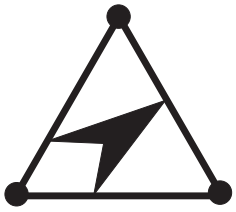
ANNUAL REPORT

TECHNOLOGY INFORMATION, FORECASTING & ASSESSMENT COUNCIL (TIFAC)

ANNUAL REPORT

(2004-05)



TECHNOLOGY INFORMATION, FORECASTING & ASSESSMENT COUNCIL
(TIFAC)
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New Delhi - 110016

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Executive Director
TIFAC

ANNUAL REPORT: 2004-2005

TECHNOLOGY INFORMATION, FORECASTING & ASSESSMENT COUNCIL
(DEPARTMENT OF SCIENCE & TECHNOLOGY)

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Executive Summary

The Technology Information, Forecasting and Assessment Council (TIFAC) is an autonomous society set up under the Department of Science and Technology in 1988, mandated to provide timely and relevant S&T and information inputs in critical socio-economic areas, and to facilitate and promote prioritized technology interventions. Over the years, TIFAC has built an enviable track record of implementing technology missions by leveraging an extensive network of technical experts in academia, R&D institutions and industry. TIFAC projects are wide-ranging, in terms of sectors and modalities.

During the year 2004-2005, two major 10th plan missions: the National Mission on Bamboo Applications (NMBA) and the Umbrella Scheme on TV 2020 projects in Mission Mode (TV 2020), continued to be the focus of TIFAC activities. The NMBA has made significant progress in all areas of the value chain of bamboo. Activities under TV 2020 were also ramped up, with good progress.

A glimpse of some of the significant achievements during this period is given below :

- IPR: Support was extended for a number of patent applications in India (28), and through PCT (2). The first batch of the Women Scientist's Scheme was successfully placed and four more PIC's were set up to bring the total to 19.
- Innovation Support: Under TePP 16 projects were completed, 19 projects are under progress and 5 new projects were initiated. The project on 'Improved Pressurized Gas Stove' won the Commonwealth Green Oscar Award.
- Technology Missions: 15 new projects were initiated under the NMBA. 5 new TIFAC-CORE's were established under Mission REACH in the Umbrella Scheme on Technology Vision 2020. A seed growers co-operative was formed in Patna as part of the strategy for sustainability of the TV 2020 project on agriculture.
- Special Initiatives: During the year, TIFAC organized workshops on topics of relevance and national importance, including on "The role of S&T for supporting and strengthening judicial processes" and on the issue of "Effective risk communication in disaster management". Responding to the unprecedented destruction caused by the Tsunami of December 26th, 2004, Advanced Composites Programme of TIFAC undertook activities for rehabilitation of Tsunami victims by constructing 50 community sheds and 55 catamaran fishing boats based on composite materials.
- Other Activities: TIFAC was the implementing agency for two UNDP programmes, Information Technology for Sustainable Agriculture in Punjab (IT-SAP) and Mission for Application of Technology to Urban Renewal & Engineering (MATURE). Both were successfully completed in this year. Dialogue was continued with the International Institute for Applied Systems Analysis (IIASA) with regard to Indian membership in IIASA with TIFAC as the National Member Organisation (NMO).

Looking ahead, we anticipate that TIFAC will continue to play a pivotal and catalytic role in the S&T system by focusing on prioritized technologies and supporting innovation.

Prof. Anand Patwardhan
Executive Director

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1 TIFAC Studies & Information Services (TSIS)

1.1 Techno-Market Surveys and Other Studies

Background:

Techno Market Survey (TMS) studies started in 1990, with the objective of assessing the status and market potential of emerging technologies of national importance, have covered most of the important areas of social and economic significance to the country. The reports provide options for technology trajectories to industries, institutions, entrepreneurs and experts.

TIFAC has covered most of the areas of socio-economic relevance through well-researched Technology Forecasting (TF), Technology Assessment (TA) and Technology Vision studies. It also generates special reports in select areas. So far, more than 280 reports have been prepared and published. Of these reports a series called Techno-Market Survey (TMS) are of importance for initiation of possible comercializable technologies.

Till date, TIFAC has commissioned 180 TMS studies in various sectors. Out of these, 165 studies have been completed.

