

**National Innovation Foundation
Annual Report 2006-2007**

Governing Council

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1. The Year at a Glance

Outstanding grassroots innovators and traditional knowledge holders from all over the country were honoured by the Hon'ble President, Dr A. P. J. Abdul Kalam during the fourth award function, held on February 12, 2007, at New Delhi. The opportunity to meet the President and interact with him was indeed a memorable experience for these creative people. The fourth award function saw 71 innovators receiving awards or certificates of appreciation (Table 1). A total of 95 innovators had received awards during the third award function.

Table 1: Number of Innovators Receiving Awards and Certificates of Appreciation, Fourth Award Function, 2007

Category	Number
National Award	17
Appreciation	14
Community Award	3
Challenge Award	2
Consolation Award	27
Partnership Award	3
State	5
TOTAL	71

The NIF team and the Honey Bee Network collaborators, as in previous years, contributed with their intense engagement in the detailed documentation of the short-listed technologies, presentation to the Research Advisory Committee which had formal as well as informal scientists, and the preparation for the award function. The quality of the scrutiny of the innovation claims is evident from the fact that the agricultural sub-group, which had Vice Chancellors of four agricultural universities, was chaired by the Head of Protection of Plant Variety and Farmers' Rights Authority. Likewise, the other groups had many distinguished scientists, policy makers and technologists from IITs, IIMs, CSIR, DST, ICMR, etc.

International recognition for the activities of NIF, Honey Bee Network and SRISTI continued to pour in during the year. BBC, Al Jazeera, Discovery, Asian Wall Street Journal and many other media channels made special programmes to celebrate creativity at the grassroots. The BBC's correspondents walked the whole of 18th Shodhyatra in Western UP. Several grassroots innovators were short-listed for the Asian Innovation Awards.

The coverage reached by the scouting and documentation activity was unprecedented, with 31,744 innovations and traditional knowledge practices being identified from all corners of the country during the fifth campaign (January 1, 2005 to January 31, 2007). The total number of innovations and traditional knowledge practices (People's Knowledge Database, PKD) now stands at 95,112. The challenge ahead, as in previous years, is to step up value addition and diffusion through commercial and non-commercial channels. In the context, the Hon'ble President, in his award function address, emphasized the need for forging closer relationships with private industry and other entrepreneurs. The progress achieved in the scouting activity is presented below.

Table 2: Cumulative Progress: 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
Fifth: January 1, 2005 - January 31, 2007	31744	95112

The collaboration with the Indian Council of Medical Research was formalized through an MOU in June 2006. ICMR has decided to work closely with NIF during the 11th Five Year Plan in order to add value to folkloric knowledge of herbal medicine, through a Regional Research Centre in Belgaum. Since such a research programme is crucially dependent on the accurate identification of medicinal plants used in traditional knowledge claims, another MOU was signed with the Botanical Survey of India, Kolkata.

The Department of Science and Technology recognized the potential of grassroots innovations and agreed to scale up its support to NIF. Instead of trying to augment its corpus, which would not have enabled generation of adequate financial resources, NIF agreed to become an institution under DST, receiving annual grants from the Government of India, while maintaining its autonomy, flexibility and informal culture. Few institutions have been able to make such a mark in such a short period. The entire credit for this performance goes to the Honey Bee Network collaborators, the staff of NIF and various other stakeholders, especially the creative people whose trust and respect for NIF are the biggest contributors to the grassroots movement in the country.

NIF joined hands with SRISTI to organize two Shodhyatras during the year in Koraput, Orissa and western Uttar Pradesh. Honey Bee Network volunteers took the lead in organizing the walks. There is scope for better follow-up of these walks, in which people from all over the country join in, at their own cost. However, there are few such voluntary efforts which have succeeded in mobilizing complete voluntary participation of farmers, students, professionals, scientists, teachers, and that too for ten years. The coordination with GIANS (Grassroots Innovation Augmentation Networks) and GIAN cells continued during the year. The investments under the Micro Venture Innovation Fund picked up considerably.

The shortage of staff continued to be a constraint. Existing staff had to stretch themselves. The lack of a full-time CIO for a major part of the year has also affected the functioning. It is hoped that with augmentation of resources, NIF will be able to attract many more competent professionals and leaders.

2. Shodhyatras: Celebration of Creativity at the Grassroots

NIF supported SRISTI and the Honey Bee Network in organizing the Seventeenth Shodhyatra in the Koraput district, Orissa from May 9 to 16, 2006, and the Eighteenth Shodhyatra in Bulandshahr from December 26, 2006 to January 3, 2007. The Seventeenth Shodhyatra set off from the Ganga Maa temple in the Pattangi block of Koraput and concluded in Sabara Srikhetra, Koraput. Sixty Shodhyatris walked together over a distance

of 113 km. Eight centenarians and dozens of herbal healers and students were honoured during the Shodhyatra. Two biodiversity and recipe contests were organized. This yatra saw the highest ever participation in the recipe contests, with sixty five people contributing 124 recipes.

The Eighteenth Shodhyatra started from Gangagarh village (Bulandshahr, UP) and culminated at Daula (Baghpat, UP), covering a distance of nearly 180 kilometers and moving through 34 villages. Eighty shodhyatris from all over the country participated. Nearly 5000 practices (including eleven mechanical innovations) were identified during the yatra. Nine centenarians and fifty three herbal healers, along with the winners of the idea, recipe and biodiversity competitions, were felicitated. A team from the BBC participated in this walk.

3. Rewarding Innovations: The Fourth Award Function

Creativity at the grassroots was celebrated for the third time under the guiding presence of the Hon'ble President of India, Dr A. P. J. Abdul Kalam. The Fourth Biennial Award function of the National Innovation Foundation (NIF), held at the Indian Agricultural Research Institute (IARI), New Delhi, February 11-12, 2007 once again demonstrated the diversity of innovations and traditional knowledge from all over the country. Special guests from different parts of the world ranging from Ethiopia to WIPO in Switzerland, attended the function. The families of the awardees were witness to a new family in the making, that of the Honey Bee network members. The fourth round of the competition, extending from January 2003 to December 2004 attracted more than 16,000 practices from all over the country, from the young and the old alike. Fifty five of these innovations and practices in eight categories: mechanical/electronics, farm machineries, energy, transport, plant variety, agricultural practices, plant protection and innovative ideas, were recognized with awards. Fifteen herbal and a few other practices were appreciated. This time also, there was no first award in several categories. In all, 18 National Awards (including a life-time achievement award and student awards), five State Awards, 28 Consolation awards, two challenge awards, one community award and one partnership award were given. In addition, 14 Certificates of Appreciation were given to herbal, utility and plant variety practices. Several scouts were appreciated and two regional collaborators, Dr Balaram Sahu from Orissa and Ms Anita Mahajan from Maharashtra were also honoured for their contribution to mobilizing entries for the competition. Two technology student groups were awarded for coming up with innovative solutions to persistent problems faced by the society (a water jacket to reduce the drudgery of women carrying water load on their head, and a hill trolley for people in the mountainous regions who have to carry firewood and fodder).

3.1 Innovations from Informal Laboratories of Life

Dr R A Mashelkar, Chairperson, NIF inaugurated the exhibition where the posters and prototypes of many of the award winning technologies were displayed. He appreciated the contribution of the Honey Bee Network in scouting innovations from all parts of the country. He stressed the importance of innovations coming from such 'informal laboratories of life' in instilling a feeling of self-reliance and the spirit of 'we can do it' by promoting interaction and exchange of ideas among achievers. He also conferred the consolation awards and gave appreciation certificates to the Traditional Knowledge holders and a few others. Dr T Ramasami, Secretary, Department of Science and Technology (DST) also appreciated the efforts of NIF and the Honey Bee Network members in being able to "recognize the innovators at the grassroots level, bring them together, network them and celebrate their contributions as well." Twelve journalists were also honoured by Dr R A

Mashelkar, Prof I Khanna and Dr T Ramasami through the media awards instituted at GIAN north. Dr S A Patil, Director, IARI not only extended hospitality for the event, but also assured future collaboration.

3.2 Honouring Grassroots Innovators

Dr T. Ramasami, Prof. Bakul Dholakia, Director, IIM Ahmedabad and member of the Governing Council and Prof Anil K Gupta welcomed the Hon'ble President Dr A. P. J. Abdul Kalam. The President visited the exhibition and met the innovators. He also conferred the National and State awards to the winners. He greeted the innovators, their family members, collaborators, organizers and distinguished guests, and said "Innovation may come from many directions in the country. But identifying the innovation from grassroots level is indeed a very important mission."

Giving examples from all over the country, he also stressed that adding value to innovations is an important task, which will facilitate their transformation from prototype to product, thereby generating knowledge-based employment. He recalled his personal interactions with some of the innovators from remote areas, and said. "Every village in the country will have a number of good practices in agriculture, fishing, forestry, horticulture, traditional knowledge in medicine and handicrafts, textiles, rearing of silk worms and many other areas. Deploying the youth of the region in mapping the knowledge and experience will provide us a rich resource of existing knowledge, which can be used by many people needing such products. These rural personnel will definitely become knowledge multipliers and make a difference to the villages they live in."

He lauded the efforts of NIF in gathering close to 65,000 innovations and traditional knowledge examples from over 400 districts of India. He also appreciated the linkages between NIF, CSIR and ICMR and added, "This connectivity has to be strengthened for realizing the maximum benefit from the innovation capability available with rural innovators." He was keen that people should be provided knowledge-based opportunities rather than only menial work. Mapping of knowledge through the DST, he suggested, could help in augmenting employment activities. He suggested that the local innovators should be given support in market research and business planning so as to facilitate their journey. On this occasion, Dr Ramasami also informed the audience about the decision to give NIF the status of an autonomous institution under the DST, with an annual budget of up to Rs 8-10 crore per annum, an announcement that was greeted by all the stakeholders who knew how NIF, with its meagre resources, had to struggle to meet the demands made on it.

3.3 Creating a Knowledge Network

A Honey Bee network meeting was organized where collaborators and innovators discussed ideas and put forward their views on sustaining and scaling up the innovation movement and creating a knowledge network. A workshop on "Intellectual Property Rights Issues in Protecting Traditional Knowledge" was also held where Mr Shakeel Bhatti from World Intellectual Property Organization (WIPO) was the special guest. It was emphasized that "Grassroots to Global" should be the mantra of Honey Bee in the future, to demonstrate that the innovators of country can not only solve problems of India, but that of the whole world. It was agreed to celebrate February 28, NIF's Foundation Day, as "Grassroots Creativity Day" all over the country. It was also decided that October 15, the birth date of the Hon'ble President would be celebrated every year as "Children's Innovation Day".

3.4 Winners of the Challenge Awards

3.4.1 Water Jackets*

To reduce the drudgery of rural women who have to carry water on their heads, a group of engineering students from S.R.M. Engineering College came up with the practical solution of water jackets, something that was obvious but was never thought of before. The water vest is a wearable plastic jacket with zips and velcro locks, with a belt and padded shoulder straps. A social entrepreneur, Madhav Sawant has added to the concept and developed two boxes hung on shoulder rods, which obviate the need for carrying water on one's head.

3.4.2 Hill Trolley with Triangular Wheels*

People in the mountains have to carry large quantities of firewood or fodder on their heads, across sloppy terrain. Three friends, Balaji, Kunal and Arun have designed an innovative trolley for hills, where the pushing effort required is less than that of conventional ones, with the new trolley also having the advantage of not skidding on slopes. The trolley has three iron wheels and adequate load carrying, turning and braking capability. The innovativeness of the trolley lies in having the front frame fitted on either side with an equilateral triangle frame with three wheels at the vertices.

**These ideas were developed in response to the challenges posed by the Honey Bee Network.*

The awardees and the guests were taken for a special visit to the Rashtrapati Bhavan. Cultural programs by the innovators followed the visit, where many displayed their unique talents. The audience was specially enthralled by the Bharatnatyam performance of Ms. Aparajita, who had specially come from Assam for the occasion. With participation from people from all corners of the country, the gathering looked like a grand display of the cultural and linguistic diversity of the country, without which perhaps so much knowledge and innovation diversity wouldn't have come about.

The innovators and their family members were very happy to visit the city, meet the President and visit the President's House. Many of them were travelling such long distances from their homes for the first time, and there was a continuous buzz of excitement amongst them. The guests freely intermingled with each other, discussed ideas and talked about possible cooperation amongst themselves. This after all was the key purpose. Free exchange of ideas can increase one-to-one interaction and encourage lateral learning. Knowledge Network will emerge only then. Ideas from one place will trigger innovation in another place. Eventually, institutionalization of the culture of creativity, commitment to community well being and nature conservation will take place. The quality of life of millions who have remained excluded from the developmental saga of the society so far will improve.

4. The Fifth Campaign

During the fifth campaign, which ran from January 1, 2005 to January 31, 2007, NIF mobilized about 35,000 innovations and traditional knowledge practices. As in the previous years, the Honey Bee collaborators have contributed more than 80% of the practices. A sizeable number of the entries are from women knowledge holders. The lack of documentation of women's knowledge was a weak area earlier.

Table 3: Technological Innovations / TK Entries Received during the Fifth Campaign

State	Direct	Through Collaborators
Andhra Pradesh	43	18
Bihar	20	3900
Chandigarh	10	0
Chattisgarh	182	0
Delhi	24	0
Goa	5	0
Gujarat	67	5228
Haryana	40	0
Himachal Pradesh	7	0
Jammu and Kashmir	9	105
Jharkhand	4	1102
Karnataka	19	255
Kerala	28	9597
Madhya Pradesh	47	0
Maharashtra	323	29
North Eastern States	15	1127
Orissa	9	707
Pondicherry	1	24
Punjab	58	30
Rajasthan	125	1042
Sikkim	1	0
Tamil Nadu	92	1923
Uttar Pradesh	93	8347
Uttaranchal	1	17
West Bengal	147	13
Total	1370	33464
		34834

5. Review of Activities: NIF

5.1 Scouting and Documentation

The Scouting and Documentation (S&D) team of NIF processes numerous entries received directly or from various collaborators spread across the country. The team members visit innovators and TK holders all over India to document their innovations/practices/personal profiles in detail. The S&D team while working in close coordination with the VARD, IPR, IT&D and BD teams handles most of the communications either with the collaborators or with the innovators.

The specific tasks undertaken by the S&D team during the period 2006-07 are:

5.1.1 Activities in North-east India

With the help of NIF-GIAN cell at IIT Guwahati, 190 entries (mechanical innovations as well as TK) from more than 20 districts in six states (Assam, Manipur, Nagaland, Mizoram, Arunachal and Meghalaya) were documented.

A unique experiment for dissemination was undertaken by involving the Assam Rifles, Tripura. They undertook preliminary dissemination activity for Usman Shekhani's Bamboo Stick Making and Splint Making Machine for testing, as a part of their Military Civil Action program for rehabilitation of Riang tribe (agarbatti making industry).

