, was uploaded; all the links on the site are organized and search features have been added.

- News section of the site has been re-structured.
- National & international links have been arranged and new links have been added.
- New links include visitors at NIF, Donate blood, Archive, Invitation for Quotation, Upcoming events, Poster gallery and a new map for the collaborators.
- Most of the pages of the site have been updated with the latest information. The home page and the activities of all departments have been updated with added statistical features.
- NIF in news and downloads section have also been added.

3. GIAN Activities: An Overview

3.1 GIAN West

3.1.1 Technologies Transferred

Technology incubation was undertaken for Vanraj Tractor, motorcycle ploughing machine, oil expeller, auto compression sprayer, bicycle hoe, buttonhole edging machine, wind operated power generator, reciprocating hydraulic water pump, paddy threshing machine, sugarcane rotavator. The exclusive manufacturing and marketing rights for the state of Maharashtra and non-exclusive rights for Andhra Pradesh for the Bicycle Hoe, developed by Shri Gopal Malhari Bhise, were sold to M/s Sachin Welding Works, a small proprietorship firm owned by Shri Subhash Jagtap, another grassroots innovator and a small village level fabricator.

3.1.2 Award of Patents in India and USA

Indian Patent and United States Patent Office awarded patents to the following grassroots innovations. This is in addition to the patent awarded to the Cotton Stripper machine, which had received the US patent in April 2003.

In India:

Innovative Tong (Design Registration)	20/03/2005	199020/class 07-02
Motor Protection Device	16/09/2003	963/MUM/2003*
Auto Compression Sprayer	2/9/2003	883/MUM/2003*

* Patent granted but number awaited.

In USA:

Adaptive Agriculture Machine (bullet Santi)	15-Feb-05	US 6,854,404 B2
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3.1.3 New Initiatives

- S & D campaign for innovations and entrepreneurs:** Two day scouting and awareness building camp for new innovations, value addition partners and entrepreneurs was organized at SURAT. We received encouraging responses to the newspaper advertisement and about 10 innovators and 20 entrepreneurs approached us during the campaign.
- CSIR Initiative for Value Addition:** A presentation was made to the JIC that was held on August 17th in which 4 innovations from GIAN West were selected for value addition and product development. These are - Variable speed generator (CEERI), Auto compression Sprayer (CMERI), Matchstick from Natural Fibre (Energy Group) and Motorcycle driven sprayer (CMERI).
- Proposal for Technology Acquisition Fund for acquisition of technology for diffusion in the state of Gujarat:** GIAN had given a proposal to the Gujarat Government under the newly introduced "Technology Acquisition" Scheme for the technology acquisition of the Oil Expeller for diffusion in the state. The state government has considered the proposal favourably and a meeting for final evaluation is expected to be held in August when the case would need to be presented by GIAN. The government would like GIAN to acquire the technology

and then diffuse it through the market rather than acquiring the technology themselves. A meeting was held with the office of Industries Commissionerate in the presence of Mr. Arvind Agrawal, Industries Commissioner. He was very positive about the proposal. However, he mentioned that the Commissionerate has still not received the earmarked funds for the scheme. These are expected in a month or so.

4. **“Customer focused” product development activities were initiated:** The objective was to undertake product development based on the specific requirements of the customers, using the grassroots innovation as the platform technology. GIAN undertook development of a Pedal Operated Power Generator along with the Institute of Engineers, Hyderabad. The objective was to develop an effective and cost efficient mechanism for decentralized power generation especially in remote areas and villages, which are not serviced by the power grid. We used an existing self exciting generator developed by Mr. Abid Hussain, a grassroots innovator from Delhi, and developed an interface for utilizing the pedal power of a conventional cycle to drive the generator.
5. **Engagement with CIPET:** GIAN visited the Central Institute of Plastic Engineering Technology, Ahmedabad to explore the possibility of utilizing advanced infrastructure facilities available with CIPET. After the GIAN visit to the CIPET, the Director of CIPET visited the GIAN / NIF facilities. They are interested in providing support in value addition wherever any use of plastic is involved. Given their CNC manufacturing facility, CIPET can help in prototype development of complex projects. Also, they have comprehensive testing facilities for plastics. Following the visits, they showed interest in undertaking the final prototype development of the Cycle Operated Washing Machine.

3.1.4 Presentations and Networking

1. **Presentation to M&M:** A meeting, followed by a brainstorming session, was held in Ahmedabad with the top R&D team of Mahindra & Mahindra Limited - Farm Equipment Sector (FES) Division. The purpose of the meeting was to identify areas where GIAN and NIF could assist M&M in their new product development initiatives relating to the farm sector. Various areas, especially pertaining to low cost farm machinery and implements, were identified where M&M would be interested in joint product development. A second visit of M&M team is expected to give a more concrete shape to the engagement.
2. **GIAN made a presentation at an Innovations Seminar organised by the Technical group of the Indian Army.** The purpose of the seminar was to deliberate on the need and process for tapping and augmenting innovations done within the Indian Army into deployable products and services. GIAN shared its experiences of managing a similar process within the domain of grassroots innovations. GIAN also used the platform to highlight some areas where innovations could be developed into customised products having applications for the Indian Army.
3. **Self-Employed Women’s Association (SEWA):** A series of presentations were made at the SEWA district level meetings of team leaders to demonstrate relevant innovations and to get feedback on their applicability. Demonstrations were made in Ahmedabad, Anand, Bodeli (Vadodara) and Surendranagar. Some technologies, for which the participants gave a positive response, have been short-listed. The modalities for dissemination of these through the SEWA network are to be worked out.

4. **SEWA BHARAT:** A presentation was made by GIAN and NIF to representative of state coordinator of SEWA Bharat at New Delhi. Various possibilities of scouting grassroots innovators and traditional knowledge holders among the SEWA community and diffusion of women related technologies have been explored.
5. **Ahmedabad Management Association (AMA):** A presentation was made as part of a seminar on innovations organized by the AMA. The case of development, value addition and technology transfer of the 10 HP mini-tractor was presented in detail by the innovator. GIAN also made a short presentation on the other technologies being incubated.
6. **Indian Science Congress:** GIAN participated in the Indian Science Congress held in Nirma University, Ahmedabad. Last year it had participated in the Rural Science Congress, organized by the Magan Sanghralaya, Wardha. Such participation helped in building links with “informal” scientists and other individuals and organizations connected with developing or promoting technologies for villages.
7. **College of Engineering, GAU, Junagadh** was approached for exploring the possibility of designing some projects of GIAN for the B.Tech. of GAU. The process of networking with GAU had been started earlier in the year. A list of fifteen projects was provided. The students will do the design and prototype development for application in Gujarat.
8. **Eleventh TePP PRC meeting:** TePP Project Review and Evaluation Committee meeting was held with Shri Abhyanakar where a total of 24 potential value addition proposals were presented from all GIANS and SRISTI. Fifteen new proposals have been presented to the committee for approval. The committee has approved six new proposals and recommended them to the Finance department for final approval and release. This would cut down the processing time for funding drastically.
9. **Presentation in workshop organized by IFC:** The local representative of IFC in Ahmedabad had organized a meeting in Delhi with Usha Martin and Bhartiya Yuva Shakti Trust (BYST) with the objective of exploring how an effective value chain could be built in which the entrepreneurs of BYST could take up some the innovations of GIAN which could have a ready market in some of the social initiatives of Usha Martin like dairy farming, organic farming etc.

3.1.5 Project Activities

1. **Auto Compression Sprayer:** GIAN has undertaken further value addition of the prototype with the assistance of the regional office of Reliance Industries with the objectives of a) reducing the weight through incorporation of suitable plastic material and b) using a suitable mechanism to reduce the frictional losses encountered during the reciprocating motion. Special tanks have been developed out of HDPE, which is a material suitable for storage of chemicals, with the help of a customer of Reliance Industries. Through the support of Reliance Industries, a mechanism using Linear Movement (LM) bearings has been developed which will ensure minimization of frictional losses in the reciprocating motion of the dead weight and could also reduce the need for having a 5 kg dead weight, thereby further reducing the overall weight of the device. The final prototype incorporating both these features is under development.
2. **Buttonhole Edging machine:** GIAN thought of involving the entrepreneur at the incubation stage itself for product development. GIAN approached Singer Sewing Machine and met Mr. N K Negi, General Manager (Industrial Products) in Delhi. His reaction was that Singer India is more focused on industrial sewing machines. Given the capacity of the buttonhole machine (200 to 250 shirts per day); it cannot qualify

for use by garment factories because their need is around 1000 shirts per day. The target for the machine we presented can only be a tailor, which is not their focus area. He gave the references of Usha Sewing Machine (Delhi) and two companies in Ludhiana – Rita Sewing Machine and Friends Sewing Machine, which are strong in the domestic sewing machine segment and could be interested. GIAN shall work further on this project only with the involvement of an entrepreneur, not otherwise. We have also reinitiated contact with the Ludhiana based Sewing Machine and Bicycle R&D Centre for funding the development of the machine based on the design of Kamdar if they are able to source matching investment from an entrepreneur. They have shown interest in the proposal and are scouting for interested entrepreneurs. The second prototype of the Buttonhole machine (TePP funded project) is almost ready. GIAN Cell Tumkur has also been approached, apart from some other institutions and private agencies for gauging their interest in the project.