Activities during the year

1.1.1 Ongoing Studies

During the year the following ongoing studies were pursued. The status is as follows:

S. No.	Topic	Consultant	Status
1.	Updates of report on Comprehensive Picture of S&T – Biotechnology, Health Care, CSIR and DST	Dr. Nirupa Sen, New Delhi	Final report awaited
2.	National and international status of Nutraceuticals	National Botanical Research Institute, Lucknow	Final report awaited
3.	Study and Survey of FDI based R&D Units in India	Academy of Business Studies (ABS) Consultants, Delhi	Final report received, under assessment
4.	Technologies for Retrofitting existing buildings to make them Earthquake Resistant	IIT, Roorkee	Final report awaited
5.	Bio-invasion SPS measures and import of Wood and Wood Products in India	Institute of Wood Science and Technology (IWST), Bangalore	Final report received, under assessment
6.	A Techno-Market Survey on Vaccines and Molecular Diagnostics	Biotech Consortium India Ltd.,	Draft report under assessment

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S. No.	Topic	Consultant	Status
7.	Packaging of Pharmaceutical and Personal Care Products	SIES School of Packaging, Navi Mumbai	Draft report under assessment
8.	Packaging of Fresh and Processed Foods	SIES School of Packaging, Navi Mumbai	Draft report under assessment
9.	Packaging of Non Perishables	SIES School of Packaging, Navi Mumbai	Draft report under assessment
10.	Packaging of Chemicals	SIES School of Packaging, Navi Mumbai	Draft report under assessment
11.	Display and Promotional Packaging	SIES School of Packaging, Navi Mumbai	Draft report under assessment

Table : 1.1

1.1.2 New Topics being Initiated

Following five topics were identified for carrying out TMS Studies, for which proposals were invited through all an India advertisement:

- Treatment of biomedical waste
- Coir pith utilization technologies
- Solid State nano-electronic devices (using quantum dots, nano-wires, spintronics etc.) technologies and commercial applications
- Technologies for fabrication facilities for nano-scale semiconductor manufacturing of LSI, VLSI and ULSI integrated circuits
- Water and waste water management in Aquaculture

Preliminary assessments of the proposals were completed.

In view of the proposed reviewing and refocusing of the activity under "TIFAC Studies", further actions are being planned.

1.2 Information Services

TIFAC News

In order to disseminate information on the multi-disciplinary activities of TIFAC under various programmes, 2 issues of this newsletter were brought out and distributed to more than 5,000 Organizations, involved in technology development, both in India and abroad.

Websites

TIFAC Website provides useful organisation information of different programmes. TIFAC operates a core website and also website for individual programme, activities as required. These are

- TIFAC Website (http://www.tifac.org.in)
- National Mission on Bamboo Application (NMBA) (http://www.bambootech.org.in)
- Mission REACH (component of Umbrella Scheme TV 2020) (http://www.missionreach.org.in)
- Patent Facilitating Centre (PFC) (http://www.indianpatents.org.in)

TIFAC Website

TIFAC Website has served over 7 lakh hits per month last year. TIFAC received around 1800 queries annually, through website pertaining to various technology areas, which are then forwarded to concerned official/experts for necessary action. A separate section titles as " Tender/Advertisement" and "TIFAC Lectures" has been added in the News & Views section publishing all the tenders/advertisements and lectures which are brought out by TIFAC in the media.

Patent Facilitating Centre

This website exclusively provide the comprehensive details of the services and facilities provided by PFC. First time in India, database on Indian patents since 1995 titled Ekaswa A & B made available online through this website. Patent related queries were also received and prompt action is being taken to reply them.

Mission REACH Website

Five new TIFAC COREs are added in Mission REACH Portal to make a total of 21. The website is being regularly updated with latest & current information and had served as high as 3 lakhs hits in a month.

TIFAC CORE Content Administration module has been circulated to each TIFAC-CORE would maintain its section on Mission REACH Portal on its own. The information uploaded by TIFAC CORE will simultaneously get reflected on Mission REACH Portal besides that of TIFAC-CORE website on the portal.

Forum for Global Knowledge Sharing (http://knowledgeforum.tifac.org.in)

A Virtual Forum to facilitate interaction, collaboration and sharing of knowledge on the problems involved in technology creation and transfer, and other issues relating to global business continued to cater registered members (htt://knowledgeforum.tifac.org.in).

TIFAC Specialized Library

To facilitate and foster the flow of the scientific/technical information through formal channel, TIFAC Library continued to support the enhanced requirements of scientists and users by procuring books, reports, journals/specialized serials.