On the whole, detailed documentation of more than 200 innovations and TK practices in more than 30 districts of seven states of north-east India was undertaken. In addition, more than 1200 innovations and TK practices were identified, based on the knowledge of more than 300 innovators.

5.1.2 The Sixth Campaign

The Sixth National Biennial Competition started on February 1, 2007 and is expected to end on December 31, 2008. Several new strategies are being attempted in this round. Documentation of women's knowledge, through self help groups, will be an area of special focus. Unfolding the creativity of school children is another area; the collaboration with the Central Board of Secondary Education continues to be important.

5.1.3 Grant Disbursed during April 2006 - March 2007

As mentioned earlier, Honey Bee Network volunteers have made a remarkable contribution to the process of uncovering people's knowledge. None of the volunteers receives any honorarium for their own contribution. However, small grants are given to meet some of the costs of staff, publication of local posters, travel, and in a few cases, magazines and detailed documentation. The amount of S&D grant released to various collaborators during the financial year 2006-07 was Rs. 17,50,743.

Table 4: S and D Grants to Honey Bee Network Collaborators

	Grantee	Amount Disbursed (Rs.)
1	Dr Arun Chandan, HP	135000
2	Anita Mahajan- Jalgaon	100000
3	Dr Ambedkar Sansthan -Bihar	160195
4	Social Upliftment Trust-Hazaribag	88825
5	Azhar Hussain Ansari- Bihar	40100
6	College of Horticulture and Forestry, AP	105000
7	Sudarshana- Bengaluru	25000
8	SEVA-Madurai,	200000
9	Dr K L Rao - AP	70000
10	Orissa Pragati Krushak Parishad- Orissa	40000
11	Lady Doak College, Madurai	40000
12	Peermade Development Society- Kerala	81000
13	Lady Doak College - Madurai,	20000
14	CRSD- Kutch, Gujarat	103655
15	Paresh Pandya, Rajasthan	41000
16	Sundaram Verma, Rajasthan	150000
17	Sristi Gyan Kendra- Uttaranchal	25000
18	Dr S S Ketwa, Rajasthan	25000

19	Shristi- Bhubneshwar	188000
20	Pajancoa & RI - Coimbatore	15000
21	Basrat Abbas, J&K	6000
22	PRITVI - Bengaluru	60000
23	HB Network, Tamil Nadu	11000
24	Other partners in Kashmir, Gujarat, West Bengal and Kerala	20968
Grand Total		1750743

5.1.4 Strengthening the Network

NIF has built upon the Honey Bee philosophy to establish linkages with like-minded people and organizations. Some of the new collaborators are: Dr Ambedkar Sansthan, Bihar and Social Upliftment Cell, Jharkhand. Because of their efforts, all the districts of Bihar have at least one representation in our database. Together they have contributed more than five thousand practices to NIF.

Brig. Pogula Ganesham, coordinator of Honey Bee Andhra Pradesh, also brought out the Telugu version of Honey Bee to disseminate the knowledge about creativity in the state. The fifth campaign in Andhra Pradesh and the first issue of Telugu Honey Bee were launched on May 18, 2006 in Hyderabad in the presence of Dr Pushpa Bhargava, former Director, CCMB and Member, National Knowledge Commission, and Dr P. Geervani, former Vice Chancellor, Padmavati Mahila Vishva Vidyalaya, Tirupati.

Representatives of Kerala State IT Mission have shown keen interest in building cooperation with NIF. Several NGOs from Rajasthan, Jharkhand, Gujarat and other states have contacted NIF to build positive linkages.

5.1.5 Children's Creativity

Building on the success of last year, NIF again joined hands with CBSE to unearth the creativity of children. This year NIF, in collaboration with CBSE, organized the 2nd National Competition for innovations and ideas of school students. The competition ended on December 31, 2006 and attracted enthusiastic participation from children all over the country. The process of short-listing the entries is going on.

NIF brought out a special multimedia CD featuring children's innovations and creativity and distributed it to various schools across the country.

5.1.6 Distribution of Letters of Appreciation for Accepted Entries of First and Second rounds

In order to acknowledge the contribution of every knowledge provider, we have dispatched letters of appreciation to all the 154 accepted entries (apart from those already awarded prizes) from the First National Competition. For the Second



competition too, letters to all the accepted entries have been dispatched. Similar process is being followed for the subsequent rounds.

5.1.7 SAATVIK 2006 - Traditional Food Festival

NIF cooperated with SRISTI in organizing the traditional food festival, SAATVIK-2006 in the New Campus of IIMA during November 25-27, 2006. The competition saw enthusiastic participation of people from all over the country. There was a recipe contest for women to recognize culinary creativity and to document possible leads for nutraceuticals. For the children, face painting, drawing, T-Shirt painting were the main attractions. An exhibition of innovations was also organized by NIF on the occasion to create awareness and to solicit new ideas and innovations. More than 50,000 people visited SAATVIK-2006.

5.1.8 Foundation Day- 28th February, 2007

NIF celebrated its Seventh Foundation Day as *Creativity Day* on February 28th, 2007 at SRISTI's premises in the Gujarat University Campus. Students of various schools witnessed the event. On this occasion, award winners of the Idea competition held during the Traditional Food festival in November 2006 were felicitated.

5.1.9 Other Activities

A workshop on herbal traditional knowledge was organised on April 14, 2006 at IIM Ahmedabad, in which twenty herbal healers participated. They shared their experiences about the use of herbs, formulation preparation etc.

A meeting was organised on September 19, 2006 in Chemistry Department, Saurashtra University, Gujarat, to augment the scouting and documentation activities. About 300 students from various science colleges at Rajkot and different departments of Saurashtra University participated in the meeting. As a follow-up, NIF gave a presentation on scouting and documentation to the students at Lokvigyan Kendra, Rajkot, on October 3, 2006.

5.1.10 New Initiatives in Scouting and Documentation

1. Mobilizing women's knowledge and establishing knowledge-based enterprises by pooling best practices

In association with our regional collaborator, Peermade Development Society, a massive campaign through women self-help groups to mobilize knowledge, innovations and practices among women was initiated. In this exercise more than eight thousand practices were documented in the field of cosmetics, nutraceuticals, health care, cooking etc., from just one block of Idukki district in Kerala. This exercise has proved that there is immense potential among the women members of SHGs to convert the micro finance platform into a knowledge augmentation platform.

NIF wishes to make investment of risk capital in creating markets for these products. The model will require a flexible approach of enabling groups as well as individuals (local or external), women as well as men entrepreneurs. This will lead to formation of women based village knowledge registers as well as entry of new knowledge based products in the horizontal (women to women) or vertical (urban consumers and rural producers) markets.

A few years ago, a workshop was organized by SRISTI and NIF with the help of CCD and SEVA to promote knowledge-based enterprises. It involved federations of women from five states. The recommendations included the process through which risk return analysis could be done by the SHGs and new products could attract MVIF investments.

2. Including scouting in curriculum

In 2006, a college in Tamil Nadu, Lady Doak, started a course on “importance of traditional knowledge and grassroots innovation”, wherein the students were expected to go to villages for their fieldwork and collect traditional knowledge examples and local innovations. This maiden attempt was highly successful as the 400 odd postgraduate students were able to scout and document more than 2000 such examples.

3. Scouting fellowships

A few fellowships have been granted to research students to enable them to go to the field for scouting purposes. The fellowship covers their travel expenses, stationery and sustenance. This serves dual purpose as the researchers can do their own work as well as document the TK practices.

4. Kite festival

Uttarayan is the time for a kite flying festival in Ahmedabad. About 5000 kites with NIF messages written on them asking people to contact us if they knew of any innovations were freely distributed. The idea behind it was to send the message to a large number of places which would get selected by chance.

5. Identifying other interested networks and involving them in scouting and documentation

SRISTI has initiated steps to identify similar networks in different parts of the world to involve them in scouting and documentation activities. China Innovation Network (CHIN) is one such outcome of a three country study taken up by SRISTI in India, China and Brazil. NIF and GIAN have been closely involved in creating Global GIAN – an offline and online incubation platform. This platform will be offered to NIF for its internal use by the end of this year.

5.2 Value Addition and Research Activities (VARD)

The VARD team has provided technical as well as financial support for converting the innovations and TK practices for prototype development, testing, design optimization and developing proof of concept model, screening of herbal practices, and testing of veterinary practices. VARD has extended value addition support to various technologies in collaboration with the GIANs (Refer Annexure 4 for project details). Besides, it has played a crucial 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 section, the VARD section scrutinized nearly 360

entries (exploratory and accepted category) on its technical aspects to ascertain the novelty in each innovation.

5.2.1 Validation of Human Health Herbal Practices

Screening of herbal extracts against diabetes, neurological and cancer screens:

The validation of 10 herbal practices identified by SRISTI Ahmedabad was done against 13 screens to monitor the activity at Biological Research Laboratories, Kolkata through Institute of Genomics and Integrative Biology and TCG Lab. Modest activity was observed against Mono amine oxidase (MAO-B) for six samples. In the MAO-B experiment, inhibition obtained was comparable to that of bifemelane, the best drug available in the market. MAO-B activity can also be co-related to Parkinson's disease. In MAO-A experimentation, the inhibition was also recorded at lower concentrations in a few extracts.

Screening for cytokines:

Certain extracts showed the ability to either inhibit or enhance the production of various cytokines. There were certain cases in which the cytokine activity was enhanced at low extract but not high extract concentrations against IL-2,8, IFN- γ . In the case of IL-1 β five preparations inhibited activity at higher concentrations. Cytokines are immunomodulators. This finding matches with the hypothesis of traditional medicine system being able to boost or suppress the host immune system. The advantages of systems biology approach are beginning to appear. Some samples showed activity in lipoxygenase, involved in inflammatory response where cytokines also have a role to play.

Screen for Lipoxygenase assay:

Most of the compounds were found to induce Lipoxygenase at the assayed concentrations. In the COX-2 screening, six compounds were found to have modest activity against COX-2. The screening was conducted at Biological Research Laboratories, Chembiotek Research International under the aegis of IGIB, a leading CSIR lab, and TCG lab.

5.2.2 Validation of Plant Varieties and Agricultural Practices

The validation of plant varieties developed by farmers has been a very time consuming process. Most agricultural universities not only take a long time, but sometimes ask for large budgets which NIF could not afford. With the augmentation of NIF's resources in the near future, it will be possible to address this gap in the value chain development. In fact, there is a need for an All India Coordinated Research Project focusing only on validation and value addition in farmers' knowledge, innovations and practices. While the cooperative arrangements have been developed with CSIR, ICMR and BSI, the formal cooperation with ICAR is yet to take shape. This is an area of considerable concern to the VARD team and no effort will be spared in addressing this concern in the coming year.

5.2.3 Validation of Farm Machinery and Other Technologies

Various research centres were contacted and field visits made by NIF team members to verify the claims of the innovators. In some cases, technologies were short-listed or prioritized not so much for what the innovators had achieved but more for the ingenious

process followed in developing those solutions. It is the spirit of innovation which sometimes matters more than the final outcome.

Tables 5 to 8 provide information about the efforts made in this regard during the year.

Table 5: Validation of Agriculture Practices

	Agriculture Entries	Work Done	Expenses	Latest Progress
1	Validation of Pigeon Pea varieties 'Virat', 'Kudrat 3' & 'Chamatkar'	Conducted the trials at IIPR, Kanpur and farmers' field during kharif season of 2006-07.	Rs.30,000 (30/06/07)	In farmer's field trial all varieties have performed well. Kudrat 3 was found to be superior in yield, with bold seed size and early maturity as compared to other varieties. At IIPR, Kanpur, due to heavy rain, validation trial was not completed properly. Reports received: 26th June, 2007
3	Validation of Innovators Mustard varieties 'Vishvajeet', 'Kudrat Geeta', 'Kudrat Vandana' and 'Kudrat Suryamukhi'	Trials were conducted at NRCM, Bharatpur for validation.	Rs. 60,000 (18/10/06)	Kudrat Vandana & Kudrat Geeta found superior in terms of yield, oil content and seeds per siliqua. Reports received: 19th June, 2007
3	Field validation of farmers wheat varieties JP 52, 64 and 61, Kudrat 3, 11, 16 and 5	Samples sent to CCSHAU, Hissar and farmers for multi location trial.	Rs. 20,000. (18/10/06)	Results awaited
4	Field validation and multi location trials of Wheat varieties.	NIF conducted the trials in Haryana under observation of the progressive farmer Sri Ishwar Singh Kundu.	Rs. 5,000 (26/03/07)	Results awaited
5	Field validation and multi location trials of Wheat varieties.	NIF conducted the trial at farmers' fields in Rajasthan.	Rs. 8,000 (26/03/07)	Results awaited

Table 6: List of Projects Sanctioned under VARD (Animal Health)

	Name of the project	Institution	Amount (Rs.)	Date
1	To study in vitro Anthelmintic efficacy of crista & its clinical trials in goat	C.V.Sc., Parbhani, Maharashtra	11,000	4/05/2006
2	Wound healing ointment	NIF-SRISTI laboratories	3000	03/07/2006
3	Laboratory trials for the project antimicrobial sensitivity testing of unique medicinal plants for animal health	Devanandan enterprise	26,028	06/07/2006

4	Herbal powder for curing bloat	NIF-SRISTI laboratories	3,000	21/11/2006
5	Validation Efficacy of herbal Extract of Amaravel on Marek's Disease Virus	Animal & Fish. Sciences Univ. Nagpur	25,000	21/11/2006
6	Study, validate and confirm efficacy of extract of herb kanther in clinical and experimentally-induced bloat in goat / buffalo	Animal & Fish. Sciences Uni. Nagpur	25,000	21/11/2006
7	Preliminary validation of selected indigenous practice for induction of oestrus in large ruminants	C.V.Sc., Anand	15,000	02/12/2006
8	Effect of herbal medication on hormones in female buffaloes	VARD	8,850	04/12/2006
9	To study on in vitro Anthelmintic efficacy of crista & its clinical trials in goat	C.V.Sc., Parbhani, Maharashtra	11,000	29/03/2007
	Total		1,27,878	

Table 7: List of Projects with Results Still in Process

	Name of the innovator	Ailment	Special feature	Validation	Species
1	Ukhardiyabhai Somabhai Raot Scout: SRISTI	Mastitis	1.Residual drug in the treated milk is meagre 2.Animals at advanced stage or about to calve were treated indicating safety 3.Efficacy over subclinical, chronic and clinical mastitis confirmed	Clinical validation	Cows and Buffaloes
2	Harshadbhai Patel Scout: SRISTI	Endoparasite	Broadspectrum	Clinical and laboratory validation over roundworm; flukes	Large ruminants
3	Harshadbhai Patel Scout: SRISTI	Endoparasite	Round worm	Clinical and laboratory validation over roundworm	Poultry
4	Bharwad community Scout: SRISTI	Anestrus/ silent estrus	Silent estrus in buffaloes	Hormonal impact both estrogen and progesterone	Buffaloes
5	Sakrabhai Kallubhai Bhariya Scout: SRISTI	Bloat	Work over Autocoids	Preliminary trials indicated the drug capable of mitigating pain	Cattle, buffaloes
6	Jamunaben and	Poultry stress	Efficacy over	Trials among	Poultry