3. **Motorcycle Ploughing Machine:** The machine was demonstrated at the Indian Army Innovations Seminar, held at the Army Head Quarters in New Delhi. In addition the device has also been short-listed for value addition by the CMERI, Durgapur as part of the ongoing joint CSIR – NIF MoU (details provided later in the document) for value addition of grassroots innovations. The patent was awarded in the United States of America on February 15, 2005. The innovator was able to sell around eight units of the device this year, which is a significant jump over the average 3 to 4 units that he has been selling since the last few years. GIAN has explored alternative applications of the device especially in the area of salt harvesting because of the inability of conventional tractors to operate on salt beds which have low weight bearing capacity. The salt harvesting industry is highly labour-intensive and with increasing shortage of labour is facing the problem of irregular output supply and low productivity. Heavy traction force is not needed in the case of salt harvesting, making conventional tractors unviable.
4. **Oil Expeller:** A proposal for acquisition of the technology of the Oil Expeller under the Technology Acquisition scheme of the state government was submitted. It was later discussed at a meeting called by the Industries Commissionerate, where the proposal was reviewed favourably. The proposal is still under consideration and final approval is awaited. GIAN was also able to generate an enquiry from an entrepreneur from Hyderabad who was planning to set-up an oil extraction unit in Andhra Pradesh. After discussions and negotiations with him, he has placed an order for three units for the oil expeller machine. This order has given an opportunity to the innovator to implement improvements in the gear design.
5. **Bicycle Hoe:** The technology of the bicycle hoe was transferred to Mr. Subhash Jagtap towards the beginning of the year. The entrepreneur has been able to sell more than 150 units of the device in Maharashtra and Andhra Pradesh. GIAN is also working on the development of a motorized version of the machine along with the innovator. The detailed design specifications are to be developed in consultation with an expert. A visit was made to Himmatnagar to see the demo of a motorized weeder. The innovator had supplied a tiller type “push” driven weeder to a farmer but the farmer had converted it to a self-propelled type by fixing a steering handle in the front band seat for the driver. There seems to be a demand for a 3 to 5 HP power small self-propelled weeders (like a tractor), given that another innovator who had initially developed a push type weeder using a Bajaj scooter, had developed a 5.5 HP mini tractor to be used only for weeding. The feasibility of developing such a product specifically looking at the weeding operations and spraying (Mulubhai tractor) is being explored. A visit was also made to a company in Baroda that has

developed a 3.5 HP weeder and is marketing it. The option of joint development was also explored with them.

6. **Water Actuating Reciprocating Hydraulic Pump:** Shri Dineshbhai Mistry from Rajkot has developed a two-stage pump that uses water as a hydraulic fluid for providing reciprocating motion to the piston of the submerged stage. The pump was tested extensively and based on the results further improvements were undertaken. While there was an improvement in the efficiency, it was still very low. After consultation with some pump and hydraulics experts, it was concluded that certain basic design and material changes would have to be done for the efficiency to improve drastically. The proposal has been submitted to TePP for funding and has already received in-principle approval.
7. **Paddy Threshing Machine:** The innovator Shri Dilip Singh Rana has developed the prototype of a paddy threshing machine, which threshes paddy without cutting the stalk. The prototype was tested during this paddy-harvesting season and very positive results were observed. The project was also submitted to TePP for funding and they have recommended some improvements in the conveyor feed mechanism, which are being implemented by the innovator. GIAN has extended financial help to Shri Rana for prototype development. GIAN west has also received encouraging farmer feedback.
8. **Sugarcane Rotavator:** The sugarcane rotavator, having two rotors instead of one, has been developed by Rambhai Patel of Surat district, Gujarat. The post harvesting process of stub removal and land preparation can be done in one single operation instead of three to four operations by a single-rotor rotavator. The innovator has been supported under MVIF for development of one unit, which will be rented out to sugarcane farmers.
9. **Incense Stick Maker:** Mr. Ushman Shekhni of Chhatisgarh had developed a small manually-operated hand-held device using which multiple splints of equal thickness can be made. Mr. Paresh Panchal of Ahmedabad modified the machine by attaching a hand operated driving wheel which drives a series of rollers that aid in pushing the sticks for cutting, thereby increasing the cutting capacity to 5000 splints per hour. A motorized version of the same, with a capacity of 50,000 splints per hour, was then developed. The video of the machine has been sent to GIAN North East for customer feedback, given that majority of the bamboo cutting is done there. The proposal for final product development and undertaking trials of the machine was submitted to TePP and they have suggested incorporation of a) treadle operated system rather than a motor driven one and b) integration of other processes like sizing and splinting with the same machine.
10. **Groundnut Separator:** The groundnut digger developed by Shri Yusuf Khan from Rajasthan has potential in Gujarat. When attached to a 35 HP tractor it removes the groundnut that gets left in the soil after harvesting. GIAN had submitted a proposal to TePP for customization of the machine for the non-sandy soil conditions of Gujarat, which has a much larger production of groundnut as compared to Rajasthan. As per the comments of the Project Review Committee (PRC) of TePP, GIAN will have to come up with some conceptual designs suitable for the local soil conditions before the project could be supported. Mansukhbhai Jagani grassroots innovator from Amreli who had also developed the Motorcycle driven plough, is



working on developing a working model for the soil conditions of Gujarat. Once this is ready, final proposal can be submitted to TePP for funding.

11. **Tea Making Machine:** The Indian tea-making machine developed by Shri Ashok Dhiman of Haryana

makes tea as per the conventionally used method of boiling all ingredients – milk, water, tea leaves and sugar together. The machine also has the functionality to allow for customization of taste. The basic functional prototype of the machine has been developed by the innovator and further refined by GIAN (North). GIAN was approached by a tea processor in Bharuch for product development of the machine based on the design of the machine developed by Mr. Dhiman. The tea processor had been looking for a vending machine that could make Indian tea but was unable to find a suitable machine in the market. GIAN had approached a start-up design company based in the NID incubator for delivering the product as per the customer requirements and had made a joint proposal to the entrepreneur.

12. **Manual Exercise cum Washing Machine:** GIAN has received an enquiry from the Defence Research and Development Organization (DRDO), Kanpur for a manually-operated washing machine that makes minimal use of water. While one innovator from Kerala had developed a cycle-operated washing machine, GIAN tried to identify some innovations from the Honey Bee database that used less water for washing. We were able to identify an innovator in Raipur, Mr Kamal Kumar Agrawal, who has developed a washing machine that minimizes the use of water by using compressed air. The two designs can be integrated and an appropriate product developed.
13. **Windmill Operated Double Acting Pump:** Shri Bharat Agrawat from Gujarat has proposed this idea. The technical feasibility of implementing the innovative double acting mechanism for windmill operated pumps was carried out along with the technical consultant of SEWA for installation at their salt works in Surendranagar. The installation of a pilot unit is expected to be done once the salt harvesting season restarts after the rains.
14. **Check Dam:** GIAN had signed an agreement with the Rural Development Department, Government of Gujarat for implementation of 100 check dams in one district as part of a larger project for transfer of relevant technologies. However, the project is yet to start.
15. **Jabbar Gear for Rickshaws:** The innovative 3 and 4-gear system developed by Shri. Sheikh Jabbar of Nagpur, has been developed with the objective of reducing drudgery for the rickshaw puller. In addition, certain other additions like rear disc brake and 2-wheel drive option have also been provided. The innovator was provided funds through MVIF for the development of two prototypes of the modified design, which have been successfully developed. One prototype has been demonstrated to the Krishi Vigyan Kendra, Jaipur for potential adoption of the technology and dissemination. This prototype will be used for demonstrations in North India, which is the major rickshaw market, in collaboration with GIAN-North. The second prototype is in Nagpur for user trials. Some students from Engineering College, Nagpur University, Wardha are interested in taking up the value addition work as their final year B. Tech project. The rickshaw would require technical inputs for conversion into a market ready product before it can be commercialized. Shri Kishorbhai Thakkar, an entrepreneur from Mumbai has shown interest in promoting the technology in Hardwar region. A deal is being worked out with him.
16. **Variable speed wind Operated Power Generator :** The Wind-operated Power Generator, developed by an innovator Dineshbhai Mistry from Rajkot, was tested at the Nirma Institute of Technology. However, only the generator was tested to see the power that was being generated with respect to the RPM of the input shaft. The testing of the windmill with the generator was done at the innovator's place, but given the lower wind speeds during the period, the test could not be concluded. The project was also taken up by some students of the Tolani Institute of Management for

development of a business plan as part of the DISHA business plan competition. The students are planning to get a comprehensive test of the windmill done from the Government Polytechnic in Adipur, Kutch by the middle of February.

17. **Key Way Making Fixture:** This innovative fixture, developed by an innovator from Maharashtra, makes it possible to undertake key way making operations on a lathe, which other wise requires the use of milling machine. The innovator has developed around 10 units, after incorporating some modifications as suggested by GIAN and NIF-VARD. These units shall be used as demo units with the end objective of transferring the technology to lathe and machine tool manufacturers.

18. **Low Cost Milking Machine:** The machine developed by an innovator from Karnataka, was demonstrated through videos during a workshop meeting organized by SWATI, an NGO working in the North Gujarat region for promotion of women empowerment and entrepreneurship. In addition, the details of the machine were discussed with the National Dairy Development Board (NDDB).



19. **Cost Effective and Efficient Air Cooler:** Shri Dharmendra Bhavsar of Gandhinagar has developed a cost effective and energy efficient air cooler which uses the compressor of a refrigerator (which is one eighth the capacity of

a 1 ton a/c compressor) combined with the conventional desert cooler concept of evaporation to effect heat transfer for the refrigerant. As a result, more cooling is obtained from a small compressor capacity and in the process running cost is also reduced. GIAN plans to undertake the necessary value addition on the innovation and will also look at the option of pooling the designs of some other air coolers, which are part of the NIF innovations database.

20. **Multi Purpose Agriculture Device, Kaspate:** This multi-purpose device has been developed by Shri Gorakhnath Kaspate, in such a way that the same device can do almost 30 operations by making slight modifications / additions to the base frame. The key feature of the device is the modular construction, which enables the device to be used for operations like seed bed preparation, tilling, furrow opening, compacting etc. GIAN has extended financial support for prototype development under MVIF scheme of NIF.

21. **Innovative Health Care Chair:** An innovative “swinging” armchair, developed by Shri Sakrabhai Prajapati, which has been provided with a number of hinges so that the person sitting can swing his limbs lightly and also do light relaxation exercises. The chair is a combination of a rocking chair and a “Jhula”. GIAN has provided market development support to the innovator to scale up.

22. **Low Cost Reflective Parabolic Solar Cooker:** The innovator, Nazim Sheikh, has developed a parabolic solar cooker using a very cost effective technique. Around 100 small rectangular mirrors have been placed on a hub and spoke structure, which acts like a virtual parabolic dish with one focal point, thereby focusing the rays of the sun at one single point. The technology has been discussed with GEDA and their initial comments are very positive, especially given the cost effectiveness of the prototype. GIAN has provided market development support for product development.