Jeevalbhai Gauli Scout: SRISTI		various infections	birds are encouraging	
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Table 8: Projects on Engineering Innovations Supported from VARD Funds (2006-07)

	Project title	Innovator/Organization (Payment made to whom)	Amount (Rs.)
1	Prototype development of slippers with light	Hawa Singh, Haryana	1500
2	Prototype development and documentation charges of low cost hearth	Santosh C J, Kerala	1620
3	Prototype development of water walking shoes	Dwarka Prasad Chaurasiya, Uttar Pradesh	1500
4	Prototype development of pedal operated pump	Vikram Rathode, Andhra Pradesh	15000
5	Prototype development of kit for enabling handicapped to drive the car	Biju Verghese, Kerala	10000
6	Prototype development of security alarm	Prem Singh Saini, Haryana	12500
7	Procurement of various parts for testing and development of prototypes	Prem Singh Saini, Haryana	1079
8	Prototype development of low cost guest welcome audio system	Prem Singh Saini, Haryana	17887
9	Prototype development of the talking poster	Prem Singh Saini, Haryana	8000
10	Prototype development of phone operated car security system	Prem Singh Saini, Haryana	14890
11	Prototype development of phone operated switch for high power 3 phase AC line theft control	Prem Singh Saini, Haryana	27240
12	Prototype development of automatic detector for unauthorized entry using CDMA/GSM kit	Prem Singh Saini, Haryana	19740
13	Prototype development of multi point mobile phone chargers for Surat flood relief	Prem Singh Saini, Haryana	7172
14	Prototype development of water level indicator	Prem Singh Saini, Haryana	1828
15	Raw material and tools for prototype development	Prem Singh Saini, Haryana	1890
16	Prototype development and testing of the improved mechanized spring making machine	Prem Singh Saini, Haryana	5800
17	Prototype development of	Prem Singh Saini,	27580

	phone operated home lock device using GSM/CDMA kit	Haryana	
18	Prototype development of automatic low power consuming car parking indicator	Prem Singh Saini, Haryana	7080
19	Prototype development of talking posters, cycle based mobile charger, door welcome kit, electricity saving system for fan and mobile operated switch for market research	Prem Singh Saini, Haryana	17500
20	Development of wireless speakers to transmit audio signals from remote location	Prem Singh Saini, Haryana	1845
21	Procurement of bicycle and job work for cycle based mobile charger	Prem Singh Saini, Haryana	1500
22	Prototype development of the system which can enable mobile phone to be powered from any AC/DC power source	Prem Singh Saini, Haryana	30000
23	Repairing prototype of electric robot	Prem Singh Saini, Haryana	10100
24	Prototype development and charges for delivery to NIF of the microbalance	Rajkumar Soni, Madhya Pradesh	450
25	Prototype development of multipurpose agriculture equipment	Sham Rao Parahte, Madhya Pradesh	7500
26	Prototype development and video shooting charges of the folding bicycle	Sandeep Kumar, Bihar	3220
27	Prototype development of scale for irrational numbers	Bablu Chandra Dey, West Bengal	2000
28	Performance evaluation of low cost windmill by IIT, Guwahati (Innovation of Mehtar Hussain)	GIAN-NE, Guwahati, Assam	41100
29	Value added prototype development and performance evaluation of washing machine (Innovation of Amrik Singh)	GIAN-N, Jaipur, Rajasthan	18000
30	Value added prototype development and performance evaluation of solar laminator, innovation of Amandeep	GIAN-N, Jaipur, Rajasthan	8000
31	Development of working prototype of 'Energy from road transport' and its testing (Innovation of Mr Royadeep Singh and his friends)	GIAN-N, Jaipur, Rajasthan	33000
32	Prototype development of bobbin filling machine for embroidery machines	Jigar Patel, Gujarat	150
33	Field testing of multipurpose	Junagadh Agricultural	10000

	agricultural equipment (Innovation of Sham Rao Parahte)	University, Junagadh, Gujarat	
34	Prototype development of amphibious rickshaw	Md. Saidullah, Bihar	35000
35	Product development of earthen thermos	Ankit Tiwari, Bihar	1000
36	Procuring prototypes of spider removal device and pocket alarm system	Ankush Kumar, Jharkhand	500
37	Testing and value addition in the design of mini boiler (Innovation of Duraisamy)	TCE, Madurai, Tamil Nadu	35000
38	Product development and testing of the improved mechanized spring making machine (Innovation of Selvaraju)	TCE, Madurai, Tamil Nadu	20000
39	Prototype development of ten in one machine	Gurcharan Pradhan, Orissa	10000
40	Field testing of hand operated water lifting device (Innovation of Sakthimainthan)	Dean AEC &RI, Kumulur , Tamil Nadu	5000
41	Field testing of hand operated water lifting device (Innovation of Sakthimainthan)	CIAE, Bhopal	5000
42	Prototype development and feasibility study of water carrier	GIAN, Ahmedabad, Gujarat	50000
43	Development of attachment for bamboo lathe machine to make long bamboo sticks (Innovation of Imli Toshi)	GIAN-NE, Guwahati, Assam	25000
44	Prototype development of sensor horn and tsunami alarm	Sadesh B Devaki, Kerala	9200
45	Prototype development of modified hand pump	Ramashankar Sharma, Bihar	700
46	Prototype development of electronic tooth brush	Dhaniram Soni, Madhya Pradesh	200
47	Prototype development of badminton stroke practicing machine (Innovation of Subhash Das)	GIAN NE cell of NIF, Guwahati, Assam	15000
48	Working conceptual model development of low cost windmill (Innovation of Mehtar Hussain)	GIAN NE cell of NIF, Guwahati, Assam	2500
49	Prototype development of centrifugal sprayer, (Innovation of U Krishna)	K. L Rao C/o Brig. Ganesham, Andhra Pradesh	5000
50	Prototype development of multipurpose agriculture equipment	Sham Rao Parahte , Madhya Pradesh	8000
51	Testing charges of bullet proof jacket (Innovation of Makrandh Kale)	CIPET Extension Centre, Ahmedabad, Gujarat	2469

52	Prototype development of scooter based mobile spray painting device	Sheikh Jahangir, Maharashtra	8000
53	Prototype development and testing of walnut cracker machine (Innovation of Mustaq Ahmed Dar)	GIAN-North, Jaipur, Rajasthan	30000
54	Procurement of non stick tava, vatsal tong, surksha tong and auto air kick pump for market research	GIAN-west, Ahmedabad,, Gujarat	1040
55	Prototype development of air driven water pump	Anil Pandvi, Maharashtra	3500
56	Field testing charges for the scooter based mobile spray painting device (Innovation of Sheikh Jahangir)	Govt College of Engineering, Jalgaon, Maharashtra	2000
57	Prototype development of speed governor	P. Krishnakant, Kerala	3963
58	Prototype development of water walking shoes	Dwarika Prasad Chaurasiya, Uttar Pradesh	5000
60	Travel expenses and Honorarium for validation of Mr Sham Rao Parahte's innovations (Candidate for Life Time Achievement Award of NIF)	Dr Indra Mani, Senior Scientist, IARI New Delhi	14260
61	Prototype development of new mechanism of developing energy from road transport	Bibhuti Bhusan Chakraborty, West Bengal	9200
62	Prototype development of bullock operated multipurpose seed drill	Gorakhnath Kaspate, Maharashtra	7000
63	Prototype development of the students innovations (Automatic tariff controller in electricity Meter, innovation of G Sathish Kumar; Multipurpose crutch, innovation of Rakesh Patra; Indigenous weighing machine using scooter tyre tube, innovation of Ms. Sarit Swapan Das and Special umbrella for hot climates, innovation of Ms. Supriya Chottray)	Bipin B. Agravat, Gujarat	7177
64	Prototype development of mini microscope	C. N. Bairagya, West Bengal	5000
		Sum	692380

5.2.4 VARD Activities in North-east India: Prototyping, Value Addition and Research and Development

1. **Portable Muga Reeling Machine:** With a fund of Rs 5000 (five thousand only) from NIF, validation work on Nripen Kalita's Portable Muga Reeling Machine was done

under the supervision of Prof. A. K. Das, Design Department, IITG. Prof AK Das extended the facility of the design dept. workshop for the innovator to work in a collegial and fully equipped environment.

2. **Chira Making Machine:** This is a simple and portable but very effective device useful for household use. The machine has been shown to Prof. AK Das and he suggested that some parts be modified. GIAN-NE provided a small fund of Rs.800 for fabricating an improved version of the machine. The innovator has incorporated the suggestions and completed the development of a new machine. Systematic testing needs to be done for output and quality checks.
3. **Manual Wood Cutter:** Three machine orders from Rajasthan, through GIAN-North, were executed. The innovator had also come up with a model that is much smaller and compact, and with a completely altered flywheel position and size.
4. **Wind Turbine Validation:** The long felt need of validation process was done with the help of Mechanical Department and Energy Unit, IIT Guwahati, under the supervision of Dr UK Shah. The project has been completed and IITG has submitted the project report with a few suggestions for improving the machine.
5. **Shock Proof Converter, Reuse of fused choke and Double phase protector:** To facilitate the development of a demonstrable unit for further validation work, an amount of Rs. 10,000 was provided to the innovator.
6. **Chinmoi Multipurpose Charkha:** Udhav Bharali and GIAN-NE extended financial help to Chinmoi to fabricate a Multipurpose Charkha.
7. **Green Areca-nut Peeling Machine:** Bharali has sent three machines to Karnataka to Prakash, Shimoga (who is interested in marketing the machine in Karnataka) for field trials by local users. The latest news is that there is some problem in the nut-husk separation part and they are working ways to resolve this problem. If this issue is resolved, then the dealer is ready to purchase a large number of machines or the technology itself. Bharali, after about two months of trial and error process, came up with a prototype for Dry Areca nut. The prototype has since been modified and aspects like looks, output, efficiency, improved. Systematic validation work needs to be done to standardize the machine.
8. **Aminuddin Railway Project:** Aminuddin Ahmed's latest addition to his Railways project, Foggy weather signalling device, has been tried and tested at the local level and has been given to DSRO, Lucknow for final testing. DSRO wanted to have it tested by another accredited third party laboratory. In this context, GIAN-NE has discussed with the Electronics Department, IITG.
9. **Badminton Stroke Making Machine:** GIAN-NE has provided a support of Rs 5000 (five thousand) to meet the expenses of developing an improved machine. Unfortunately, some unforeseen issues cropped up at the innovator's home which stalled the development of the machine.
10. **Solar Boat of Ganesh Gimeri:** Prof. UK Dixit, Head, Mechanical Department, IITG, gave a few suggestions to the innovator and NIF -GIAN-NE cell provided a small fund of about Rs 7500 to complete the fabrication of a two seat solar boat, using

vehicle tubes as floats. Some of the students of IITG worked on the solar boat as a part of their term project.

11. **Validation at CIMAP:** To validate three food-processing machines (Garlic peeling machine, Safed peeling machine, Medicinal plant/leaves grinding machine) of UK Bharali, a sum of Rs 86100 (eighty six thousand and one hundred only) was granted for testing at CIMAP.
12. **Validation of Fuel-efficient Auto:** One student of Energy Center, IITG has been working on this machine developed by Mr S Mandal, as a part of his project. The initial test results suggest that there is significant improvement in fuel consumption. A final report is awaited.
13. **Power Generation from Rumble Strip:** Six B. Tech students of Mechanical Department, IITG have worked on this device as a part of their project. They have worked on the computer-simulated model of the machine and given inputs for improvement of the machine. Their findings and suggestions will form a major part of the proposal, which will be submitted to the State Power Minister's Office for prototype development and a feasibility assessment project.
14. **Zero Head Water Turbine:** The commercialization process of Zero head turbine hasn't taken off because of some technical flaws in the system. NIF-GIAN-NE cell and Agarwal, the entrepreneur, have taken an initiative to solve this problem with help of another innovator, UK Bharali. Very recently, the Power Minister of Assam saw the zero head water turbine in a local exhibition and he invited the innovator to come and meet him to discuss about the machine. He was interested in scaling up the machine. GIAN cell team shall be meeting the minister very soon.
15. **Traditional Bone Healers:** The R&D head of Charak Pharma was taken to three prominent bone healers - Pushpolata Saikia from Jorhat, Assam; Munider Shyam from Karbi Anglong, Assam; and Mathura Phonglo from Dimapur, Nagaland. A response is awaited.

5.2.5 Support for GRI (Grassroots Innovations) and TK (Traditional Knowledge) under Technopreneur Promotion Programme, DSIR, GOI

First meeting of the sub committee of TePP screening Committee (TSC): TePP Screening Committee (TSC) for Grassroots innovations scouted and documented by NIF, GIAN and SRISTI was held at NIF office, Ahmedabad on August 14, 2006. The Sub-Committee Chaired by Dr Santosh Satya, Member National TePP screening committee, reviewed proposals submitted earlier to TePP and also some new proposals. The Sub committee screened 21 proposals from GIAN west, 6 from NIF (13 proposals were prepared but due to paucity of time all could not be presented) and 6 from SRISTI. The Committee decided to meet again between September 15th and September 20th, 2006 to screen the remaining proposals. Out of the proposals presented from NIF, the Mobile operated switch by Prem Singh Saini was recommend for TePP assistance.

Second meeting of the subcommittee of TePP screening Committee (TSC): The TePP Screening committee chaired by Dr R. Saha, Advisor DSIR, had a meeting at NIF office, Ahmedabad on January 29, 2007. The committee screened 56 proposals covering general engineering, electronics, agriculture engineering, food processing and herbal human and

veterinary health technologies. Proposals for the different technologies were presented by staff from NIF GIAN-W, and SRISTI. A few of the proposals were deferred, a few rejected and some recommended by the sub-committee. The recommended ones were:

- Groundnut separator machine by Yusuf Khan (Rajasthan), for use as a sea beach cleaner
- Amphibious Bicycle by Dwarka Prasad Chaurasiya (Uttar Pradesh)
- Improving design and functionality of Motek Treadle Press by Satish Deb (Chattisgarh)
- Pomegranate deseeding machine U. Bharali (Assam)
- Low cost energy saving crematorium by Kambel Chulai (Meghalaya)
- Development of commercial prototype of pulse thresher by Gopalbhai Suratia. (Gujarat)
- Development of Market ready Arrowroot Grinding Machine by A T Thomas (Kerala).

Subsequently, it was proposed that in view of the resource augmentation likely to take place in NIF, there may be no need for NIF to seek support from TePP for the purpose.