23. **Cotton Picking Machine:** Shri Natubhai Vadher from Surendranagar district, Gujarat, has developed a tractor mounted vibrating fork based machine for cotton picking, Another innovator, Mansukhbhai Patel, who had developed the Cotton Stripping machine, is also planning to develop a prototype that directly picks cotton balls from the crop using a vacuum system. GIAN west has arranged financial

support through SRISTI for this project. The innovator is still working on the machine to improve its performance.

24. **Energy Saving Permanent Magnet Based DC Motor:** Shri Ravjibhai Savalia of Ahmedabad, has developed a motor which minimizes energy loss by using permanent magnets combined with a brushless technology. This motor gives a very high efficiency. The motor was tested at ERDA and the test report confirms a 46% power saving compared to conventional motors. This technology has potential application in the textile sector in power looms. GIAN did the technology benchmarking for this technology but found that such technology exists in the market.
25. **Mini Lathe cum Polishing Machine:** Mr. Jharkar Madhav from Solapur has developed a small lathe machine that can also be used for polishing and drilling small jobs and other operations that are typically required to be done at the village level. It is an appropriate technology for village level fabrication needs. GIAN did the technology benchmarking for this technology.
26. **Ceiling Air Cooler:** The innovator, Mr. Suresh Mansaram More, had developed a novel system of using the conventional ceiling fan with an external evaporator as an evaporative air cooler, thereby obviating the need for a separate fan and pump, as in conventional evaporative air coolers. The cost of this system can be potentially very low. GIAN did the technology benchmarking for this technology.
27. **Low cost natural cold storage:** Shri Arvindbhai has developed a low cost cold storage for vegetables, which was demonstrated to a team from GEDA. While the feasibility will have to be worked out in relation to the current option of leasing space in refrigerated cold storages, the proposal is to be submitted to GEDA. The prototype has been tested at Krishi Vikas Kendra, Bharuch with the help of GEDA and the results are encouraging.

Table 5: Financial Assistance from MVIF and refund to MVIF during the financial year 2005-2006

	Name of project	Name of Innovator	Amount received during the F.Y. 2005-06	Amount returned/ repayment made to NIF for MVIF during FY 2005-06
1	Bicycle Driven Agri. Device	Dhirajlal Thummar	Rs. 12,750/-	Rs. 12,750
2	Sugarcane Rotavator	Rambhai L Patel	Rs. 1,57,500/-	NIL
3	Bicycle Sprayer	Mansukhbhai A Jagani	Rs. 16,000/- (FY 2004-05)	Rs. 7,779
4	Kite String Device	Shri Paresh Panchal	Rs. 7,15,000/- (FY 2004-05)	Rs. 3,63,405

3.2 GIAN North

During the third year of its existence, GIAN-North continued to contribute to 'Making India Innovative'. The small team of GIAN-North could live up to these expectations in most of the areas but could not make its presence felt in some. The new Governing Board was also constituted during the year which will be guiding the organization for coming three years under the chairmanship of Shri Inderjit Khanna. Three new members joined the Governing Board while one of the board members retired. Over twenty projects were taken up for

various value addition and promotion activities from north India. Eleven technologies from different states were procured for diffusion in Rajasthan in collaboration with the Department of Science and Technology, Government of Rajasthan. Of the eleven grassroots technologies from North India which are protected by filing patent applications, one has been filed this year. Commercialization initiatives have been taken up for six technologies but they haven't materialized yet. Process of validation of innovations has been strengthened by looping in some technical institutes which have helped in testing and evaluation. A research advisory committee meeting was also held at GIAN-North wherein selected innovations were presented to experts for their comments and recommendations. The demonstration of dry land forestry technique was made possible at Science Park also this year with the support of DST, GOR and National Innovation Foundation. Among the other activities, an interactive workshop for creating awareness about the activities of NIF/ GIANs among ex-service men was hosted at Jaipur in collaboration with the Directorate General of EME. Over 70 participants attended the workshop. GIAN-North represented NIF and Honey Bee Network in the 11th Technology Summit - 2005 and Technology Platform organized by CII and Department of Science and Technology, Government of India at New Delhi and showcased a poster exhibition on nine technologies from all over India. Of the five innovators from NIF database who found place amongst the twelve finalists of the Asian Innovations Awards 2005, one was from Rajasthan. The results of the first Media Awards were announced along with the announcement for Second Media awards to encourage the reporting of grassroots innovations. GIAN-North has been accorded recognition as Scientific and Industrial Research Organization (SIRO) by the Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India. The innovations and activities of NIF/ GIAN also received good coverage from the print and electronic media. The various activities during the year are described below in detail.

3.2.1 Value Addition and Prototyping

GIAN-North supported the following innovations for value addition and prototyping.

1. Mobile phone Operated Switch

Shri Prem Singh Saini of Haryana was supported for the prototyping of a Mobile phone operated electrical switch for any electrical device. Three prototypes of the device were developed. The device works in combination with a mobile phone and makes it possible to operate any electrical device by making a phone call from any other predefined telephone from anywhere. Whenever any call is made to this mobile phone from a preset telephone the device connected to it gets switched ON. It can be switched OFF by making another call from the same telephone. The calls made from un-identified telephones will not operate the switch.



2. Tile Making Machine

Tile Making Machine of Shri Sukhranjan Mistri of Uttaranchal has been redesigned and developed with the help of Shri Madanlal Kumawat of Danta (innovator of Multicrop Thresher). The device could be used to make low cost concrete tiles for roof making. The tiles being made of concrete do not require baking and hence the process is faster. The product has also been supplied to the science villages of Rajasthan for demonstration.

3. Ceiling Mounted Air Cooler

Shri Gopal Saluja of Ambala has been supported for the prototyping of a ceiling mounted air cooler. The prototype has been developed and tested at Haryana State Electronics Development Corporation Limited (HSEDC)/ HARTRON, Ambala. As compared to other existing alternatives, it covers wider area and needs no ground space for installation. Further efforts are being made to develop another improved prototype.

4. Multicrop Thresher with groundnut threshing

Multicrop thresher had been rewarded by NIF during its first award function. This single thresher could be used for over 10 different crops and only a few fitments need to be changed for switching over from one crop to another. The advantage here is that the changeover time is very short and the efficiency is very good with clean output. Another prototype of the device has been developed with the additional provision of groundnut threshing and it has been tested and evaluated through the Rajasthan Agriculture University. A project proposal worth Rs. 3.54 lakhs has been submitted to DSIR, GOI, New Delhi under their TePP scheme for supporting the development and testing.

5. Improved Hand Pump

The Improved Hand Pump of Shri Swayambhoo Sharma, Rajasthan which was recognized during NIF's Third Competition has been redesigned and clubbed with another hand pump related innovation of Shri Chandan Agarwal, Delhi that was recognized during NIF's second award function in idea category. A new prototype has been developed with the help of another innovator of Rajasthan. This new hand pump has a provision of 25% water donation for the animal trough and also a provision of a small 1 litre built-in water tank with a tap on the main outlet for use as a drinking source just by pumping once.

6. Ultrasonic Rat Repellent

Prototyping of the Ultrasonic Rat Repellent has been done by Shri Nitin Tyagi of Meerut, UP. The device emits ultrasonic waves which irritates the rats. Three prototypes of the device have been developed and evaluated with the help of the Department of Electronic Engineering, Malviya National Institute of Technology, Jaipur.

7. Water Skating Shoes

Shri Dwarka Prasad Chaurasia of UP has been supported for the prototyping development of water skating shoes. These shoes can be used to skate on water surface with the help of two balancing sticks. Prototyping is under process.

8. Improved Weeder

Shri Pankaj Kumar of UP has been supported for the prototyping development of Improved Weeder. The weeder has a mechanism to not only pull the weeds out of soil but also dislocate them from their position, making them totally ineffective. Prototyping is under process.

9. Pressure Cooker based Tea Maker

Shri Prem Singh Saini of Haryana was supported for the prototyping of a pressure cooker based Tea maker. The device is simple and any pressure cooker can be modified into a Tea Maker. One of the most important features of this device is the electronic control and the timer circuitry which enables the user to program the machine to start the process at the desired time and automatically switch it OFF and raise an alarm on the completion of the task. It also has a provision to transmit an audio signal on FM to indicate to the user the completion of the task.

10. Electronic Stethoscope

Shri Prem Singh Saini of Haryana was supported for the prototyping of an Electronic Stethoscope. He successfully developed and demonstrated the working of the device.

The basic purpose of the device is to convert the audible heart beats into electrical signals and transmit it on FM. Thereafter any FM receiver can be used to analyze the heart beats.

3.2.2 Testing, Evaluation & Validation

Selected innovations from the accepted entries of NIF were taken up for value addition activities. The validation of these innovations was done by GIAN-North staff during their field visits and further these were tested and evaluated with the help of related technical institutes.

Indian Institute of Petroleum, Dehradun

The following innovations were submitted to Indian Institute of Petroleum, Dehradun for testing and validation.

- Safety Valve for Pressure Stoves by Shri Agastya Narain Shukla of New Delhi.
- Improved Dosa Burner of Shri Sarvesh Kumar of Pilibhit, UP.
- Kero-Gas & Water Stove of Shri Niranjana Prasad Sharma of Pilibhit, UP.
- Kero-Gas Stove of Shri Niranjana Prasad Sharma of Pilibhit.
- Improved Tava, Gujarat.

Agricultural Research Station, Rajasthan Agriculture University

The following six projects were submitted to RAU, ARS, Durgapura for field testing and validation. The preliminary trials in these projects have been done and interim status reports have been received. Proper reports and comments will be received after more field trials.

- High yielding variety of cauliflower 'Ajitgarh', Rajasthan
- Multicrop Thresher, Rajasthan
- Groundnut Digger, Rajasthan
- Control of powdery mildew
- Organic Pest Control in Vegetables (Grams)
- Organic Pest Control in Vegetables (Karela)

Twelve more innovations were submitted to them inviting proposals for testing and evaluation at their station. Project proposals on three projects have been received and two proposals have been approved by NIF. The funds for these would be disbursed after receiving the results of the field trials. NIF has requested Shri Sundaram Verma and SRISTI to conduct the field trials. GIAN-N has also requested Shri Promod Kumar Jain of Hissar, who is a scout of some of these, to get the field trials done.