5.2.6 SCAI Activities under VARD

The efforts to strengthen SCAI clubs continued during the year. Only one club offered to take up technologies for validation and value addition. The SCAI at BVB College of Engineering & Technology, Hubli, Karnataka took up (i) Multipurpose crutch by Rakesh Patra, Orissa and (ii) Five wheel car by Harimohan and Manoj Saini from Rajasthan. The results are awaited.

5.3 Business Development and Micro Ventures

5.3.1 Grassroots to Global (G²G)

In its effort to commercialize grassroots innovation, NIF recognized the need to have a better web presence. This need was especially felt because of the distributed nature of both the innovations and their markets and also the vast sectoral diversity of NIF's technologies viz. ranging from agriculture to energy to general utility machinery. This need was further accentuated by the fact that NIF is not a commercial organization and its collaboration with big formal marketing entities, which could help NIF in the commercialization activity, is weak. The BD page on NIF website (www.nifindia.org/bd) was strengthened, though there is considerable scope for further improvement.

The online catalogue of technologies first uploaded in the beginning of the year 2005, has been further enriched during the year. A total of 50 individual technology profiles were updated on the site. More than 250 international enquiries have been received from over 35 countries worldwide for about 17 technologies. During the same period over 700 domestic enquires have also been received for various products.

Table 9: Summary of Enquiries Received about Technologies

	Innovation/product	By country (01/04/06 to 31/03/07)
1	Coconut/palm tree climbing device	USA, United Kingdom, Vietnam, Australia, Sri Lanka, Mexico, Iran, West Indies
2	Entech oil expeller	USA, United Kingdom, Australia, Philippines, Canada, Kenya, Colombia, S. Africa, Switzerland, Poland, Indonesia, Belgium

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, Iran, United Kingdom
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, Philippines, Bangladesh
9	Lemon cutting machine	S. Africa
10	Milking machine	Bangladesh, Uganda, Ecuador
11	Palm leaf mat weaving machine	Fiji
12	Rain Gun (Chandraprabha)	Sudan
13	Tea making machine	Bangladesh,
14	Tile making machine	Bangladesh, Kenya, Rwanda, Ghana, Zambia
15	Trench digging machine	Pakistan
16	Zero head water turbine	Egypt
17	Areca nut dehusking machine	Chile

Table 10: Number of International Enquiries for Technologies and Constraints in Delivery

	Product	Enquiries	Constraints
1	Amphibious Bicycle	2	
2	Areca nut Sheller	7	Optimised standard market ready product not available
3	Aruni-Titling Bullock cart	1	
4	Auto Air Kick Pump	4	
5	Auto Compression Sprayer	1	
6	Automatic Engine Stopper	1	
7	Automatic Motor Coil Winding Machine	1	
8	Bamboo Splints Making Device	3	
9	Beauty care umbrella	1	
10	Bicycle sprayer	1	
11	Boiled Tea Making Machine	3	Product not ready for the market
12	Cassava/Tapioca peeling machine	15	Standard market ready product not available
13	Chandraprabha Rain Gun	2	

14	Coconut / Palm Tree Climbing Device	26	Safety, ergonomics, appropriate materials not addressed. Cost issue in logistics
15	Coconut Defibering Machine	2	Innovator is not a good business men and incapable of delivering orders
16	Coconut Husker	9	The product is not matching with expected features
17	Coconut leaf mat making machine	1	
18	Cotton Stripper	2	
19	Cycle Operated Water Pump	2	
20	Entech Expeller	17	The product not yet optimized and difficulty in keeping timelines by the innovator - entrepreneur
21	Ericulture –a non violent silkworm rearing technique	4	
22	Garlic Peeling Machine	20	High cost involved with logistics thus cannot compete with similar Chinese made machines in cost
23	Grading Machine for Raisins	2	
24	Groundnut Digger cum Separator Machine	3	Cost and delivery an issue
25	Hybrid paddy	1	
26	Improved Forage Cutter	1	
27	Incubator for Hatching Eggs	3	High cost involved with logistics
28	Innovative Check Dam	1	
29	Jyothi's Herbal Hair Oil	2	
30	Kittanal	1	
31	Lemon Cutting Machine	7	High cost involved with logistics
32	Micro windmill driven battery charger by N Satyanarayan	1	
33	Milking machine	31	High cost involved with logistics
34	Mobile Operated Switch (Cell phone farming)	1	
35	Modified fan design	1	
36	Modified Design for Air Blower	1	
37	Motor Protecting Device	2	
38	Motor Winding Machine	4	
39	Multi Cylinder Reciprocating Pump	1	
40	Natural Water Cooler	6	High cost involved with logistics
41	Palm Leaf Mat Weaving Machine	1	

			Standard market ready product not available. Lack of CE certification as barrier to entry to the EU market
42	Pomegranate peeling machine	38	
43	Pulley	1	
44	Purchase of perennial Brinjal seeds	1	
45	Rain gun	3	
46	Remote Control Fire Device	1	
47	Rice processing Machine	1	
48	Rotary Huller	1	
49	Solar Cooker	5	
50	Tea Making Machine	3	
51	Trencher	5	The product is not suitable for heavy soil condition
52	Vanrai Bicycle Pump	2	
53	Washing cum exercise machine.	1	
54	Zero head water turbine	3	The product is not ready for market
55	Manual tile making machine	4	High cost involved with logistics
56	Cardamom polishing unit	1	
57	Panihari-Head load reducing device	1	
58	Hand driven sprayer	1	
59	Traditional bone healing practice		
	Gross total	263	

Sales were made for the following technologies:

- Pomegranate deseeding machine:
 - Triton International, Los Angeles, USA: the firm purchased one unit for self use
 - AykaTekstil San. ve Tic. AS, Istanbul, Turkey: The purpose was for self use
- Coconut climber:
 - Raintree Big Pond, Cairns, North Queensland: the sales was to test the technology and explore distribution rights for the Australian market
 - Ms. Heidiren, Boston University, Massachusetts, USA: Interestingly the purchaser wanted the device to help her in the study of the ecology of palm tree tops in central America
 - Hawaii marketing and transportation cooperative, Hilo, Hawaii: For exploring distribution rights for the United states
- Resin grading machine: the purchaser, JMC y Asociados SRL, is a fruit processing mid size company based in Lima, Peru. They wanted the machine for grading of resins for packaging into various bulk break units as per quality of resins
- Milking machine:
 - Uganda: The customer Mr Richard Parwot, belongs to an organization called Farmers network. He took the machine with the intention of popularising it

in his country, looking at the eventual possibility of procuring the distribution rights

- Ethiopia: Mr Getachew Worku purchased one machine for popularising and possible distribution in his country

5.3.2 Follow up of domestic enquiries

1. **Garlic peeling machine and lemon cutting machine:** The innovator Nagarajan is manufacturing and commercialising his innovations viz. the garlic peeling machine and the lemon cutting machine through his small firm called Virgo Engineering works in Usilampatti , Tamil Nadu. Since Virgo's formal marketing efforts are based only on word of mouth, NIF's Internet marketing effort has been a big help to him. Though not able to take all the orders, the innovator has sold 13 garlic peeling machines and five lemon cutting machines through the customers directed from NIF. The total revenue in the period 2005-06 was Rs. 23,94,700, a large part of which came through NIF's assistance.
2. **Milking machine:** The innovator with the assistance of his son-in-law is manufacturing and marketing the milking machine from his firm, Ksheera Enterprise (Sulia, Dakshina Kannada). He has received both domestic and international queries and after a lull in between, his business has picked up again.
3. **Talking poster:** NIF helped Prem Singh, the innovator to get trial order for six units of the talking poster (in Hindi, Telugu, and Oriya), from Financial Information Network and Operations Ltd. (FINO), Mumbai. FINO is a Mumbai-based company that provides IT solutions to banks and micro finance institutions, and has investors from the private and public sector (including private sector financial firms like ICICI Bank, IFMR Trust. LIC India, UBI, International Finance Corporation, Dubai's Legatum Finance, and Intel Capital). FINO, which provides biometric enabled smart card solutions to financial firms targeted at rural areas, will be using the talking poster for better delivery of services to their customers.

5.3.3 Technology Transfers and Other Collaborations

1. Groundnut digger cum separator:

With active teamwork between GIAN-North and NIF, the technology of Groundnut Digger cum Separator, innovated by Yusuf Khan, was transferred to ARDEE group of Companies, Visakhapatnam, for an interesting application; Ardee wanted to explore the adaptation of the innovation as a Sea Beach Cleaner. An agreement with ARDEE group has been signed with the following terms and conditions:

- First Down payment of Rs.100000/- (Rs. one lakh only) soon after this agreement and payment of Rs. 55,000/- (Rupees fifty five thousand only) along with first down payment for delivering one unit of groundnut digger of present model by innovator.
- Payment of another Rs.100000/- (Rs. one lakh only) on the date of delivery of the advanced prototype (developed by entrepreneur with consultancy inputs from innovator and GIAN-N).
- An amount of 4% royalty on the sales of the Groundnut digger/sea beach cleaner for a period of 5 (five) years after market launch of the product.

Apart from the above, ARDEE Group has also shown interest in the transfer of trench digger (innovated by Yusuf Khan, Radhyasham Taylor, Nathulal Jangid).

2. Godrej Aadhar:

Some work was initiated with Godrej Aadhar for promotion of various technologies for the rural market in their various outlets spread across many states of India. In particular, two technologies viz. the mobile phone operated switch for irrigation pumps (innovated by Prem Singh Saini, Haryana) and the Mitti non stick tawa (innovated by Mansukhbhai Prajapati), have been successfully demonstrated in Aadhar outlets in Gujarat and Maharashtra. Follow up orders are expected.

3. Others:

A few leads were followed up with firms and organizations, domestic as well as foreign, who had expressed their interest to collaborate with NIF for a wider augmentation of NIF's products in terms of product development and market tie-ups:

Table 11: Follow-up with Parties Interested in Technology Licensing

	Party	Innovation	Nature of interest
1	Space Impex Pvt. Ltd. Rajkot Gujarat	Multi cylinder reciprocating pump	Marketing rights (MR) for the African market
2	Navid Sanat Co. Tehran, Iran	Garlic peeling machine	MR for Iran
3	A1 fruit England	Pomegranate deseeding machine	MR for the European market
4	Allen Lim Hong Kong	Coconut climber	Marketing tie up for South East Asia
5	Raintree Big Pond, N. Queensland Australia	Coconut climber	MR for Australian market
6	Integrity Ventures, NSW Australia	Coconut climber	MR for Australian market
7	Kevin Davis, Florida, USA	Coconut climber	MR for US market
8	Hawaii Transportation and Marketing Cooperative 187 Silva Street, Hilo, HI 96720, USA	Coconut climber	MR for US market
9	Okonimo Lagos, Nigeria	Amphibious cycle	For marketing in Nigeria in Amusement Parks and flood prone Niger- Delta area
10	Atiqul Hafeez Ark integrated agriculture farm Dhaka Bangladesh	Milking machine	MR for Bangladesh
11	Alexander Carlos Manila Philippines	Milking machine	Marketing tie up for Philippines
12	Dr Tarig El Gamri Desertification Research Institute, The National Centre for Research	Rain Gun	Marketing tie up for Sudan

	Khartoum, Sudan		
13	Abul Khair Consumer Products Limited. Chittagong, Bangladesh	Tea making machine	For promotion/retailing of own brand of tea. An initial order of 100 units of tea making machine
14	Richard Parwot Farmers Network Ltd Kampala Uganda	Aaruni tilting bullock Auto compression sprayer Incubator for hatching eggs Entech Oil expeller Natural water cooler	Marketing tie up in Uganda
15	NAVID SANAT NASR CO LTD. 2nd Floor, #53 Parvin Etesami Street, Fatemi Avenue. Tehran, Iran.	Palm tree climber Tree sprayer Garlic peeling machine Pomegranate deseeding machine	Marketing tie up for the Iranian market
16	Garlic Gold, California	Garlic peeling machine	Marketing rights for North America

5.3.4 Enterprise Cell

An enterprise cell with a mentor network was initiated in collaboration with Mr Alankar Jain (promoter of Zee Business Baazigar). The mandate of the cell is to create a mechanism that can take as many of the innovations as possible to the market in the shortest possible time and with the best possible results. A modest amount of success was achieved through this initiative.

5.3.5 Online Incubation Platform

In partnership with SRISTI, which had received a grant from InfoDev, an online platform for incubation is in the process of being developed.

5.3.6 Active Participation of Student Groups

1. Business Plan competition: DISHA- 2006

The annual Business Plan competition launched by NIF was hosted by the Initiative for Community Action (INCA, an initiative of the students of the Indian Institute of Management Calcutta in which faculty members guide students for "service to those who serve others". This is a social service that is voluntarily offered in the form of free management consultancy service to voluntary organisations and others doing useful social work). A total of 40 teams registered for the competition from esteemed institutions across the length and breadth of the country. The teams registered are from the top tier business schools of the country. Teams from the IIMs, IIFT, Delhi; JBIMS, Mumbai; SP Jain, Mumbai; IMT, Ghaziabad; ISB, Hyderabad; FMS, Delhi; XLRI, Jamshedpur have registered.

2. **Initiative for partnership taken up with SIGMA -XLRI**
For augmenting grassroots innovations and traditional knowledge in Jharkhand and Orissa an agreement for partnership with one of the societies viz., SIGMA in Xavier Labour Research Institute, Jamshedpur, was undertaken.
3. **SCAI at IIM Kozhikode and promotion of lateral and horizontal market among women SHGs**
Students from IIM Kozhikode were involved in undertaking the first study for enterprise formation based on traditional knowledge among women Self help Groups in Idukki district of Kerala.
4. **Student Interns**
During the financial year 2006-07, interns from various institutes in the country were accepted in the NIF BD cell. Students from IIFM Bhopal, AES Ahmedabad, XIM Bhubaneshwar and IRMA, worked on various innovations in an effort to bring them up the value chain.