Malviya National Institute of Technology, Jaipur

The following innovations have been evaluated at this Institute

- Ultrasonic Rat Repellent of Shri Nitin Tyagi of Meerut, UP
- 12V DC powered electric iron of Shri Kes of Barmer, Rajasthan.

3.2.3 Technology Diffusion

Technology diffusion initiatives were taken up during this year for various innovations from all over India in collaboration with the Department of Science and Technology, Government of Rajasthan. Eleven such technologies were selected from NIF database for showcasing at seven Science Villages at Rajasthan. Ten technologies have been procured and supplied to

the respective science villages.

Table 6: Technologies supplied to Science Villages

	Innovation	State	Qty	Science Villages
1	Milking Machine	Karnataka	7	-Chandeysara, Udaipur - Bahadurwas, Jhunjhunu - Bambre, Jodhpur - Naggasar, Bikaner - Kanwarpura, Kota - Dadanpura, Jaipur - Nimrana, Alwar
2	Manual Tile Making Machine	Uttaranchal	7	3 Bicycle Sprayers Gujarat 7 “ 4 Innovative Tong Gujarat 7 “
3	Manual Wood Cutting Machine	Assam	3	- Chandeysara, Udaipur - Bahadurwas, Jhunjhunu - Bambre, Jodhpur
4	Low Cost Incubator	Kerala	1	- Naggasar, Bikaner
5	Multi blade double layer Bamboo Fan	Assam	1	- Chandeysara, Udaipur
6	Unique Handi Cutter	Chhattishgarh	1	- Chandeysara, Udaipur
7	Hand pump attachment for Supply of water (Can be relocated by any body)	Rajasthan	1	- Chandeysara, Udaipur
8	Septic Tank Baffle System	Kerala	3	- Chandeysara, Udaipur

3.2.4 Venture Support

1. Projects under Micro Venture Innovation Fund (MVIF)

A total of sixteen projects from NIF database were supported under the Micro Venture Innovation Fund of NIF by GIAN-North for various value addition and commercialization activities. Thirteen of these projects were completed and closed during this year. Three projects are still ongoing.

Shri Yusuf Khan, the innovator of Groundnut digger was also supported under MVIF but he could not utilize the funds properly during the first season. He requested the revision of his repayment schedule such that the funds could be utilized in the next season. The repayment schedule was revised in consultation with NIF and the scout of this innovation.

2. Projects under HDFC

Two NIF awarded innovations were supported through HDFC funds for commercialization of their products. A brief note on these is given below.

- Kero-Gas Stove of Shri Niranjana Prasad Sharma of Pilibhit. He was given financial support of Rs. 71,500 for producing and selling these stoves. As per his feedback, 10 stoves have been produced and sold. Shri Niranjana has repaid Rs. 10000/- in two equal instalments and according to the agreement signed with him the full amount would be paid back by July 2009.
- Shri Karanpal Vishvakarma of Biharigarh has been given financial support of Rs.

42125 for pilot production and commercialization of 'Improved Forage Cutter', an innovation recognized by NIF during its first competition. The repayment schedule has been worked out for one year and the funds were disbursed after signing an agreement with the innovator.

3.2.5 Commercialization Efforts

Commercialization efforts for the following grassroots innovations were made.

1. **Mobile Operated Switch by Shri Prem Singh Saini, Ambala:** Communications with Texmo Industries Coimbatore were initiated for business promotion of this device. Texmo Industries is a leading group, with a wide range of pump related products. Mrs. Damayanti Ramachandran, Managing Director, Texmo Industries visited GIAN-North and saw the demonstration of the device. They are likely to take up the product for promotion through their dealer network and further demonstration to their dealers was also given. Negotiations are going on with them and with the innovator to finalize the deal. An outline of this device has also been sent to other pump manufacturers for probable business association.
2. **Groundnut Digger by Shri Yusuf Khan, Sikar, Rajasthan:** Texmo Industries has shown interest in this device for marketing. Their MD visited the field to see the demonstration of Ground Nut Digger and to explore the possibilities for promoting it through their dealer network. They discussed it with the nearby dealer for his comments and feedback about its acceptability.
3. **Multicrop Thresher by Shri Madanlal Kumawat:** M/s Naveengram Agrotechnologies, Rajasthan has shown interest in the marketing of Multicrop Thresher. They procured around 6 units in March 2006 for business promotion. They have also proposed to setup a Private Limited Company jointly with Shri Kumawat. Terms of association etc. are being negotiated.
4. **Pumpless Pressure Stove by Md. Sameer-ul-Hassan Liyakati:** The possibilities of promoting this innovation in Rajasthan through M/s Naveengram Agrotechnologies, Rajasthan were discussed with their MD. They have shown interest in marketing these stoves. They will procure one unit initially and will do the test marketing.
5. **Manual Milking Machine** has been procured and supplied to Shri Amit Goyal of Rajasthan for probable business promotion. Shri Goyal runs a dairy business currently and is interested in promoting the device in Rajasthan.
6. **Electronic Robot and a few more innovations of Shri Prem Singh Saini** has been demonstrated to the Director, DST, Rajasthan for selection and display at Science Park and Science Villages.

3.2.6 Social Diffusion

GIAN also helps in creating awareness among the masses about the open source technologies having significance for all. Two such technologies were focused on this year.

Improved Hand Pump: The following efforts have been made in this context to promote this innovation socially:

- Development of a new improved hand pump by clubbing two innovations.
- Awareness about this hand pump has been created through presentations and communications to various institutes, departments and individuals like Indira Gandhi Panchayati Raj and Gramin Vikas Sansthan, Jaipur, PHED, Jaipur, around 250 *Pradhans* of villages of Udaipur, Tonk, Sirohi, Sikar, Rajsamand and Pali. The *Pradhan* of village Danta, Sikar has taken the initiative to get one hand pump installed at Danta and would be helping in further diffusion in the area.

Dry Land Forestry technique

Dry land forestry technique of Shri Sundaramji Verma has been showcased at Science Park for demonstration and to create awareness among the masses by GIAN-North and NIF in cooperation with the Department of Science and Technology, Government of Rajasthan. Around 50 plants of different varieties have been planted in October 2005 at Science Park, Jaipur; these include Neem, Ardu, Shisham and Jetropha. The innovator claims that the plant would require only one liter of water at the time of planting and no additional water thereafter. As of March 2006 end, the rate of survival of these plants was 92%. It was proposed during the Board meeting of GIAN-North held in March 2006 to bring this technique to the notice of Dr. M.S. Swaminathan, Chairman, National Commission on Farmers so that more and more people can benefit from it. Dr. Swaminathan has accepted the invitation and will be visiting GIAN-North, Science Park for this purpose.

3.2.7 New Projects from NIF Database

New projects from NIF database were picked up. Complete database from first to fourth competition of NIF was searched out during visits to NIF and 76 entries of different disciplines from Northern India were short-listed after discussions with NIF colleagues. To obtain complete information on these entries, efforts were made through written communications and personal visits to respective innovators. Scouting Documents (SD1) for 52 innovations and Evaluation Documents (EV1) for 14 innovations were prepared based on the information collected from the innovators. Finally, fifteen innovations were taken up for prototyping and value addition activities which are listed below.

1. Water Skating Shoes, Dwarika Prasad Chaurasia, UP
2. Amphibious Bicycle, Dwarika Prasad Chaurasia, UP
3. Improved Weeder, Shri Pankaj, UP
4. Solar Laminator, Shri Amandeep Singh, Rajasthan
5. Cooler without Pump Motor, VD Purohit, Rajasthan
6. Improved Variety of Brinjal, Ramnarayan Gangwar, UP
7. Ultrasonic Rat Repellent, Nitin Tyagi, UP
8. Water Kerogas Stove, Niranjana Prasad Sharma, UP
9. Improved Dosa Burner, Sarvesh Kumar Sharma, UP
10. Mobile Operated Switch, Prem Singh Saini, Haryana
11. Improved Hand Pump, Shyambhoo Sharma & Chandan Agarwal
12. Ceiling Cooler, Gopal Saluja, Haryana
13. Multicrop Thresher, Madanlal Kumawat, Rajasthan
14. Improved Needle, Vinay Kumar Tyagi, Uttaranchal
15. Car for physically Challenged, Mujib Khan, Rajasthan

3.2.8 Other Activities

1. ESM Workshop

A one day workshop in association with Directorate General of EME was organized at Jaipur on September 9, 2005, to encourage Ex-Servicemen to get involved in GIAN's and NIF's activities. The participants of the workshop were 39 Ex-servicemen from Rajasthan, Haryana and Delhi, 17 innovators from Rajasthan, Haryana, and Uttar Pradesh, 2 Honey Bee Collaborators from Rajasthan and Haryana and distinguished invitees from the Department of Science and Technology, Government of Rajasthan, National Innovation Foundation, Ahmedabad. An exposition on Grassroots Technologies from Rajasthan, Haryana and UP was also organized.

2. Media Awards

GIAN-N in association with Bhoruka Charitable Trust (BCT), Jaipur has instituted a Media Award for best reporting on grassroots Innovations from the Northern Region in Hindi or any North Indian Language from Print and Electronic Media. The purpose is to create awareness among the media persons about this movement and to encourage their participation in recognizing the grassroot innovators.

A Jury Meeting was held at IIC, New Delhi on September 16, 2005 for selecting the awardees of the First GIAN-North & BCT Media Awards-2005. The Jury consisted of eminent media personalities. It was chaired by Shri B. G. Verghese and included Ms. Aparna Vaish, Shri Om Thanvi, Shri K. S. Sachidananda Murthy and Shri Arvind Ojha. Shri Gaurav Kumar Jain of Rajasthan Patrika, Sikar and Ms. Anjali Nauriya of Times of India, Dehradun were selected as second and third awardees respectively from Print Media. Results were announced on September 17, 2005.

3. Announcement of Media Awards - 2006

Announcement of GIAN-N & BCT Media Awards - 2006 was made during the Jury meeting. New announcements have been sent to the PR Departments of the States of Northern India, Guild of Editors and to other media personalities as suggested during the Jury meeting. Around 700 posters have been circulated among 300 different media personalities from Print and Electronic Media of the country.

4. Asian Innovation Award - 2005

Five grassroots innovators from India were selected as finalists of the prestigious Asian Innovations Awards 2005 out of total twelve finalists and all of them are from NIF database. One of these nominees was Shri Yusuf Khan of Sikar, Rajasthan and was nominated by GIAN-N/ NIF. He also participated in the function.

5. GIAN-North State Tours

GIAN-North officials visited the North Indian States to meet the innovators, collaborators, government officials, and network partners. Summary reports on these tours were circulated to Board Members and NIF for comments and suggestions.

6. Resource Mobilization

Communications and discussions were held with DST, Rajasthan to follow-up the matter of balance Rs. 50 lakhs with the Government of Rajasthan towards the corpus of GIAN-North. It was recommended by the finance department to make provision for this amount in the FY 2006-07.

3.3 GIAN North East Cell

The second half of year 2005 can be best described as a transitional phase. This was the period in which the founding CIM of GIAN-NE, a cell of NIF, Dr. V.B. Vijaya Vittala, left the organization and joined an Engineering College in his hometown, Tumkur, Karnataka to pursue his teaching career. The period also saw a change in GIAN-NE's working relationship with IITG with the signing of a new MOU – the earlier advisory committee with executive power got dissolved and a new advisory committee without executive power was reconstituted. Subsequently, all executive powers of GIAN-NE were transferred to GIAN-NE staffs and NIF. The period also witnessed the joining of a new CIM and two junior fellows to bolster the activities of GIAN-NE.

During April 2005 – March 2006 twelve new projects were taken up by GIAN-NE at a total cost of Rs. 9,08,000 under MVIF and VARD. Two of the projects (Passion fruit gel extractor and Bamboo lathe machine) are externally funded; one from NERCRMP, Shillong for Passion fruit (Rs 62,000) and the other from NMBA, New Delhi for Bamboo lathe machine (Rs 85,000). We are working with Design Department, IITG for one project (Muga reeler) and three machines (Safed Musli peeler, Multipurpose peeler and Medicinal plants/leaves grinder) have been tested by CIMAP, Lucknow.

3.3.1 MVIF projects

We have initiated five of the six new MVIF projects and they are at various stages of completion. The prototype development of Garlic peeling machine, Bamboo strip making machine, and Multipurpose dryer is complete. The machines are available with GIAN-NE. The trial marketing of Wood apple is in progress. The initiation of MVIF project in Manipur for Automatic pump operator (APO) is being delayed because of some unavoidable circumstances.

Installation of 18 sets of Dual Alarm Security System in ONGC oil fields has been completed with MVIF support from NIF. We have invested Rs 3.75 lakhs from the total sanctioned amount of Rs 5 lakhs. Total repayment of our investment is expected within August 2006.

Table 7: MVIF Projects

	Project Title	Innovator	Amount	Status
1	Wood Apple	Subal Kamarkar	19,200	Trial marketing progress
2	Bamboo strip making Machine	Imli Toshi Namu	11,500	Prototype developed
3	Garlic Peeling Machine	Udhav Kr. Bharali	30,000	Prototype developed
4	Automatic Pump Operator	Manihar Sharma	99,541	Yet to start
5	Multipurpose Dryer	Imli Toshi Namu	12,250	Work completed
6	Dual Security Alarm System	Aminuddin Ahmed	500,000	Work in progress

3.3.2 Externally funded projects

Two projects have been taken up with partial/full outside funding (Table 8). The NERCRMP, Shillong has funded Rs 62,000 towards development of a manual/and automatic passion gel extraction machine for their project areas. The remaining Rs 25,000 was funded by NIF. The prototypes of both versions have been developed. The innovator is evaluating its efficiency and durability.

The NMBA/TIFAC is funding a sum of Rs 85,000 for the prototype development of a Bamboo Lathe machine. NMBA has so far released Rs 42,000. GIAN-NE has released Rs 37,000 to the innovator to start the work in January 2006.

Table 8: Outside funding (partial/full)

	Project Title	Innovator	Source	Amount	NIF	Status
1	Passion fruit	Uddhav K Bharali	NCERMP	62,000	25,000	Prototype developed and delivered to NCERMP, Senapati, Manipur
2	Bamboo stripping/lathe machine	Imli Toshi Namu	NMBA	85,000	Nil	Work started in Jan 2006 and 70% of the work completed. Rs 62,000 received from NMBA for prototype development.

3.3.3 VARD projects

Four projects have been taken up for validation and further development with financial support from NIF under VARD (Table 9). Prof. AK Das of Design Dept, IITG was approached to do a preliminary assessment on Muga reeling machine. A demonstration session was held at GIAN-NE office by the innovator and his wife using his old machine. Prof. Das suggested a few points for further improvement of the machine and recommended that a new prototype be built incorporating his inputs. He also suggested a detailed efficiency testing of the machine be done by an expert muga reeler for three days.

The prototype development work at IITG was initiated but was stalled because of some personal problems of the innovator.

Arrangements have been made by NIF for validation and further development of three machines of Mr. Uddhab K. Bharali (Safed Musli peeling machine, Medicinal plants/leaves grinding machine and Multipurpose peeling machine) at CIMAP, Lucknow. A sum of Rs 86,100 was released by NIF towards meeting fabrication, transportation and other expenses of the three machines. The innovator has successfully completed fabrication of the three machines and has had them shipped to CIMAP in January.

Table 9: Projects under VARD

	Project Title	Innovator	Partner agency/institution	Amount	Status
1	Muga Reeler	Nripen Kalita	IITG	5000	Ongoing. Work stalled because of problems of the innovator

2	Safed musli peeling machine	U.K. Bharali	CIMAP	34925	Machine sent to CIMAP
3	Medicinal plants/leaves grinding machine	U.K. Bharali	CIMAP	33550	Machine sent to CIMAP
4	Multipurpose peeling machine	U.K. Bharali	CIMAP	17625	Machine sent to CIMAP

3.3.4 Validation of medicinal plants

Two herbal medicine treatment entries for Tuberculosis and Jaundice have been selected for further verification by NIF. We have collected the required plant samples and sent them to NIF.

3.3.5 Areca nut vertex cutting technique

The innovator claims that using his vertex cutting technique on areca nut trees the yield can be increased by 30-50%. GIAN-NE has been following this claim for quite some time to physically verify the claim. We have observed that there was an increase in the number of fruit branches in the vertex cut plants compared to that of normal plants (six against four). The yield will be verified by comparing weights and numbers of nuts from the normal plants and the vertex cut plants at the time of harvest.

3.3.6 New Projects

GIAN-NE has been actively pursuing 15 additional technological innovations. Some of these machineries are at technological validation stage, some are ready for commercialization, and some are in the process of technological licensing. The Paddy thresher and Areca nut peeling machine of Mr. UK Bharali are ready for technology transfer. The innovator has sought out two local entrepreneurs from Guwahati for technology licensing. Since GIAN NE's involvement was very nominal, the terms and conditions of transfer were more or less set by the innovator with some assistance from GIAN NE.

The other promising machines of Mr. Bharali are the Automatic Dhoop making machine and Pomegranate de-seeder. A Dhoop (cone shaped) making machine was sold to Ananth Agarbati, Ahmedabad. The company is testing the machine for its efficiency and durability. If they are satisfied, GIAN-NE/NIF will take responsibility for any business negotiation and transaction on behalf of Mr. Bharali.

GIAN has received many enquiries about pomegranate de-seeding and juicing machine through NIF. Many business letters, video of the machine, and samples of extracted juice have been sent to many business entities. One interested party from Trichy, Tamil Nadu is testing the extracted sample. If they are satisfied, they are likely to install Mr. Bharali's Pomegranate machine in their factory.

The Safed musli peeling machine and Medicinal plants/leaves grinder, along with multipurpose peeler, have been taken up by CIMAP for technological validation and further improvement. The technology assignment deed of all these machineries had been assigned to NIF by the innovator. Through our initiative the innovator has sold two Safed musli peeling machines and one Medicinal plants/leaves grinding machine.

The other promising machineries are the Infrared signalling system of Railways and the Mobile security device. There is a big demand for Mobile security device from ONGC for their remote oil fields. The innovator has already installed a few sets at ONGC oil fields on a trial basis and they are satisfied with the device. The testing of Infrared signalling system for unmanned railway gates is in progress. The first few trials have shown very positive results. If the trial is successfully completed, this device has the potential to solve the age-old problem of accidents at unmanned railway gates and at stations due to poor visibility.

Table 10: Incubation of Technological innovations without direct financial assistance from NIF

	Project Title	Innovator	Status	Remarks
1	Pomegranate machine	Uddhav K Bharali	Prototype developed; video of the machine and juice samples sent out to interested parties.	
2	Egg incubator	Milan Jyoti	Prototype developed; Sold three machines on his own in the surroundings.	
3	Dhoop making machine	Uddhav K Bharali	Prototype developed; one machine sold to an Agarbati manufacturer in Ahmedabad. Trial testing is going on.	
4	Manual pounding machine	Uddhav K Bharali	Prototype developed; the innovator has sold many pieces on his own; lot of enquiries came during exhibitions.	
5	Low cost paper cutter	Uddhav K Bharali	Prototype developed.	
6	Paddy thresher	Uddhav K Bharali	Prototype developed and ready to market.	Technology licensing in final stage
7	Infrared signalling system for unmanned railway gates and Railway stations	Aminuddin Ahmed	Prototype developed; testing is underway at various railway stations in Guwahati.	Provisional patents filed
8	High voltage Antitheft circuit	Aminuddin Ahmed	Prototype developed; testing is underway at various railway stations in Guwahati.	
9	Bamboo polishing machine	Nasim Ahmed	Prototype developed; sold to a local businessman; assessment done by IITG faculty.	
10	Mobile security system	Aminuddin Ahmed	Prototype developed; a few sets installed at ONGC oil fields.	
11	Areca nut peeling machine	Uddhav K. Bharali	Prototype developed.	Technology licensed to a local entrepreneur

12	Safed Musli	Uddhav K. Bharali	Prototype developed; two machines sold by the innovator.	Further testing at CIMAP
13	Medicinal plants/leaves grinder	Uddhav K. Bharali	Prototype developed; two machines sold.	Further testing at CIMAP
14	Electric Shock Proof Converter	Nicholson Singh	Prototype developed.	A bigger capacity prototype needs to be developed
15	Spring Rickshaw System	Joyshankar Mandal and Shivshankar Mandal	Prototype developed.	Needs further trial

3.3.7 Intellectual Property Rights (IPR) protection

Provisional patents of three machines have been filed by GIAN-NE.