5.3.7 Micro Venture Innovation Fund

During 2006-07 the following projects were undertaken through the Micro venture Innovation Fund. Repayment also came in for various projects supported during the period and for other projects supported earlier. The details are as follows:

Table 12: List of MVIF Projects

	Title of the project	Coordinating agency	Project grants disbursed	Date	Repayment from Innovators	Date of repayment
1	Natural water cooler - Arvind Patel	GIAN-West	215000	04 May, 2006	210625	27.11.06
2	Pilot scale production of innovative health chair- Sakrabhai Prajapati	GIAN-West	40000	04 May, 2006	20000	29.03.07
3	First instalment for Pilot production and test marketing of L P G run Gas press - K Linga Brahmam	Honey bee AP	25000	26 Jun, 2006		
4	Side stand lock - K S Sudheer	Direct NIF	10000	22 Aug, 2006		
5	First instalment for Mobile operated switch - Prem Singh Saini	Direct NIF	25000	22 Aug, 2006		

6	Fire cracking device - Balaram Singh Saini	NIF	11200	12 Oct, 2006		
7	MOTEK printing machine - Satish Deb (2 nd instalment)	NIF	23000	31 Oct, 2006		
8	Areca-nut de-husking machine - Udhab Bharali	GIAN-North East	33200	15 Nov, 2006		
9	Innovative stove - Safruddin Kazi	NIF	25000	24 Nov, 2006		
10	Bullock operated sprayer - Radheshyam sharma	NIF	25000	24 Nov, 2006		
11	2 nd instalment for Gas operated iron press - K Linga Brahman	Honey bee AP	25000	28 Nov, 2006		
12	Herbal Oil Velsamma Thomas Kerala-	PDS	27500	08 Dec, 2006		
13	Multi utility pepper thresher - P K Ravi	PDS	79200	08 Dec, 2006		
14	First instalment for Multiple crop thresher - Madanlal Kumawat	GIAN-North	244346	08 Dec, 2006		
15	Coconut climber - M.J Appachan	NIF	100000	20 Dec, 2006		
16	Electric shock proof converter - K. Nicholson	GIAN-North East	24950	30 Dec, 2006		
17	Motor project device project - Bharat Kamble	GIAN-West	23074	30 Dec, 2006		
18	Rural Egg Incubator - Milon Jyoti Das	GIAN-North East	34000	19 Jan, 2007		
19	Coconut defibering machine - K. R. Chandran	NIF	125000	28 Feb, 2007		
20	Trial / test Mkt. of toothbrush that dispenses tooth paste - A.N. Shukla	GIAN-N	72375	29 Mar, 2007		

21	Rural Egg. Incubator project - Milon Jyoti Das	GIAN-North East	127500	31 Mar, 2007		
22	Pilot production of scooter mounted paint gun - Sheikh Jahengir	GIAN-West	55000	31 Mar, 2007		
	Gross investments (2006-07)		1370345		230625	

5.4 Information Technology & Dissemination

5.4.1 Hardware

1. In-house mail server, leased line and tape back-up arrangements

The web and mail server of NIF was hosted at Bangalore. Every year, it required upgradation in terms of storage space as thousands of emails of network members just filled the capacity and slowed down the performance of web server to provide web services. Downloading mails added to cost and time on server side as well as local end. Taking into consideration the management, cost, time and load on existing server, a better solution was to host a separate server in the premises of NIF. Now NIF has set up its own mail server on dedicated MLLN leased line connection of 128 kbps speed from BSNL. The line is operational at a cost of Rs. 2.75 lakh for first year and Rs. 1.8 lakh from the second year onwards. There is no limit in terms of data transfer as no additional cost is involved. The new server became operational on May 18, 2006. We have migrated all accounts from local and remote servers and configured the local IMAP client on each and every PC of NIF. Training has been given to staff to use the mailing facility of new server. An external tape drive (ultrium) is configured with the server to hold monthly backup.

2. Development Server

One additional Linux based development server was setup for testing. Instead of implementing patches and updating directly on live server, these can be tested first on development server and then ported on live server. It will help in monitoring the status of processes and effects on the services. Infrastructure enhancement. Infrastructure facilities, mainly a server room with AC, 42U rack and UPS, were added. Router, PCs, and printers were also procured.

3. Data Backup

A complete backup of NIF's data - doc, ppt, excel files, database, innovations, videos, photographs, emails - was taken on a 400 GB hard disk and kept at IIM. However, as a requirement of Disaster Recovery Management, one copy of backup is required to be kept also in a city other than Ahmedabad. Either Delhi or Bangalore can be one of the locations.

5.4.2 Software

1. MIS outsourcing

In order to develop a comprehensive Management Information System, the scope of work was defined including detailed workflow, design, implementation levels,

expectations and deliverables. Detailed discussions were exchanged with several vendors. Based on the quotations and assessing the capability of vendors, M/s Nugen Technologies was awarded the mammoth task of developing MIS cum small ERP system. It is expected that the complete implementation along with staff training will be completed by October end.

2. Development

Not much progress has been made in software development. However SRS, need assessment and platform to develop 12 softwares have been planned. Some progress has been made in developing the structure of prototype database. Fourth RAC features added include forum design, features, facilities, data, presentation in HTML; secure area on web server to upload data to be accessed internally.

3. Website Maintenance

Modifications in the site have been started on www.nif.org.in. The site is CMS based, using Drupal. Apart from it, www.nifindia.org continued to be the main website of NIF. Some modifications in terms of links, enabling search, alphanumeric image validation and blank validation have been done in the guest book. Considerable scope exists for improving the web presence. It is hoped that existing inadequacies will be overcome in the coming year.

5.4.3 Entries in Electronic Database

From the entries received during the first four competitions, 31,515 innovations have been entered into electronic database. Entry of the remaining innovations and PKD has been initiated recently.

Table 13: Innovations Entered into National Register / Reference Database

Description	Competition	Innovations
National Register	1 st	1614
Reference Database	2 nd	6338
Reference Database	3 rd	15342
Reference Database	4 th	8221
TOTAL		31515

Since herbal entries mainly dealing with herbal human health practices require scientific correction and annotation, about 23,000 practices remain to be entered.

5.4.4 Dissemination and Linkages

- 1. Collaboration with KSITM:** NIF has entered into an MoU with KSITM for the protection and preservation of traditional knowledge, promoting grassroots level innovations, sharing knowledge resources, creation of Knowledge Registers and for the dissemination of innovations and traditional knowledge using ICT tools.

2. **Collaboration with NAARM:** A letter of collaboration has been received from ICM division, NAARM, Hyderabad for using ICT applications to support knowledge-rich, economically poor communities/ knowledge holders and to exchange reciprocal links on the websites of both institutions.
3. **SAATVIK Food Festival:** More than fifty thousand people visited the Fourth Traditional Knowledge and Food Festival at IIMA's new campus. About 500 new ideas were submitted in the idea competition organized on the occasion. The sweet pudding made of seeds of bamboo which flower once in twelve years was a special attraction. Creating demand for traditional knowledge-based health products was one of the main purposes of organizing SAATVIK. An exhibition organized on the occasion generated a lot of demand for many products. About 500 non-stick tawa made of clay were sold, and a wire-based protection device to prevent accidents during the kite flying season was distributed by a voluntary organization. The farmers' haat was very popular because of its organically grown products. A farmer from Tamil Nadu, who was being honoured in the fourth Award function for his drought-tolerant cardamom variety, was surprised by the excellent response to green fresh cardamom at the festival. He had planned to sell it at Rs.600 a kg but NIF team members did some quick market research and found that Rs.1200 per kg would be a good price for this organically grown cardamom. And within a few hours, all his cardamom was sold. Similar was the response to organic walnut brought from Anantnag district of Kashmir by a Honey Bee collaborator. Green technologies for agriculture will hopefully get wider acceptance when markets for such products expand.
4. **Inventors of India workshop:** The Third Inventors of India workshop was organized at IIMA, with the help of NIF; there were about 75 inventors from the formal sector and 30 innovators from the unorganized sector.
5. **BBC London** covered the Shodhyatra and also had a special interaction with honeybee network members and innovators in January at IIMA campus. Discovery Canada made a film on innovations in Rajasthan under a series on India.
6. An article has appeared under **Sink to Source in MIT** journal on Innovations. Local media has been paying reasonable attention to NIF's and Honey Bee network's contributions.
7. **Cooperation with IETS to promote innovations through Common Service Centres (CSC):** Government of India proposes to set up one lakh CSC/Kiosks in as many villages. One of the major purposes of CSC is to generate sustainable business opportunities for Village Level Entrepreneurs (VLE) on an ongoing basis. NIF needs the opportunity to disseminate open source innovative technologies through such a network. It also wishes to explore the commercial licensing of proprietary technologies through small-scale entrepreneurs in different parts of the country. NIF can help in identifying rural entrepreneurs, organizing training programs and providing other support to the VLEs to promote grassroots innovations and traditional knowledge. Similar agreements may be pursued with countrywide network of Nehru Yuva Kendra, DRISHTEE, COMET Foundation, Junior Achievement and other such organizations.

5.4.5 Dissemination in North-east India

GIAN-NE undertook the translation of PIC, Entry Collection form, etc: Retranslation of the PIC, entry forms and the questionnaires into Bengali and Assamese using simple and easily understandable language.

Various NGOs were involved in Manipur for scouting, documentation and dissemination of traditional knowledge and grassroots innovations. Some of these NGOs are: Rural Development Organization (RDO), Lamshang, Imphal, one of the oldest NGOs in Manipur and the first organization in the state to initiate the Gramin model micro finance; Thy Sustainable Front (TSF), Imphal, a small but very committed NGO engaged in employment generation, especially for young women, and various awareness campaigns for AIDS, Education, etc.; Organization for Rural Improvement (ORI), Nambol, Manipur, an organization engaged in micro finance in rural areas of Bishnupur and Imphal West district.; Help and Development Organization (HDO), Imphal and Kege Apunba Lup, Moirang, an organization of mostly unemployed youths. Many of them are also engaged in activities like medicinal plant farming, vermin-compost making, etc. North Eastern Community Resource Management Projects (NECRMP), Ukhrul and Senapati in Manipur; Haflong and NC Hills in Assam; and Tura, Williamnagar and East Khasi Hills in Meghalaya have been associated with us for quite a long time.

Students of Assam Central University, Silchar, Rajiv Gandhi University, Arunachal Pradesh, Sibsagar/Jorhat and Bongaigaon, Manipur University were involved in scouting innovations.

In Meghalaya, Tura and Williamnagar districts were visited to conduct herbal healer workshops in August-September. This was done in collaboration with The North Eastern Community Resource Management Project (NECRMP), a project of IFAD and The North Eastern Council, which has a presence in six of the most backward districts of the North East.

5.4.6 Experience with Specific Technologies

1. **Prem Singh's Mobile Charger:** Two mobile chargers developed by Prem Singh Saini from NIF were brought to Guwahati for trial with CRD funded rickshaws. Two rickshaws were installed with the mobile charger on experimental basis. Unfortunately, the prototypes installed had some technical flaws and led to the damage of one mobile hand set.
2. **Bamboo processing plant of Udhav Bharali:** The NECRMP Haflong, Assam got interested in U. Bharali's bamboo processing unit, and so was linked with Bharali. One complete bamboo processing plant was set up at Haflong centre of NECRMP, which cost more than seven lakhs.

The bamboo processing plant is running well at a common facility centre (CFC) in Haflong, providing self-employment opportunity to many unemployed youths in the area.

3. **Rural Egg Incubator:** Efforts were made to popularize this machine in surrounding localities, other districts of Assam and also in other NE states. District Collector, Sibsagar, Assam, took special interest and wanted to install two such machines for his DRDA scheme. Through MVIF support from NIF, two machines were supplied to

the DC and the innovator installed the machines. The machines are being run on a trial basis by different groups under the DRDA. Similarly, in Manipur, some of the Government departments and many NGOs and SHGs have shown interest. Two local NGOs, Rural Development Organization (RDO) and Organization for Rural Improvement (ORI), have agreed to do a techno-feasibility assessment of the machine. This experiment has already started in Manipur with financial support of NIF.

4. **Wood lathe cum drilling machine:** NIF-GIAN-NE cell has tied up with Thy Sustainable Front (TSF), a local NGO from Imphal, to do a techno-feasibility study on the machine. TSF provides support to unemployed youths in shoe making, handbag making, training in handicrafts, etc. TSF is making a work-shed for the machine and providing all other logistical support and GIAN-NE/NIF is to provide the machine. The centre will become operational from September 2007. The initial response to the machine has been overwhelming. Given the acute power shortage and high cost in the region, the machine is likely to be a big success.

5.5 Intellectual Property Rights

During the year, 53 applications were filed, 22 were granted and five were put in order for grant. Prior art search investigations were undertaken for about 500 technologies.

Out of the total 500 odd prior art searches done, 231 were for herbal technologies, 71 for Agriculture technologies, 121 for veterinary technologies and 130 for engineering technologies.

Table 14: Number of Patent Applications Filed in 2006-2007 (Patents filed by NIF and its Associates)

	Innovation & Innovator	Country	IP Firm	Status	Remarks
1	Tribulus terrestris as antitubercular Todaram Dammiwal	India	Anand & Anand, New Delhi	PS filed	1026/Del/2006 F.D. 20/04/2006
2	Tea Boiler Saini Preamsingh Bakhtavarsingh	India	Y. J. Trivedi & Co., A'bad	PS filed	1866/DEL/2006 F.D. 21/08/2006
3	Heartbeat amplifier Saini Preamsingh Bakhtavarsingh	India	Y. J. Trivedi & Co., A'bad	PS filed	1868/DEL/2006 F.D. 21/08/2006
4	Water Level Indicator Saini Preamsingh Bakhtavarsingh	India	Y. J. Trivedi & Co., A'bad	PS filed	1867/DEL/2006 F.D. 21/08/2006
5	Alternate Current Power Generator Dineshbhai Ashodiya	India	Y. J. Trivedi & Co., A'bad	CS filed	1817/MUM/2006 F.D. 30/10/2006
6	Walnut Cracker Mustaq Ahmed Dar	India	Anand & Anand, New Delhi	PS filed	2347/DEL/2006 F.D. 27/10/2006
7	Automatic Sari Border Weft Insertion P. L. Bhanumurthy	India	Anand & Anand, New Delhi	PS filed	1971/CHE/2006 F.D. 27/10/2006
8	A process for the preparation of a herbal skin ointment SRISTI	India	Anand & Anand, New Delhi	CS filed	1620/MUM/2006 F.D. 03/10/2006
9	Multipurpose agricultural Equipment Sharma Radheshyam Jagdishchandra	India	Anand & Anand, New Delhi	PS filed	1578/MUM/2006 F.D. 29/09/2006
10	Five Wheeled Car Manoj Saini & Harimohan Saini	India	Anand & Anand, New Delhi	PS filed	2136/DEL/2006 F.D. 27/09/2006

11	Solar Boat Ganesh Gimire	India	Anand & Anand, New Delhi	PS filed	F.D. 29/09/2006
12	Mini Microscope Chandranarayan Bairagya	India	Anand & Anand, New Delhi	PS filed	F.D. 29/09/2006
13	Multipurpose agricultural Equipment Shyamrao Parate	India	Anand & Anand, New Delhi	PS filed	F.D. 29/09/2006
14	herbal formulation to enhance the growth of agricultural crops	India	Y. J. Trivedi & Co., A'bad	CS filed SRISTI	1824/MUM/2006 F.D. 31/10/2006
15	Herbal formulation for the control of leaf curl disease	India	Y. J. Trivedi & Co., A'bad	CS filed SRISTI	1823/MUM/2006 F.D. 31/10/2006
16	Herbal formulation for the control of shedding of flowers	India	Y. J. Trivedi & Co., A'bad	CS filed SRISTI	1825/MUM/2006 F.D. 31/10/2006
17	A process for the preparation of a formulation for the control of Aphid, White fly and Heliothis	India	Y. J. Trivedi & Co., A'bad	CS filed SRISTI	1827/MUM/2006 F.D. 31/10/2006
18	Herbal formulation for the control of termite infestation	India	Y. J. Trivedi & Co., A'bad	CS filed SRISTI	1826/MUM/2006 F.D. 31/10/2006
19	Talking Poster Saini Preamsingh Bakhtavarsingh	India	Y. J. Trivedi & Co., A'bad	PS filed	2448/DEL/2006 F.D. 10/11/2006
20	Phone Operated vehicle security device Saini Preamsingh Bakhtavarsingh	India	Y. J. Trivedi & Co., A'bad	PS filed	2449/DEL/2006 F.D. 10/11/2006
21	Phone high power III phase AC line switch operated by a phone Saini Preamsingh Bakhtavarsingh	India	Y. J. Trivedi & Co., A'bad	PS filed	2447/DEL/2006 F.D. 10/11/2006
22	Herbal Composition for Bloat Sakrabhai Kallubhai Bhariya	India	Y. J. Trivedi & Co., A'bad	CS filed	202/MUM/2007 F.D. 5/2/2007
23	Herbal Composition for Bloat SudhakarBhai	India	Y. J. Trivedi & Co., A'bad	CS filed	1923/MUM/2006
24	Liquid Carrier Assembly Madhav Sawant	India	Y. J. Trivedi & Co., A'bad	PS filed	203/MUM/2007 F.D. 5/2/2007
25	Polyherbal formulation for curing lameness in animals Periya Ayyavu	India	Surana & Surana, Chennai	PS filed	506/CHE/2007 F.D. 12/3/2007
26	Herbal treatment for hypertension P. Gopalkrishnan Nair	India	Surana & Surana, Chennai	PS filed	505/CHE/2007 F.D. 12/3/2007

27	Herbal treatment for epilepsy Krishna Rao Korra	India	Anand & Anand, New Delhi	PS filed	F.D. 26/02/2007
28	Herbal Fruit Ripener Sahu Budhadeba	India	Anand & Anand, New Delhi	PS filed	F.D. 26/02/2007
29	Cost Effective Electro Fluorescent Device Mandaji Narsimha Chary	India	Global Business Solutions, Chennai	PS filed	344/CHE/2007 F.D. 21/02/2007
30	Tractor Operated Stubble Shaver Ganesamurthy Asari	India	Global Business Solutions, Chennai	PS filed	343/CHE/2007 F.D. 21/02/2007
31	Power Tiller Operated Stubble Shaver Ganesamurthy Asari	India	Global Business Solutions, Chennai	PS filed	345/CHE/2007 F.D. 21/02/2007
32	Grinder Assembly for Dry and Fresh Sugarcane Trash Ganesamurthy Asari	India	Global Business Solutions, Chennai	PS filed	342/CHE/2007 F.D. 21/02/2007
33	Hand Operated Water Lifting Pump Shaktimaithan	India	Global Business Solutions, Chennai	CS filed	672/CHE/2007 F.D. 30/3/2007
34	Fruit harvesting device Madhav Mahajan	India	Y. J. Trivedi & Co., A'bad	CS filed	275/MUM/2007 F.D. 12/02/2007
35	Herbal treatment for eye disease Samatbhai Muljibhai Solanki	India	Y. J. Trivedi & Co., A'bad	PS filed	270/MUM/2007 F.D. 12/02/2007
36	Herbal treatment for anestrus and silent estrus in buffaloes Bharwad Community	India	Y. J. Trivedi & Co., A'bad	PS filed	274/MUM/2007 F.D. 12/02/2007
37	Prevention and treatment of retention of placenta in cattle and buffaloes Harshadbhai Patel	India	Y. J. Trivedi & Co., A'bad	PS filed	273/MUM/2007 F.D. 12/02/2007
38	Herbal composition for tapeworm infestations Harshadbhai Patel	India	Y. J. Trivedi & Co., A'bad	PS filed	272/MUM/2007 F.D. 12/02/2007
39	Control of blister beetles Pagi Kodarji Kaluji	India	Y. J. Trivedi & Co., A'bad	PS filed	269/MUM/2007 F.D. 12/02/2007
40	Control of blister beetles Vasava Mandaviyabhai Chandiyabhai	India	Y. J. Trivedi & Co., A'bad	PS filed	271/MUM/2007 F.D. 12/02/2007
41	Herbal formulation for control of agriculture pests Solanki Naranbhai Shamjibhai	India	Y. J. Trivedi & Co., A'bad	PS filed	262/MUM/2007 F.D. 12/02/2007
42	Herbal compositions for prevention and treatment of Marek's disease and immunity enhancement in poultry	India	Y. J. Trivedi & Co., A'bad	PS filed	258/MUM/2007 F.D. 12/02/2007

	Patel Jamunaben Bhanabhai				
43	Herbal treatment for diarrhoea Dindor Kalabhai	India	Y. J. Trivedi & Co., A'bad	PS filed	261/MUM/2007 F.D. 12/02/2007
44	Control and prevention of agriculture pests Jograjya Devjibhai Sangrambhai, Darbar Devkubhai Jivubhai, Koladiya Vinubhai Harjibhai	India	Y. J. Trivedi & Co., A'bad	PS filed	260/MUM/2007 F.D. 12/02/2007
45	Herbal treatment for endoparasites in animals Ramana Dahyabhai Nanjibhai, Makwana Madhabhai Sobabhai, Gohil Doodhiben Gabhabhai, Solanki Rukhadbhai Veljibhai, Gohil Tulsibhai Veljibhai	India	Y. J. Trivedi & Co., A'bad	PS filed	259/MUM/2007 F.D. 12/02/2007
46	Control of blister beetles Vasava Rupjibhai Kalubhai	India	Y. J. Trivedi & Co., A'bad	PS filed	257/MUM/2007 F.D. 12/02/2007
47	Multi energy source lamination - Lamination Device Amandeep Singh	India	Anand & Anand, New Delhi	PS filed	403/Del/2007 F.D. 26/02/2007
48	An apparatus and process for the efficient vermicomposting of organic containing wastes Nitin Kumar Tyagi	India	Anand & Anand, New Delhi	PS filed	402 / Del/ 2007 F.D. 26/02/2007
49	Multipurpose walking support device Rakesh Patra		Anand & Anand, New Delhi	PS filed	F.D. 26/02/2007
50	Improved Crop thresher Mahipal Singh Rana		Anand & Anand, New Delhi	CS filed	377/MUM/2007 F.D. 26/02/2007
51	Multipurpose Harvesting Device Annasaheb Bavu Udgavi		Anand & Anand, New Delhi	PS filed	F.D. 26/02/2007
52	Adoptable vehicle equipment for physically challenged Mujib Khan Nawab Khan Nagori	India	Anand & Anand, New Delhi	PS filed	401 /Del/2007 F.D. 26/02/2007
53	Speed controller Bangara Raju	India	Global Business Solutions, Chennai	PS filed	671/CHE/2007 F.D. 30/3/2007

Table 15: Number of Patent applications granted during 2006-2007

	Round	Innovation & Innovator	Country	IP Firm	Status	Remarks
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1.	I	Improved Multi crop Thresher Madanlal Kumawat	India	Anand & Anand, New Delhi	Granted	1273/DEL/2002 17/12/2002
2.	II	Portable Power Generating Device N. V. Satyanaryana	India	Anand & Anand, New Delhi	Granted	1277/DEL/2002 18/12/2002
3.	I	Multi cylinder Reciprocating Pump Shakun Das	India	Anand & Anand, New Delhi	Granted	68/MUM/2003 F.D. 17/01/2003
4.	II	Leaf mat-making apparatus P. Marthandan	India	Anand & Anand, New Delhi	Granted	498/MAS/2003 F.D. 18/06/2003
5.	III	Mobile Charger A N Manoharan	India	Anand & Anand, New Delhi	Granted	431/MAS/2003 F.D. 26/05/2003
6.	II	Process of Mooga Silk Dulal Chaudhary	India	Directly filed by GIAN-NE	Granted	Pat. No. 203382 469/CAL/2002 F.D. 06/08/2002
7.	I	A Machine for Use for Agricultural Operations Mansukhbhai Jagani	India	NRDC (L.S. Davar & Co.), New Delhi	Granted	Pat. No. 205097 659/MUM/2002 F.D. 22/07/2002
8.	I	Aruni Tilting Bullockcart Amritbhai Agravat	India	D. P. Ahuja & Co., Kolkata	Granted	Pat No. 194420 F.D. 14/12/1998
9.	I	Natural Water-Cooler Arvindbhai Patel	India	D. P. Ahuja & Co., Kolkata	Granted	Pat No. 199939 989/CAL/99 F.D. 20/12/1999
10.	II	A Manual Sprayer Khimjibhai Kanadia	India	Anand & Anand, New Delhi	Granted	884/MUM/2003 F.D. 2/9/2003
11.	III	An Automatic Portable Sprayer, Arvindbhai R. Patel	India	Anand & Anand, New Delhi	Granted	Pat No.205768 883/MUM/2003 F.D. 02/09/2003 G.D. 10/04/2007
12.	II	Multi-functional Electric Motor Protecting Device Bharat Srirang Kamble	India	Anand & Anand, New Delhi	Granted	963/MUM/2003 F.D. 16/9/2003
13.	II	Portable Battery Operated Sprayer Lalit Surana	India	Anand & Anand, New Delhi	Granted	940/MUM/2003 F.D. 9/9/2003
14.	III	Button Hole Machine Anil R. Kamdar	India	Anand & Anand, New Delhi	Granted	1261/MUM/2003 F.D. 10/12/2003
15.	III	Natural Fiber Matchstick and a Process for the Preparation Thereof U S Patil	India	Anand & Anand, New Delhi	Granted	345/MUM/04 F.D. 22/03/2004

Table 16: Number of Patent Applications Put in Order for Grant 2006-2007

	Round	Innovation & Innovator	Country	IP Firm	Status	Remarks
1	I	Cardamom Drier P. J. Abraham	India	Anand & Anand, New Delhi	In order for grant	517/MAS/2003 F.D. 25/06/2003
2	II	Manual Sprayer Gopalbhai Suratia	India	Anand & Anand, New Delhi	In order for grant	1051/MUM/2003 F.D. 08/10/2003
3	III	Cycle Operated Water Lifting Pump Vikram Rathore	India	Surana & Surana, Chennai	In order for Grant	371/CHE/2004 F.D. 23/4/2004
4	III	LPG Gas Conversion Kit A. N. Manoharan	India	Surana & Surana, Chennai	In order for grant	433/CHE/2004 F.D. 11/05/2004
5	III	An effluent filtering device T. R. Rajesh	India	Surana & Surana, Chennai	In order for Grant	806/CHE/2004 F.D. 17/08/2004

Table 17: Replies for Examination Reports

	Round	Innovation & Innovator	Country	IP Firm	Status	Remarks
1.	III	LPG Gas Conversion Kit A. N. Manoharan	India	Surana & Surana, Chennai	In order for grant	433/CHE/2004 F.D. 11/05/2004
2.	I	Moped LPG Kit Ram Kumar	India	Anand & Anand, New Delhi	FER reply made	978/DEL/2003 F.D. 08/08/2003
3.	II	Manual cycle wheel based Sprayer Gopalbhai Suratia	India	Anand & Anand, New Delhi	In order for grant	1051/MUM/2003 F.D. 08/10/2003
4.	II	Portable Battery Operated Sprayer Lalit Surana	India	Anand & Anand, New Delhi	Granted	940/MUM/2003 F.D. 9/9/2003

6. Review of Activities: GIANS

6.1 Grassroots Innovations Augmentation Network West

6.1.1 Licensing Non-exclusive Marketing Rights of Maruti Jhula Rocking cum Exercise Chair



Sakrabhai Prajapati from Kalol had developed Maruti Jhula rocking chair for exercise. NDTV featured this innovation in India Innovates program. It got overwhelming response from all over the country. Looking at the limitations of innovators in marketing, GIAN-W had licensed marketing rights to M/s Radix Technologies, a small partnership firm promoted by Snehal Shah, Ahmedabad. The entrepreneurs have agreed to pay total rupees 10,000 against marketing rights of 50 chairs. The entrepreneur has sold 20 units in just two months and is thinking of buying the manufacturing rights for this innovation.

6.1.2 Joint Technology Development Agreement for Plant Oil Stove - an Example of Different Application of Technology developed by an innovator

Santibhai Hirapara of Ahmedabad had developed Electricity operated Kerogas stove in 1978 for the purpose of saving kerosene in Kitchen use. Ajay Deouskar - a young mentor, conceptualized the idea of Plant Oil Stove to use Jatropha oil directly in villages. He has paid Rs.11000 and 40% share in IPR rights in proposed technology of Plant Oil Stove to the innovator for helping in developing his technology. In this deal, GIAN has also obtained 40% share in IPR rights in proposed technology of Plant Oil Stove.

6.1.3 Export of Raisin Grading Machine to Peru

GIAN west has successfully dealt with the inquiry (received through website) for purchasing Raisin Grading machine from Peru. JMC Asociados SRL, a company from Peru has found the technology useful and placed confirmed order for buying one unit of raisin grading machine developed by Ramdas Jagtap from Nasik.

6.1.4 Companies formed for Small Grassroots Innovators

In order to extend handholding business development support to the innovators, GIAN west has initiated steps to set up a formal company of the innovators so that they can market their product globally. The following companies have been registered in last three months for the innovators.