	Name	Innovator	Reference no
1	Dual Security Alarm System	Aminnudin Ahmed	355/KOL/2006 Dt:20/4/06
2	Mobile Security Device	Aminnudin Ahmed	356/KOL/2006 Dt:20/4/06
3	Railways Accident Protection Device	Aminnudin Ahmed	357/KOL/2006 Dt:20/4/06

3.3.8 Technology licensing

Areca nut peeling machine has been licensed to a local entrepreneur.

	Machine	Innovator	Entrepreneur
1	Areca nut peeling machine	Uddhav Kr. Bharali	S. Agarwal, Guwahati

3.3.9 Follow up of old MVIF projects

We have also been actively following the progress made on earlier MVIF projects. It is, however, unfortunate that some of the projects have not lived up to expectations, and in some cases due to unavoidable circumstances the project had to be closed down. For instance, the 'photolam project' taken up by Swayampurna, an NGO of North Guwahati, had to be shelved. Likewise, the marketing rights to Virasa Enterprises for Bamboo Stick Making Machine of Ushman Sekhani had to be cancelled. GIAN-NE is now marketing the product. The Treadle press project, however, is doing very well. The entrepreneur has successfully installed 14 machines in different districts of Assam, and the feedback has been very good. As for the wind turbine, GIAN NE team has communicated with NABARD, Guwahati to explore feasibility of testing the device in some districts of Assam. To fulfil this objective, GIAN has been negotiating with Mechanical Department, IITG to validate the technology. Faculty members and students of IITG have visited the innovator and discussed with him various aspects of the device. The department has now agreed to work on the device for improvement and also do the validation of the machine as a consultancy project. Three wood cutting machines have been delivered to DST, Rajasthan with the help of GIAN-N. The innovator is now making one more machine for a local workshop with our financial assistance.

Table 11: Old MVIF projects

	Project Title	Innovator	Amount	Status	Remarks
1	Manual wood cutting machine	Karunakanth Nath	58,000	Ongoing	Three machines have been supplied to DST, Rajasthan through GIAN-N. The innovator has got another order from a local carpenter.
2	Treadle press	Satish Dev	NA	Ongoing	The entrepreneur has sold 13 machines in different districts of Assam
3	Interlocking bricks	Umesh Chandra	24743	Dormant	The innovator is not in a position to repay the invested amount. A second phase proposal was made to revive his manufacturing unit and in the process recover some amount for the first phase. Waiting for approval from NIF.
4	Photolam	Ranganthan P. (project facilitator 'Swayampurna' NGO)	60000	Closed	Because of internal problem of the NGO, the project has been shelved. The sanctioned amount will be returned to NIF.
5	Wind turbine (ii phase)	Mehtar Hussain	38,500	Ongoing	The innovator has sold three machines in neighbouring villages; negotiation is on with IITG for technical validation.
6	Bamboo stick making machine	Ushman Sekhani	NA	Ongoing	'Virasa' has withdrawn from marketing the product. GIAN-NE is marketing the product.
7	Wood Apple	Subal Kamarkar	19,200	Ongoing	The innovator is doing the trial marketing on his own.
8	Cassava peeling machine	Uddhav Bharali	-		The technology got short listed for validation for further value addition at CFTRI Mysore. The innovator refused the benefit sharing

					arrangements offered by GIAN-NE/NIF, if significant changes were made in the machine and the matter was dropped.
9	Bamboo Strip making Machine	Imli Joshi	9,000	Ongoing	The innovator has sold a few machines to Tura and other places. GIAN- NE has also been actively promoting this machine.

3.3.10 Follow up on earlier technology transferred products

- **Muga Umbrella:** The entrepreneur has done trial marketing for one year. But the innovator is of the opinion that he (entrepreneur) is no longer interested in licensing the product and therefore wants to pull out of the deal. A final decision will be taken after having a joint meeting with all stakeholders.

- **Zero head water turbine:** We are still actively pursuing with this project. We made



arrangements for Mr. Avid Hussain, innovator of low rpm generator from Delhi and Mr. T.K. Roy, a fabricator from Kolkata to come down to Guwahati and complete the fabrication of one prototype and do the testing with the help of Nripen Kalita, the innovator. Unfortunately, no suitable generator was available and the work couldn't be completed. Now, Mr. Roy is fabricating the machine in Kolkata and will do the testing after he completes fabrication.

- **Power Disc:** We have had several rounds of discussions with the innovator, Mr. Dev Gupta and Mr. Shantanu, representative of the entrepreneur, separately. Both parties have expressed their wishes to end the contract since they didn't get a positive/final test result from IITG. We shall be initiating steps to formally end this agreement soon.
- **Bamboo stick making machine:** There were some disagreements and conflict of interests between GIAN-NE/NIF and Virasa, therefore the marketing rights given to Virasa for Bamboo stick making machine had to be withdrawn. GIAN-NE is promoting the product.
- **Auto-air kick pump:** As mentioned earlier, there were some disagreements and conflict of interests between GIAN-NE/NIF and Virasa therefore the marketing rights given to Virasa for Auto air Kick pump had to be withdrawn.
- **Treadle press:** The 13th installation of the unit by the dealership (M/S. Brilliant Process) based in Guwahati was at Capricorn printers, Guwahati. So far 14 machines have been installed in different districts of Assam and the entrepreneur has received order for another seven. Considering that the dealership was established only eight months ago, without any formal promotional activities, the sale of such a new product in the market can be said to be very encouraging. The product and dealership are being monitored. Concurrently a market survey/research is going on

with the assistance of the dealership so that solutions to market problems (especially those faced by rural treadle kit owners) can be identified and addressed.

- **Photolam:** The project was finally wound up because of serious internal conflict in the facilitating NGO 'Swayampurna'. GIAN-NE tried its level best to bring a compromise formula by meeting and discussing with both factions but failed. The sanctioned amount (Rs 60,000) will be returned to NIF soon.

3.3.11 Detailed documentation of the 4th biennial competition entries

There are about 190 entries from the North East for the Fourth National Campaign. The detail documentation process was more or less completed by the end of March 2006. This exercise includes collection of information/queries wanted/raised by NIF, signing of PIC forms, herbarium collection, photo/video recording, personal and social information of the innovator and family, details and genesis of his innovation/TK, etc.

We have visited all the innovators/TK holders in Assam, Manipur, Meghalaya and Mizoram and completed the first round of data collection in Assam. However, there are some innovators/TK holders who will need a second visit. We have also come across many instances where addresses were not given correctly making it impossible to locate the innovators/TK holders.

3.3.12 Feedback study

A feedback study of 12 NIF award winners in five districts of Assam (Jorhat, Darang, Kamrup, Morigaon, and Nalbari) was conducted by GIAN-NE in January 2006. The exercise was completed and the feedback reports from innovators were sent to NIF.

3.3.13 Expansion of NIF/GIAN network and building partnerships in the region.

To augment the activities of GIAN-NE/NIF in the North-East, visits/communications have been made to different government and non-government organizations. Most of the visits/communications have had positive results and follow up action by GIAN/NIF is needed.

4. Acknowledgements

We are deeply grateful to our innovators, scouts, volunteers, collaborators from all over India and abroad, Honeybee and other networks, SRISTI, GIANS, RAC members, IIMA and hundreds of technology institutes, organizations and individuals for their extended support and cooperation during this historic innovation movement powered by ignited minds.

5. Join Us

Come forward and join NIF in this innovation movement. Together let us build the value chain to convert innovations into sharp products and successful enterprise.

With your passion and expertise, you can assist us in the following areas:

Scouting and Documentation:

You could help us in identifying and documenting the work of local grassroots innovators, traditional knowledge holders and in linking NIF with entrepreneurs who may be interested in setting up business ventures around chosen innovations.

Value addition:

As a technical expert, industry professional or student, you could assist us in adding value to innovations towards technology incubation.

Angel investors And Entrepreneurs:

As an investor, you could choose to fund the enterprises built around innovations or as an entrepreneur, you could take up innovations from our product portfolio for developing new businesses.

Information dissemination:

You could help us in diffusion of innovation details, conduct events, use online and offline resources to increase awareness of innovations that could change lives all over the country.

Building Linkages:

By virtue of your position, or professional network, you could help us build linkages with agencies, industry clusters, policy makers and activists, who wish to facilitate this movement towards making India a knowledge society.

Mentoring Innovators:

As an industry expert or technical specialist, you could be a mentor and extend professional expertise for technology incubation and value engineering of grassroots innovations.

Please feel free to write, call, fax or email us. We will get back to you.

6. AUDITORS' REPORT AND BALANCE SHEET

AUDITORS' REPORT TO THE DEPUTY CHARITY COMMISSIONER, AHMEDABAD REGARDING AUDIT OF ACCOUNTS OF NATIONAL INNOVATION FOUNDATION-INDIA FOR THE YEAR ENDED 31-03-2006.

Regn.No.F/7412/Ahmedabad

1. We have audited the attached Balance Sheet of NATIONAL INNOVATION FOUNDATION-INDIA as at 31st March 2006 and the Income and Expenditure Account for the year ended that date annexed thereto. These financial statements are the responsibility of the Trust's management. Our responsibility is to express an opinion on these financial statements based on our audit.
2. We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statements presentation. We believe that our audit provides a reasonable basis for our opinion.
3. The Accounts are maintained regularly and in accordance with the provisions of the Act and the rules.
4. Receipts and disbursements are properly and correctly shown in the accounts.
5. The vouchers in the custody of the Accountant on the date of the audit are in agreement with accounts.
6. Books, Deeds, Accounts, vouchers and other documents and records required by us were produced.
7. An inventory, certified by the Trustee of the moveable of the trust has been maintained.
8. The Accounts Assistant Ms. Shrida Amin appeared before us and furnished the necessary information required by us.
9. No property or funds of the trust were applied for any object or purpose other than the objects or purpose of trust.
10. The amounts outstanding for more than one year are Rs.NIL and Rs.NIL is written off during the year.
11. During the year construction work involving expenditure exceeding Rs 5000/- was not undertaken.