Table 18: List of Companies Set Up

	Name of Company	Innovator	Innovation/s
1	Brahmani Fabrication	Sakrabhai Prajapati	Maruti Jhula rocking cum exercise chair
2	Mansukhbhai Prajapati & Co.	Mansukhbhai Prajapati	Mitti Cool Refrigerator Non Stick Tawa
3	Nature Products	Arvindbhai Patel	Natural Water Cooler Auto Sprayer Auto Air Kick Pump Suraksha Tong

4	Shaswat Agro (Under Process)	For Plant Varieties and Agri-related herbal formulations
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6.1.5 Progress in Ongoing Projects

GIAN West has extended validation, incubation and venture support to the following projects:

1. **Auto Compression Sprayer:** The project has been selected by CMERI Durgapur under CSIR - NIF MoU for further product development. The innovator visited CEMRI, Durgapur and met a research scientist. Product development work has been initiated by CMERI for commercial prototype development.
2. **Motorcycle Ploughing Machine:** This device has also been short-listed for value addition by the CMERI, Durgapur as part of the ongoing joint CSIR - NIF MoU for value addition of grassroots innovation. 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. GIAN west has also conducted Study on Diffusion of Motorcycle-driven plough. This product was also covered by Eenadu, a daily newspaper published from Hyderabad. The response was very encouraging with 65 inquiries received from Andhra Pradesh.
3. **Bicycle Hoe:** Under the TePP project, GIAN west has developed improved motorized prototype of this useful innovation with the help of Vishwakarma Fabrication, Mansa. The field trial is going on at Mansa with encouraging response from the farmers.
4. **Jabbar Gear for Rickshaws:** An inquiry from Kishorbhai Thakkar, an entrepreneur from Mumbai, was received for purchasing exclusive rights for the domestic and foreign market. The negotiations are in the final stages.
5. **Check Dam** by Bhanjibhai Mathukia, has been replicated in a small town, Anjangaon Surji of Amrawati district in Maharashtra.
6. **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. Looking at the market potential of this technology, a patent application has been filed in USA with the help of SRISTI.
7. **Cost Effective and Efficient Air Cooler** by Dharmendra Bhavsar of Gandhinagar: GIAN west has provided financial support of Rs.7000/- to the innovator for necessary value addition.
8. **Low cost natural cold storage:** The innovation was demonstrated to a team from GEDA. The product was appreciated given its possible applications in villages for storage of fruits and vegetables. The prototype has been tested at Krishi Vikas Kendra, Bharuch with the help of GEDA and results are encouraging. The proposal for development of a bigger sized cold storage for in depth testing is under consideration by GEDA.
9. **Ribbed Tawa** by R. M. Savalia : GIAN west extended help to the innovator and got the product tested at Indian Institute of Petroleum, Dehradun for its efficiency and

design. According to the test report, ribbed Circular Bottom gives 1.5 to 2.0 % higher thermal efficiency, controlling for the gain in efficiency on account of aluminium tawa compared to the conventional Iron Tawa.

10. **Auto Air Kick Pump by Arvindbhai Patel:** Pratap Das a young entrepreneur from Bhubaneshwar, Orissa, has purchased 100 units for test marketing. He might take up distributorship if the market response is good.

6.1.6 Students' involvement in projects

A team of five students under the leadership of Prof. Michael Gordan from Michigan University visited GIAN and HB network with a aim of creating mutually beneficial relationship between Indian innovators and western academic institutions.

6.1.7 Seminar on Isabgol (Psyllium Husk) at Siddhpur

Isabgol is the most significant of the medicinal plants exported from India. Siddhpur of North Gujarat is the biggest trading yard and a major export centre. In order to generate the awareness about IPR and its importance in value addition in business, NIF/GIAN-W organized a seminar on "Patenting and various WTO issues for Isabgol exporters, on 1st July 2006 at Siddhpur with sponsorship from Dena Bank and IIMA.

6.1.8 Presentation 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. **Self-Employed Women's Association (SEWA), Ahmedabad:** A series of presentations was made at the SEWA district level meetings of team leaders with a view to demonstrate relevant innovations and to get feedback on their field applicability. Demonstrations were made in Ahmedabad, Anand, Bodeli (Vadodara) and Surendranagar. Some technologies, which were received positively, have been short-listed. The modalities for dissemination of these through the SEWA network are to be worked out.
3. **RAC meeting:** GIAN west organized a local research advisory meeting of experts and innovators to get their comments and advice on various short-listed projects. GIAN west has extended active support to the NIF during informal and formal RAC meeting for 4th Annual award competition.

6.2 GIAN North

Despite severe staff constraints, several initiatives were taken up. An improved hand pump was fabricated by combining two innovations, one by Swayambhu Sharma and another by an IIMA student, Chandan Agarwal. Yusuf and Kumawat worked together to make a low

cost retrofitted adaptation to the hand pump. Some of the technologies from other regions were diffused in Rajasthan through Science Village Programme of State government. The Chief Minister visited GIAN North and encouraged various innovators. Twelve innovations from northern India were recognized at the Fourth national award function. NIF facilitated the coverage of four innovations from Rajasthan by Discovery, Canada. Seven projects were supported through MVIF. Patents were filed for fourteen more innovations.

A workshop on green technologies was organized in collaboration with Haryana State Pollution Control Board in July 2006 at Chandigarh. Media awards for the years 2005 and 2006 were given on the sidelines of NIF's award function. One of the awardees viz., Matiur Rehman donated the award money to GIAN north for supporting other innovators. In addition to participation in various meetings, a workshop of innovators organised by Sunda Ram is worth mentioning. Yusuf identified five more innovators from his village who presented their innovations. Likewise, Ramkumar, Haryana demonstrated a very interesting device for locking cars by using cell phone. He also showed a device, which would send information to the owner if the door of the shop or an important almirah were to be opened by thieves.

With regard to value addition and R&D, reports were received from Rajasthan Agricultural University, ARS, Durgapur for cauliflower variety, 'Ajitgarh', multi crop thresher, groundnut digger, control measure for powdery mildew disease in bajra, and herbal pest control in vegetables and gram.

Indian Institute of Petroleum, Dehradun undertook the evaluation of improved stoves and other energy saving devices developed by five innovators. The modification in the car for physically challenged people by Mujib Khan was taken up for testing at JECRC, Jaipur.

6.2.1 Technologies Taken up for Testing and Validation

- 1. Car for physically challenged, Mujib Khan, Rajasthan:** The innovation has been evaluated by Dr SC Sharda, Principal, JECRC, Jaipur. It has also been referred to The Automotive Research Association of India, Pune for their comments.
- 2. Solar/ Electrical Laminator, Amandeep Singh, Rajasthan, Fourth Competition:** A preliminary evaluation was done through Solar Energy Center (SEC), Gurgaon.
- 3. Advanced Tooth Brush, Agastya Narain Shukla, New Delhi:** The prototyping of the brush has been done and test marketing is proposed for market feedback before actual commercialization. A proposal has been approved for Rs. 96500 and the innovator has been provided Rs. 72375 under NIF's MVIF for producing pilot lot and test marketing.
- 4. Electricity Generation from Road Transport, Royal Deep Singh & team, Punjab:** Support for testing the model was extended through an NIF grant.
- 5. Five Wheel Car, Harimohan Saini and Manoj Saini, Rajasthan:** Evaluation was done through a group of students from JECRC, Jaipur and experts from Mahindra & Mahindra.
- 6. Water Level Indicator, Vidit Agarwal, UP:** Development of a crude prototype by the innovator has been supported. A patent application has also been filed.

7. **Onion Variety, Manaram, Rajasthan:** Field Visits and evaluation of the variety were arranged through a team of formal scientists from the department of agriculture and department of horticulture.

8. **Potato Slice Maker, Niranjn Prasad Sharma, UP:** One prototype of the machine for making potato chips has been developed but certain flaws in operation were found which may be rectified in the next prototype.

9. **Horse Shaver, Md. Idrish Khan, Meerut, UP:** Innovator was supported under MVIF to develop a motorized version and also a bicycle operated clipper for sheep. These have been given to Central Sheep & Wool Research Institute, Avikanagar, Tonk, Rajasthan for their comments.

6.2.2 Technology Diffusion through Science Villages in Rajasthan

DST, GoR selected the following innovations from the database for diffusion through Science Villages of Rajasthan. GIAN-North coordinated with these science villages, NIF, other GIANS and innovators for procurement of these technologies.

Table 19: List of Technologies Taken Up with DST, GOR

	Innovation	State	Quantity	Science Villages
1	Manual Wood Cutting Machine	Assam	4	Naggasar, Bikaner
				Kanwarpura, Kota
				Dadanpura, Jaipur
				Nimrana, Alwar
2	Low Cost Incubator	Kerala	4	Bahadurwas, Jhunjhunu
				Bambore, Jodhpur
				Kanwarpura, Kota
				Dadanpura, Jaipur
3	Unique Handi Cutter	Chhattisgarh	2	Kanwarpura, Kota
				Dadanpura, Jaipur
4	Hand pump attachment for Supply of water (Can be relocated by any body)	Rajasthan	6	Bahadurwas, Jhunjhunu
				Bambore, Jodhpur
				Naggasar, Bikaner
				Kanwarpura, Kota
				Dadanpura, Jaipur
				Nimrana, Alwar
5	Septic Tank Baffle System	Kerala	4	Bahadurwas, Jhunjhunu
				Bambore, Jodhpur
				Naggasar, Bikaner
				Nimrana, Alwar

6.3 GIAN Cells

Thiagarajar College of Engineering, Madurai: Three projects were taken up for value addition by the cell: Cycle based cell phone charger by T Manoharan; manually operated spring making machine developed by Mr Selvarasu; mini Boiler developed by Mr K R Duraisamy. The first project has been completed. The cell has offered feedback on more than

20 technologies in the field of mechanical and electrical engineering. TCE has offered to host the next national level SCAI meeting in their campus.

SSIT, Tumkur: Sri Siddhartha Institute of Technology in Tumkur took three projects for value addition: Fuel-efficient two-in-one stove developed by Jyothi Ravi Shankar, Milking Machine by Raghava Gowda and Plastic sealing device. The first two have been completed successfully. After preliminary screening, dropping of the third has been recommended. Students have been involved in technical documentation, benchmarking and validation work.

7. Summing Up

This year, several new milestones were achieved. With the support of Honey Bee Network collaborators, 31,744 practices and innovations were documented during the fifth campaign. Of this number, 24,442 were accounted for during the year 2006-07. These have added significantly to the corpus of NIF's database. The fact, however, remains that we have not even uncovered the tip of the iceberg. The documentation at this scale also poses a crisis of expectation. Unless the rate of value addition and business development increases drastically, we would be failing in our duty. It is in this context that the encouragement from the Hon'ble President Dr Kalam and reassuring support from the Secretary, Department of Science and Technology, with the promise of a five-fold increase in the resources of NIF, have given us hope. A major decision was taken to replace the corpus fund with annual grants from the Department of Science and Technology, Government of India. Time will tell whether the faith in NIF, as reflected in this commitment of more resources, is justified or not. Given the enthusiastic support of the Honey Bee Network collaborators and the unstinted cooperation from the NIF staff, there is little doubt that the raised expectations will be met.

The real challenge is not just to improve the performance in terms of documentation or value addition or business development. The challenge is to change the mindset of the planners and thinkers at the apex. Rather than viewing the majority of economically poor people merely as a source of labour, the country has to treat them as knowledge workers.

Similarly, the quality of life of millions of people engaged in activities involving high drudgery will not improve unless the technologies used by them are taken up for urgent redesign. The challenge programme under which NIF offers awards for solving persistent social problems will need to be expanded. Linkages with young minds in technology institutions have to be strengthened. The social diffusion of technologies should receive as much attention, if not more, as commercial diffusion does.

It is hoped that readers will repose renewed faith in the spirit of the Honey Bee Network embodied in the functioning of NIF and its collaborators. The future belongs to those who can anticipate it. NIF dreams of a day when technologies relevant to the everyday lives of disadvantaged people will no longer continue to exist as they have for centuries.

We take this opportunity to thank all the members of our network—our innovators, scouts, volunteers, collaborators from all over India and outside, the members of other networks, SRISTI, GIANS, RAC members, IIMA and hundreds of technology institutes, organizations and individuals for their support and cooperation.

8. AUDITORS' REPORT AND BALANCE SHEET

**NATIONAL INNOVATION FOUNDATION
INDIA**

AHMEDABAD

ANNUAL ACCOUNTS

FOR THE YEAR 2006-2007

S. J. PATHAK & CO.
Chartered Accountants

306, "Aditya", Nr. Urvashi Apartment, Mithakhali Six Roads, Ellisbridge, Ahmedabad - 380 006.
E-mail : sjpathak@hotmail.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
31-03-2007. Regn.No.F/7412/Ahmedabad**

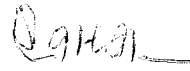
1. We have audited the attached Balance Sheet of **NATIONAL INNOVATION FOUNDATION-INDIA** as at 31st March, 2007 and the Income and Expenditure Account for the year ended that date annexed thereto. These financial statements are the responsibility of the Trust's management. Our responsibility is to express 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 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.Shreedha Amin and Mrs. Hemangi Bodhankar F & AO (Actg.) appeared before us and furnished the necessary information required by us.

Contd Page 2

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 expenses of Rs 7598 was incurred during thre year and for which no tender was invited
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.

Ahmedabad
08-09-2007

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


S. J. Pathak 8/9/2007
Partner
Memb. No. 16771.

Name of the Public Trust :

NATIONAL INNOVATION FOUNDATION - INDIA

BALANCE SHEET

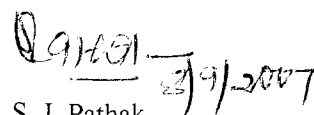
FUNDS & LIABILITIES	SCH.	Rs.	Rs.
Trust Funds or Corpus			
Opening Balance			200000000
Other Earmarked Funds :	3		90501498
<u>Loans (Unsecured or Secured)</u>			
<u>Secured Loans</u>			
- UTI Bank Vastrapur, A/C No-1548			
(Unsecured Loan)			
- From Trustees	-		
- From Others	-		
<u>Liabilities :</u>			
- For Expenses			
- For Advances - Grant Payable for NATP		538850	
- Innovator fellowship fund		51500	
- For Rent and other Deposits			
- For Sundry Credit Balances			590350
<u>Income and Expenditure Account :</u>			
Opening Balance			
Less : Deficit of Income transferred from Income & Expenditure Account		16597276	
		-1348885	15248391

Notes on Accounts - Schedule A

Total..