12. No money of the public trust has been invested contrary to the provision of section 35 of the Bombay Public Trust Act, 1950.
13. The trust has no immovable property.
14. No special matter is to be reported.

For S. J. Pathak & Co.
Chartered Accountants

Place: Ahmedabad
Date: 10-09-2006

S. J. Pathak
Partner
Memb. No. 16771.

**NATIONAL INNOVATION FOUNDATION
INDIA**

AHMEDABAD

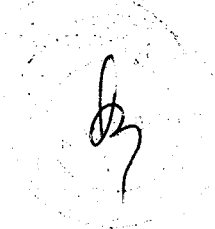
ANNUAL ACCOUNTS

FOR THE YEAR 2005-2006

306, "Aditya", Nr. Urvashi Apartment, Mithakhali Six Roads, Ellisbridge, Ahmedabad - 380 006.
E-mail : sjpathak@icenet.net. Phone : 0091-079-26409243 Fax : 0091-079-26469711

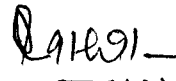
**AUDITORS' REPORT TO THE DEPUTY CHARITY COMMISSIONER,
AHMEDABAD REGARDING AUDIT OF ACCOUNTS OF NATIONAL
INNOVATION FOUNDATION-INDIA FOR THE YEAR ENDED
31-03-2006. Regn.No.F/7412/Ahmedabad**

1. We have audited the attached Balance Sheet of **NATIONAL INNOVATION FOUNDATION-INDIA** as at 31st March, 2006 and the Income and Expenditure Account for the year ended on that date annexed thereto. These financial statements are the responsibility of the Trust's management. Our responsibility is to express an opinion on these financial statements based on our audit.
2. We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining , on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statements presentation. We believe that our audit provides a reasonable basis for our opinion.
3. The Accounts are maintained regularly and in accordance with the provisions of the Act and the rules.
4. Receipts and disbursements are properly and correctly shown in the accounts.
5. The vouchers in the custody of the Accountant on the date of the audit are in the agreement with the accounts.
6. Books, Deeds, Accounts, vouchers and other documents and records required by us were produced before us.
7. An inventory, certified by the Trustee of the moveable of the trust has been maintained.
8. The Accounts Assistant Ms. Shrida Amin appeared before us and furnished the necessary information required by us.



9. No property or funds of the trust were applied for any object or purpose other than the objects or purpose of trust.
10. The amounts outstanding for more than one year are Rs.NIL and Rs.NIL is written off during the year.
11. Repairs or construction work involving expenditure exceeding Rs.5000/- was not undertaken during the year.
12. No money of the public trust has been invested contrary to the provision of Section 35 of the Bombay Public Trust Act, 1950.
13. The trust has no immovable property.
14. No special matter is to be reported.

For **S. J. Pathak & Co.**
Chartered Accountants


S. J. Pathak 10/9/2006
Partner
Memb. No. 16771.

Place : Ahmedabad
Date : 10-09-2006



Name of the Public Trust :

NATIONAL INNOVATION FOUNDATION

BALANCE SHEET

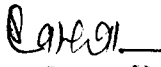
FUNDS & LIABILITIES	SCH.	Rs.	Rs.
Trust Funds or Corpus			
Opening Balance			200000000
Other Earmarked Funds :	3		89194681
<u>Loans (Unsecured or Secured)</u>			
<u>Secured Loans</u>			
- UTI Bank, Vastrapur -A/c. No.1548-Overdraft A/c		469584	
<u>Unsecured Loans</u>			
- From Trustees	-	-	
- From Others	-	-	469584
<u>Liabilities :</u>			
- For Expenses		-	
- For Advances - Grant Payable for NATP		538850	
- For Rent and other Deposits		-	
- For Sundry Credit Balances		-	538850
<u>Income and Expenditure Account :</u>			
Opening Balance		21896474	
Less : Deficit of Income transferred from Income & Expenditure Account		5338310	16558164

Notes on Accounts - Schedule A

Total..

306761279

As per our report of even date
For **S. J. Pathak & Co.**
Chartered Accountants


10/9/2006
S. J. Pathak
Partner
(Memb. No. 16771)

Place : Ahmedabad
Date : 10-09-2006



- INDIA AHMEDABAD

FOR THE YEAR ENDED ON 31-03-2006

Regn.No.F/7412/Ahmedabad

INCOME	Rs.	Rs.
Rent		-
<u>Interest</u>		
- On Securities	17994078	
- On Loans	-	
- On F.D.R with Banks - A/c. NIF	<u>3228357</u>	21222435
Dividend		-
Donation in cash or in kind		0
Amount transferred from Earmarked Fund		0
Income from other sources		
- Misc. Income	8000	
- Overhead Recovery - MVIF	331617	
- Expenses allocation - MVIF	<u>1087983</u>	1427600
Excess of Expenditure over Income transferred to Balance Sheet		5338310
Total..		<u>27988345</u>



TRUSTEE

Prof. ANIL K. GUPTA
EXECUTIVE VICE-CHAIRPERSON
NATIONAL INNOVATION FOUNDATION
AHMEDABAD

ADVANCES A/c. MVIF PROJECTS

Schedule - 2

	Rs.	Rs.
GIAN - NE		
GIAN - North East	429763	
Interlocking Bricks	24743	
Bamboo Strip/ Stick Making Machine	4108	
Wood Cutting Machine	10285	
Wind Turbine	8090	
Kerosene Stove	25283	
Usman Shekhani	14750	
Garlic Peeling Machine	28821	
Wood apple tea	16550	
Passion fruit juice extractor	73107	
Automatic pump operator	31200	
Rural multi purpose dryer	4250	
Dual alarm security device	200140	
CIMAP project	61367	
Bamboo Strip & Stick device	12767	945224
GIAN - N		
GIAN - North	378175	
Trench Digger Machine	10238	
Tile Making Machine	4500	
Stoves Testing	5500	
Multi-purpose Bicycle	10000	
Automatic Parking Light	3500	
Coil Winding Machine	7118	
Film Projector	16472	
Horse Shaver	19224	
Manual Automatic Starter	6086	
Modified Solar Cooker	5047	
Tea Making Machine	30000	
Fire Cracker Device	7000	
Ground digger machine	901	503761
GIAN - W		
GIAN - W	95759	
Bicycle Hoe	11375	
Bicycle Sprayer	5221	
Diesel Engine	24328	
Jabbar Gear Project	28741	
Jute Matchstick	8500	
Kerogas Stove	4847	
Key Way Making Device	11015	
Kite String winder	351595	
Motor Protection device	98074	
Sickles	6128	
Tong Project	14822	
Mu'tipurpose agri. Device	8000	
Sugarcane rotator	43003	711408



F.Y. 2005-2006
Schedule - 2 cont'd

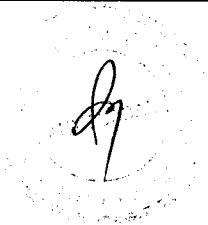
	Rs.	Rs.
GIAN - CELL		
GIAN- CELL SSIT	7240	7240
NIF CO- AGENCY		
K.P. Chinnaswamy	33727	
M. Nagarajan	105000	
A.N. Manoharan	14500	
Mohd. Saidullah	16000	
Rajesh T.R.	9000	
Tukaram Verma	1800	
Nageshwar Pandit	2850	
Satish Deb	19000	
Chandrapal Singh	7000	
Manoharan	3000	
Solar Cooker	5455	
Electrical Apparatus	1000	
Ele. Generator	34515	
Intercom Device	3294	
Improved Screw	2200	
Oil Expeller Machine	3614	
Cotton Stripper	3614	
Airkick Pump	3614	
Automatic Portable Sprayer	1250	
Multi-purpose Agri. Device	500	
Multipurpose Ele. Boiler	1250	
Manual Sprayer	6370	
Improved Multicrop Thresher	500	
Battery operated Spray	600	
Manual Sprayer	6370	
Double Acting Pump	500	
Button hole Stitching Machine	200	
Vanraj Tractor	3614	
Wood apple jam	7556	
Modified solar cooker (Rajesh deshmuKh)	3500	301393
TOTAL		2469026

NATIONAL INNOVATION FOUNDATION - INDIA

F.Y.2005-2006

Schedule - 3

	Rs.	Rs.	Rs.
Other Earmarked Funds :			
- Depreciation		-	
- Sinking Fund		-	
- Reserve Fund		-	
- Any Other Fund		-	
Capital Fund			
Opening Balance			433294
Earmarked Fund			
- to be utilised before 2011		10500000	
- to be utilised before 2011		5290000	
- to be utilised before 2009		17200000	32990000
Micro Venture Innovation Fund- A/c SIDBI			
Opening Balance		40000000	
Add : Interest - upto 31-03-2005	1354425		
Add : Interest - For F.Y. 2005-06	4882930	6237355	46237355
Administrative Grant received in advance A/c-SIDBI			
Opening Balance		10000000	
Add : Interest - upto 31-03-2005	783301		
Add : Interest - For F.Y. 2005-06	593936	1377237	
		11377237	
Less : utilised during F.Y.2003-2004	27765		
: utilised during F.Y.2004-2005	395842		
: utilised during F.Y.2005-2006	331616		
: expense allocation up to 2005-06	1087983	1843206	9534032
TOTAL			89194681



NATIONAL INNOVATION FOUNDATION - INDIA

F.Y.2005-06

Schedule - 4

PARTICULARS OF EDUCATIONAL EXPENSES		Rs.	Rs.
I NON-PROJECT EXPENSES			
A. Administration			
a. Bank Charges		10584	
b. Legal and Professional Expenses		6477	
c. Security Expenses		107669	
d. Office Expenses		228013	
e. Travelling & Conveyance Expenses		312801	
f. Accommodation		8577	
g. Repairs & Maintenance		22393	
h. Postage		66289	
I. Rent		455493	
j. Insurance Premium		2382	
k. Electricity Expenses		190544	
l. Salary		83323	
m. Recruitment Expenses		1053378	
n. Meeting Expenses		530060	
o. Consultancy Charges		57500	
p. Stationery & Printing		137273	
q. Contractual payment		188893	
r. Books & Subscriptions		490	
s. Conveyance		15027	
t. Xerox		34355	
u. Telephone Expenses		249402	3760923
B. Information Technology/Database Devp. & Diss.			
a. Database		643513	
b. Computer Maintenance & Upgradation		468742	
c. Internet		386191	
d. Dissemination		463306	
e. Website/ Web Hosting		384265	
f. Stationery & Printing		127494	
g. Communication		5432	
h. Travel		5300	
I. Consultancy Charges		11977	
j. Computer Consumables		236143	
k. Training		37120	
l. Exhibition/ Seminar/Workshop Exp.		15144	
m. Fellowship		369413	
n. Computer Rent		46580	
o. Books/ Subscription		3110	
p. Discovery		106050	
q. Conveyance Exp.		13957	
r. Xerox		31908	
s. Telephone Exp.		75796	
t. Postage & Courier		61567	3493008
BALANCE C/F			7253931

F.Y.2005-06

Schedule - 1

Particulars of Movable Properties

Particulars	Balance as on 01-04-2005	Additions during the year	Gross Block as on 31-03-2006	Depreciation up to 31-03-2005	Depreciation for 2005-06	Total Depreciation up to 2005-06	Net Block As on 31/31/2006
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Furniture & Fixtures	676547	98250	774797	184900	54703	239603	535194
Computers	2943667	370575	3314242	2442086	464989	2907075	407167
Fax Machine	29232	0	29232	12626	2491	15117	14115
Refrigerator	8510	0	8510	3675	725	4400	4110
EPABX System	51908	0	51908	21416	4574	25990	25918
Photo Copying Machine	456202	0	456202	188267	16550	204817	251385
Fire Extinguisher	9405	4000	13405	4062	1101	5163	8242
Telephone Instrument	98218	39185	137403	33015	14803	47818	89585
Camera	125520	106565	232085	35333	22983	58316	173769
Equipment	57890	12790	70680	12629	8559	21188	49492
Software	750426	14000	764426	508650	150916	659566	104860
Electrical Installations	12870	0	12870	3424	1417	4841	8029
Air Cooler	0	14400	14400	0	2160	2160	12240
Total A	5220395	659765	5880160	3450083	745971	4196054	1684106

Fixed Assets of NATP Project

Computers	206079	0	206079	148377	34621	182998	23081
Printers	122400	0	122400	88128	20563	108691	13709
Video Cameras	47800	0	47800	10217	5637	15854	31946
Still Camera	32590	0	32590	9043	3532	12575	20015
Tape Recorders	24425	0	24425	6778	2647	9425	15000
Total B	433294	0	433294	262543	67000	329543	103751
Gross Total (A+B)	5653689	659765	6313454	3712626	812971	4525597	1787857



		F.Y. 2005-06
BALANCE B/F	Rs.	Rs.
		7253931
C. Business Development Activities		
a. Salary	218010	
b. Grant	0	
c. Exhibitions/Workshops & Competitions Exp.	74128	
d. Communication	53489	
e. Travel Expenses	85791	
f. Training	34151	
g. Fellowship	417971	
h. Books & Magazines & Memberships	7469	
i. Contractual Payments	78000	
j. Conveyance Exp.	4313	
k. Xerox Exp.	9861	
l. Telephone Exp.	23426	
m. Postage & Courier	19028	
n. Stationery & Printing	53903	1079540
D. Intellectual Property Right Activities		
a. Patent/ Trade Mark	174920	
b. Travel	3835	
c. Communication	0	
d. Salary & Fellowship	0	
e. Training	23987	
f. Books & Other Materials	2000	
g. Stationery & Printing	20334	
h. Consultancy Fees	0	
i. Fellowship	287908	
j. Conveyance Exp.	2226	
k. Xerox	5089	
l. Telephone	12089	
m. Postage & Courier	9820	
n. Workshop & Other Expenses	14900	557108
E. Scouting & Documentation		
a. Salary	170083	
b. Grant	1573482	
c. Travel	88923	
d. Communication	107795	
e. Stationery & Printing	159615	
f. Campaign	17600	
g. Videography & Photography	3518	
h. Books & Magazines & Memberships	3970	
i. Workshop/ Seminar /Exhibition	301789	
j. Fellowship	919687	
k. Contractual Payment	294976	
l. Training	55767	
m. Conveyance Exp.	16378	
n. Xerox	37444	
o. Telephone	88947	
p. Postage & Courier	72250	
q. Consultancy Charges	186832	4099056
BALANCE C/F		12989635

		F.Y. 2005-06	
		Rs.	Rs.
	BALANCE B/F		12989635
F.	Value Addition and Research Development Activities		
a.	Salary	167484	
b.	Grant	220172	
c.	Exhibitions/Workshops/Seminars	20841	
d.	Stationery & Printing	87563	
e.	Communication	20738	
f.	Travel	98097	
g.	Training	37563	
h.	Books & Subscription	3995	
l.	Fellowship	928769	
j.	Contractual Payment	185592	
k.	JIC Exp.	166379	
l.	Consultancy/ Honorarium Charges	116839	
m.	Prototype Repairing & Other Exp.	20010	
n.	Conveyance Exp.	8749	
o.	Xerox	20001	
p.	Telephone	47512	
q.	Postage & Courier	38592	
r.	Value Addition Awareness	650	2189546
G.	Award Function		
a.	Travel/ Transportation	11875	
b.	Stationery, Printing & Trophy Designing	180762	192637
H.	Supports Provided to		
a.	GIAN WEST	20000	
b.	GIAN NORTH-EAST	1371800	
c.	GIAN NORTH	1044392	
d.	GIAN-CELL	350000	2786192
TOTAL I			18158010
<u>II PROJECTS EXPENSES</u>			
A	MVIF Project		
a.	Bank & Other Expenses		963
	Total -A		963
	Total II (A+B)		963
TOTAL EDUCATIONAL EXPENSES (I+II)			18158973



DISCLOSURE OF ACCOUNTING POLICIES AND NOTES TO ACCOUNTS FOR THE YEAR ENDED ON 31-03-2006.**01. SIGNIFICANT ACCOUNTING POLICIES AND NOTES FORMING PART OF ACCOUNT FOR THE YEAR ENDED ON 31-03-2006****a) Method of Accounting**

The Trust is maintaining its accounts on cash basis.

b) Fixed Assets

Fixed Assets are stated at cost of acquisition or construction inclusive of relevant levies and transportation

c) Depreciation & Amortization

The trust has adopted method of providing depreciation in books of accounts on W.D.V. method by adopting the rates narrated in Income Tax Act 1961

d) Recognition of Income & Expenditure

1. All income and expenditures are recognized on cash basis except in case of specific and conditional Grants received from some organizations. The un-spent amount of such Grant is liable to be returned or re-directed as per the directions of the Donee. Accordingly the unspent amounts as on the date of Balance Sheet is Shown as Liability.

2 The Trustees are of the opinion that the amounts shown to have been utilised/ expended out of such Grants/donations are correctly reflected. If same is disputed, necessary adjustments will have to be made in the books of accounts

e) Investments

Investment are stated at cost. Interest on term deposits are accounted on the basis of bank statements

f) Inventories

Not Applicable

g) Retirement Benefits

Retirement benefits are accounted on cash basis.

h) Contingent liability


There are no material contingent liabilities.

02. Balances of Loans & Advances in respect of innovators are subject to confirmation/reconciliation, if any

03. Expenditure and payments for which necessary evidences are not available have been verified with the vouchers certified by the Authorised person / Trustee.

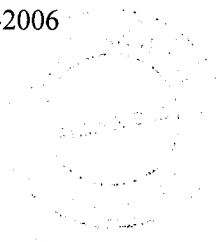
04 Figures in the Balance Sheet and Income and Expenditure Account are rounded of to the nearest Rupee

As per our report of even date
For **S. J. PATHAK & CO.**
Chartered Accountants


S. J. Pathak 10/9/2006
Partner

Memb. No. 16771.

Place : Ahmedabad
Date : 17-09-2006



Schedule IXC

(Vide Rule 32)

Statement of Income liable to contribution for the Financial Year 01-04-2005 to 31-03-2006

Name of the Public Trust: **NATIONAL INNOVATION FOUNDATION - INDIA**

Regn.No. **F/7412/Ahmedabad**


	Rs.	Rs.
Gross Annual Income		
Details of Income not Chargeable to Contribution under Section 58 Rule 32		
(i) Donation received during the year from any sources	In our opinion	
(ii) Grants by Government and Local Authorities		
(iii) Interest on Sinking or Depreciation Fund	this trust is	
(iv) Amount spent for the purpose of education		
(v) Amount spent for the purpose of medical relief	meant for the	
(vi) Deductions out of income from lands used for agricultural purpose :	promotion of	
(a) Land Revenue and Local Funds/Cess		
(b) Rent payable to superior landlord	education research	
(c) Cost of production, if lands are cultivated by trust	& the advancement	
(vii) Deductions out of income from lands used for non-agricultural purpose :	of any other object	
(a) Assessment, Cesses and other Government or Municipal Taxes	of General Public	
(b) Ground rent payable to the superior landlord	utility not involving	
(c) Insurance Premium		
(d) Repairs at 8 1/3 per cent of gross rents of buildings	the carrying on of	
(e) Cost of collection at 4 percent of gross rent of buildings let out	any activity for	
(viii) Cost of collection of income or receipts from securities stocks etc.at 1 percent of such income	profit and is	
(ix) Deduction on account of repairs in respect of buildings not rented and yielding no income at 8 1/3 per cent of the estimated gross annual rent	exempted from	
	the payment of	
	contribution.	
Income liable to contribution - NIL		

Ahmedabad
10-09-2006



Trustee
Prof. ANIL K. GUPTA
EXECUTIVE VICE-CHAIRPERSON
NATIONAL INNOVATION FOUNDATION
AHMEDABAD

As per our report of even date
For **S. J. Pathak & Co.**
Chartered Accountants


S.J. Pathak 10/9/2006
Partner
Memb. No. 16771