306340239

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


29/9/2007

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

Place : Ahmedabad
Date : 08-09-2007

AHMEDABAD

AS ON 31-03-2007

Regn.No.F/7412/Ahmedabad

PROPERTY & ASSETS	SCH.	Rs.	Rs.
Immovable Properties			
Movable Properties			
Gross Block	1	7162407	
Less : Depreciation Reserve fund			
Net Block			7162407
Investments			
8% GOI Saving Bonds		224950000	
Deposit with Navrangpura P.O. A/c. MVIF			224950000
Advances :			
- To Trustees			
- To Others			
CSIR-NIF fellow		39274	
Misc advances		14500	
Utility Deposits		121950	
		175724	
- Tax Deducted at Source		363410	
- MVIF Project A/c.	2	3147469	3686603
Cash & Bank Balances			
Cash on hand			
Balance with			
- UTI Bank, Vastrapur -A/c. No.1548		-354609	
-A/c. No. 8303			
-A/c. No. 8099		7409136	7054527
Fixed Deposits with - UTI Bank / Canara Bank			
- A/c. MVIF		50421282	
- A/c. NIF		13065420	63486702
			70541229
Total..			306340239

* Income Outstanding
(If accounts are kept
on cash basis)
Rent
Interest
Other Income
Total Rs. NIL

The above Balance Sheet to the
best of my/our belief contains
a true account of the Funds and
Liabilities and of the Property
and Assets of the Trust

TRUSTEE

Prof. ANIL K. GUPTA

Name of the Public Trust :

NATIONAL INNOVATION FOUNDATION - INDIA

INCOME AND EXPENDITURE ACCOUNT

EXPENDITURE	SCH.	Rs.	Rs.
Expenditure in respect of Properties			-
<u>Other Expenses</u>			
Establishment Expense		-	
Remuneration to Trustees		-	
Legal Expenses		-	
Audit & Professional Fees		16836	
Contribution and Fees		-	
Amounts written off		-	
Miscellaneous expenses		-	
Depreciation		-	
For 2006-07		<u>901024</u>	917860
To Amounts transferred to reserve or specific funds:			
- Earmark Fund - to be utilised before 2011			20000000
Expenditure on object of the trust			
(a) Religious		-	
(b) Educational	4	28030079	
(c) Medical		-	
(d) Relief of Poverty		-	
(e) Other Charitable Objects		-	
		<u>-</u>	28030079
Total..			<u>48947939</u>

As per our report of even date

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

Chartered Accountants

S. J. Pathak

S. J. Pathak

Partner

(Memb. No. 16771)

Place : Ahmedabad

Date : 08-09-2007

IA

AHMEDABAD

FOR THE YEAR ENDED ON 31-03-2007

INCOME	Regn.No.F/7412/Ahmedabad	
	Rs.	Rs.
Rent		-
<u>Interest</u>		
- On Securities	17996000	
- On Loans	-	
- On F.D.R with Banks - A/c. NIF	<u>1195125</u>	19191125
Dividend		-
Donation in cash or in kind		-
Amount transferred from Earmarked Fund		
- Out of Earmark Fund to be utilised before 2009	17200000	
- Out of Earmark Fund to be utilised before 2011	<u>10720000</u>	27920000
Income from other sources		
- Misc. Income	9609	
- Discovery projects	135731	
- Overhead Recovery - MVIF	<u>342588</u>	487928
Excess of Expenditures over Income transferred to Balance Sheet		1348885
Total..		<u><u>48947939</u></u>

TRUSTEE

PROF. ANIL K. GUPTA
 EXECUTIVE VICE CHAIRPERSON
 NATIONAL INNOVATION FOUNDATION
 AHMEDABAD

NATIONAL INNOVATION FOUNDATION - INDIA

F.Y.2006-07

Schedule - 4

PARTICULARS OF EDUCATIONAL EXPENSES		Rs.	Rs.
I NON-PROJECT EXPENSES			
A. Administration			
1	Accommodation	4472	
2	Advertisement expenses	23158	
3	Bank Charges	21904	
4	Books & Subscriptions	2000	
5	Consultancy Charges	211027	
6	Contractual payment	210029	
7	Electricity Expenses	227816	
8	Insurance Premium	11903	
9	Legal and Professional Expenses	14682	
10	Meeting Expenses	87482	
11	Office Expenses	313153	
12	Postage	49106	
13	Recruitment Expenses	1265370	
14	Rent	542015	
15	Repairs & Maintenance	7598	
16	Salary	253065	
17	Security Expenses	112177	
18	Stationery & Printing	76481	
19	Telephone Expenses	220930	
20	Travelling & Conveyance Expenses	216805	
21	Xerox	21191	3892364.85
B. Information Technology/Database Devp. & Diss.			
1	Communication	106299	
2	Computer Consumables	15280	
3	Computer Maintenance & Upgradation	93362	
4	Computer Rent	18000	
5	Consultancy Charges	340637	
6	Contractual payments	56000	
7	Database	326743	
8	Dissemination	1843206	
9	Fellowship	417274	
10	Internet	45962	
11	Postage & Courier	54837	
12	Salary expenses	299613	
13	Stationery & Printing	85407	
14	Training / stipend	3200	
15	Travel	30573	
16	Website/ Web Hosting	586589	
17	Xerox	23664	4346646.24
BALANCE C/F			8239011.09

[Handwritten signature]

F.Y.2006-07		
BALANCE B/F	Rs.	Rs.
		8239011.09
C. Business Development Activities		
1 Communication	51737	
2 Contractual Payments	982	
3 Conveyance Exp.	7168	
4 Exhibitions/Workshops & Competitions Exp.	131786	
5 Fellowship	414194	
6 Grant	350000	
7 Meeting expenses	53271	
8 Postage & Courier	19883	
9 Salary	159200	
10 Stationery & Printing	30967	
11 Training / stipend	250746	
12 Travel Expenses	97477	
13 Xerox Exp.	8580	
		1575990.8
D. Intellectual Property Right Activities		
1 Fellowship	327581	
2 Patent/ Trade Mark	156200	
3 Postage & Courier	6637	
4 Stationery & Printing	10337	
5 Telephone	9220	
6 Training / stipend	1500	
7 Travel	11734	
8 Xerox	2864	
		526072.65
E. Scouting & Documentation		
1 Books & Magazines & Memberships	8220	
2 Campaign	1711643	
3 Communication	199333	
4 Consultancy Charges	17700	
5 Contractual Payment	336789	
6 Fellowship	1433565	
7 Grant	1730357	
8 Honorarium	25500	
9 Postage & Courier	97021	
10 Salary	349847	
11 Stationery & Printing	200959	
12 Training / stipend	935769	
13 Travel	401125	
14 Videography & Photography	8370	
15 Workshop/ Seminar /Exhibition	192254	
16 Xerox	41868	
		7690320.98
BALANCE C/F		18031395.52

h

		F.Y.2006-07	
		Rs.	Rs.
	BALANCE B/F		18031395.52
F.	Value Addition and Research Development Activities		
1	Communication	96378	
2	Consultancy/ Honorarium Charges	112274	
3	Contractual Payment	85803	
4	Exhibitions/Workshops/Seminars	11419	
5	Fellowship	1250763	
6	Grant	329488	
7	JIC Exp.	106925	
8	Meeting expenses	1083218	
9	Postage & Courier	54703	
10	Prototype Repairing & Other Exp.	354810	
11	Salary	184000	
12	Stationery & Printing	85198	
13	Training / stipend	168607	
14	Travel	374783	
15	Value Addition Awareness	14010	
16	Xerox	23606	4335984.09
G.	Award Function		
1	Exhibition - photography & other expenses	442175	
2	Food and accomodation	820054	
3	Prizes	1137500	
4	Stationery, Printing & Trophy Designing	657172	
5	Travel/ Transportation	1094901	4151802
H.	Supports Provided to		
1	GIAN WEST	51040	
2	GIAN NORTH-EAST	647600	
3	GIAN NORTH	743287	
4	GIAN-CELL	68970	1510897
TOTAL EDUCATIONAL EXPENSES			28030078.61

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Schedule - 1

Particulars of Movable Properties

Particulars	Balance as on	Additions during the year	Gross Block as on	Depreciation up to	Depreciation for	Total Depreciation up to	Net Block As on
	01-04-2006						
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Furniture & Fixtures	774797	25950	800747	239603	54817	294420	506327
Computers	3091466	621639	3713105	2661549	638745	3290544	422561
Fax Machine	29232	0	29232	15117	2117	17234	11998
Refrigerator	8510	0	8510	4400	617	5017	3493
EPABX System	51908	0	51908	25990	3888	29878	22030
Photo Copying Machine	456202	0	456202	204817	37708	242525	213677
Fire Extinguisher	13405	0	13405	5163	1236	6399	7006
Telephone Instrument	137403	31996	169399	47818	18237	66055	103344
Camera	232085	8000	240085	58316	27265	85581	154504
Equipment	70680	210	70890	21188	7455	28643	42247
Software	1019702	0	1019702	914842	62916	977758	41944
Electrical Installations	12870	0	12870	4841	1204	6045	6825
Air Cooler	14400	16200	30600	2160	4266	6426	24174
Vechile	0	112457	112457	0	8435	8435	104022
Total A	5912660	816452	6729112	4196054	868906	5064960	1664152

AS

Fixed Assets of NATP Project									
Computers	206079	0	206079	182998	13849	196847	9232		
Printers	122400	0	122400	108691	8225	116916	5484		
Video Cameras	47800	0	47800	15854	4792	20646	27154		
Still Camera	32590	0	32590	12575	3002	15577	17013		
Tape Recorders	24425	0	24425	9425	2250	11675	12750		
Total B	433294	0	433294	329543	32118	361661	71633		
Gross Total (A+B)	6345954	816452	7162406	4525597	901024	5426621	1735785		

ADVANCES A/c. MVIF PROJECTS		Schedule - 2	
	Rs.	Rs.	
GIAN - NE			
GIAN - North East	189073		
Interlocking Bricks	24743		
Bamboo Strip/ Stick Making Machine	5028		
Wood Cutting Machine	54767		
Wind Turbine	21367		
Kerosene Stove	25283		
Usman Shekhani	14750		
Garlic Peeling Machine	28900		
Wood apple tea	17050		
Passion Fruit Juice Extractor	73107		
Automatic Pump Operator	31200		
Rural Multi Purpose Dryer	4250		
Dual Alarm Security Device	375140		
CIMAP Project	61964		
Bamboo Strip & Stick Device	12767		
Electric shock proof convertor	20485		
Arena Nut Peeling machine	20000	979874	
GIAN - N			
GIAN - North	579691		
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	30221		
Manual Automatic Starter	11586		
Modified Solar Cooker	5047		
Tea Making Machine	30000		
Fire Cracker Device	7000		
Ground Digger Machine	5000		
Multi crop Thresher	958	726830	
GIAN - W			
GIAN - W	228159		
Bicycle Hoe	15000		
Bicycle Sprayer	5221		
Diesel Engine	25100		
Jabbar Gear Project	30859		
Jute Matchstick	10000		
Kerogas Stove	4847		
Key Way Making Device	12000		
Kite String Winder	51675		
Motor Protection Device	98074		
Sickles	6600		
Tong Project	20500		
Multipurpose Agri. Device	13107		
Healthcare chair	30229		
Sugarcane Rotavator	47486	598857	
GIAN - CELL			
GIAN- CELL, SSIT	7240	7240	

NIF CO- AGENCY		
K.P. Chinnaswamy	33727	
M. Nagarajan	65000	
A.N. Manoharan	14500	
Mohd. Saidullah	16000	
Rajesh T.R.	9000	
Tukaram Verma	1800	
Nageshwar Pandit	2850	
Satish Deb	42000	
Chandrapal Singh	7000	
Manoharan	3000	
Solar Cooker shaikh	5455	
Electrical Apparatus	1000	
Electric 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 Electric Boiler	1250	
Manual Sprayer (Khimjibhai Kanedia)	6370	
Improved Multicrop Thresher	500	
Battery Operated Sprayer	600	
Manual Sprayer (Gopalbhai Surtia)	6370	
Double Acting Pump	500	
Buttonhole Stitching Machine	200	
Vanraj Tractor	3614	
Modified Solar Cooker (Rajesh Deshmukh)	3500	
Ashok kumar-wood apple jam	7556	
K.linga Brahman	50000	
K.S.Sudheer	10000	
Prem Singh	25000	
Balramsingh saini	11200	
Safruddin kazi	25000	
Radheshyam sharma	25000	
Appachan M.	100000	
K.R.Chandran	125000	
A.N.shukla	72375	727968
P.D.S.-kerala		
Velsamma Thomas	27500	
p.k.ravi	79200	
		106700
TOTAL		3147469

NATIONAL INNOVATION FOUNDATION - INDIA

F.Y.2006-2007
Schedule - 3

	Rs.	Rs.	Rs.
Other Earmarked Funds :			
- Depreciation		5426621	
- Sinking Fund		-	
- Reserve Fund		-	
- Any Other Fund		-	5426621
Capital Fund			
Opening Balance		433294	433294
Earmarked Fund			
- to be utilised before 2011		5290000	
Less :- Utilised during the year		5290000	
		0	
- to be utilised before 2011		10500000	
Less :- Utilised during the year		5430000	
		5070000	
- to be utilised before 2009		17200000	
Less :- Utilised during the year		17200000	
		0	
- to be utilised before 2012		20000000	25070000
Micro Venture Innovation Fund- A/c SIDBI			
Opening Balance		40000000	
Add : Interest - upto 31-03-2006		6237355	
Add : Interest - For F.Y. 2006-07		3543014	49780369
Administrative Grant received in advance A/c-SIDBI			
Opening Balance		10000000	
Add : Interest - upto 31-03-2006		1377237	
Add : Interest - For F.Y. 2006-07		637000	
		12014237	
Less : utilised up to F.Y.2005-2006		794334	
: utilised during F.Y.2006-2007		340706	
: expense allocation		1087983	9791214
TOTAL			90501498

DISCLOSURE OF ACCOUNTING POLICIES AND NOTES TO ACCOUNTS FOR THE YEAR ENDED ON 31-03-2007.**01. SIGNIFICANT ACCOUNTING POLICIES AND NOTES FORMING PART OF ACCOUNT FOR THE YEAR ENDED ON 31-03-2007****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

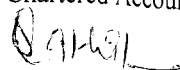
There are no material contingent liabilities.

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 8/9/2007
Partner

Memb. No. 16771.

Place : Ahmedabad
Date : 08-09-2007

Schedule IXC
(Vide Rule 32)

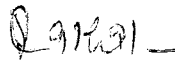
Statement of Income liable to contribution for the year ended 31-03-2007

Name of the Public Trust: **NATIONAL INNOVATION FOUNDATION - INDIA**
Regn.No. **F/7412/Ahmedabad**

	Rs.	Rs.
Gross Annual Income		19679053
Details of Income not chargeable to contribution under Section 58 Rule 32		
(i) Donation received during the year from any sources		
(ii) Grants by Government and Local Authorities		
(iii) Interest on Sinking or Depreciation Fund		
(iv) Amount spent for the purpose of education	28030079	
(v) Amount spent for the purpose of medical relief.		
(vi) Deductions out of income from lands used for Agricultural purpose :-		
(a) Land Revenue and local Funds/Cess		
(b) Rent payable to superior landlord		
(c) Cost of production, if lands are cultivated by trust		
(vii) Deductions out of income from lands used for non-agricultural purpose :		
(a) Assessment, Ceses and other Government or Municipal Taxes		
(b) Ground rent payable to the superior landlord		
(c) Insurance Premia		
(d) Repairs at 8 1/3 per cent of gross rents of buildings		
(e) Cost of collection at 4 percent of gross rent of buildings let out		
(viii) Cost of collection of income or receipts from securities stocks etc.at 1 percent of such income	191911	
(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		
	<u>28221990</u>	<u>19679053</u>
Income liable to contribution		<u>NIL</u>

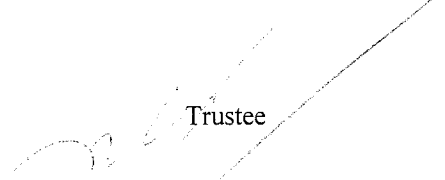
In our opinion this trust is meant for the promotion of education research & the advancement of any other object of General Public utility not involving the carrying on of any activity for profit and is exempted from the payment of contribution.

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


S.J.Pathak 31/9/2007
Partner
Memb. No. 16771

Place : Ahmedabad
Date : 08-09-2007

Trustee


PROF. ANIL K. GUPTA
EXECUTIVE VICE CHAIRPERSON
NATIONAL INNOVATION FOUNDATION
AHMEDABAD