During the period 28 (twenty eight) books and reports have been procured raising the holding of TIFAC Library to 1968.

Books and reports are being classified according to the subject areas and entered in the computer.

In addition, two E-Resources Proquest Science journals and ABI/INFORM complete for the year 2005 subscribed through INDEST Consortium (Indian national Digital Library in Engineering Science and Technology Consortium). Also 48 journals have been subscribed.

2 Patent Facilitating Centre (PFC)

Protection and enforcement of intellectual property rights are inevitable in the modern technology management process. With each passing day since we became WTO member, the importance of knowledge about IPR has been rising steeply in India. Management of IPR requires information, skills, knowledge and experience. PFC has been harnessing the creativity of the Indian knowledge generators (scientists and technologists) in order to make India a major intellectual prowess for better presence in the global trade and commerce. PFC aims at new heights through its uniqueness residing in its motto of service 'may I help you' and being a source of comprehensive information - a single window outlet and remaining innovative in the competitive era. The objective of the PFC - create awareness about IPR at the national level, provide technical and financial help for protecting inventive works of Indian scientists, act as a watch dog and inculcate a culture of using patent information as a vital input to R&D programmes - has been fulfilled in all the activities undertaken.

Patent Awareness Workshops:

IPR is still considered a new, emerging and difficult area to deal with amongst the scientific community. IPR is not only an area of concern for scientists but also for academicians, artisans, farmers, students etc. PFC continued to conduct workshops for all segments of society. During the period, thirty eight (38) patent/IPR awareness workshops were conducted sensitizing more than 5,000 scientists and technologists as listed below.

List of PFC Workshops

1.	GB Pant Institute of Himalyan Environment Development, Almora	May 21, 2004
2.	Rajasthan State Institute of Public Administration, Jaipur	June 1, 2004
3.	College of Fisheries, Lembuchera, Tripura	June 17, 2004
4.	Shimla on GI	June 18-19, 2004
5.	Science Centre, Miramar, Goa	June 20, 2004
6.	National Dairy Research Institute (NDRI), Bangalore	June 24, 2004
7.	Indian Chemical Manufacturer Association (ICMA), Kolkata	July 2, 2004
8.	Regional Research Station, Uchani, Karnal	July 19, 2004
9.	Punjab University, Chandigarh	August 19, 2005
10.	Institute of Engineers, Agartala, Tripura	August 22, 2004
11.	Nadar Janaki Ammal College, Sivakashi	September 16, 2004

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12. With Ministry of SSI, New Delhi	October 11, 2004
13. Kashmir University, Srinagar	October 15-16, 2004
14. SNDT Women University, Mumbai	October 21, 2004
15. Six Day Workshop On European Patents Laws, IIPRP, Gurgaon	October 25-30, 2004
16. Sikar For people of Rural background	November 3, 2004
17. Mooradabad	November 18, 2004
18. Navayug Kanya Vidyalay, Lucknow	November 25, 2004
19. Mahila Degree College, Lucknow	November 29, 2004
20. Central Research Institute (Ayurveda), Patiala	November 29, 2004
21. Ayurvedic University, Jamnagar	December 4, 2004
22. Jogeshwar Colege, Kolkata	December 10, 2004
23. With Ministry of SSI, Bhubaneshwar	December 10, 2004
24. CCS Haryana Agricultural University, Hissar	December 29, 2004
25. State Forest Research Institute, Jabalpur	January 4, 2005
26. Singhad Institute of Pharmaceutical Science, Lonavala, Maharashtra	January 15, 2005
27. JJ College of Arts and Science, Pudukottai	January 19, 2005
28. With Ministry of SSI, Surat	January 28, 2005
29. With Ministry of SSI, Patna	January 28, 2005
30. Mumbai University, Mumbai	January 31, 2005
31. Manonmanium Sundernar University, Tirunelveli	February 18, 2005
32. With Ministry of SSI Raipur	February 25, 2005
33. Guru Ghasidas University, Bilaspur	March 1, 2005
34. With Ministry of SSI, Kanpur	March 9, 2005
35. PG Medical Research & Education, Kolkata	March 16, 2005
36. Defence Research Development Establishment (DRDE), Gwalior	March 18, 2005
37. Goa	March 20, 2005
38. with Ministry of SSI, Rudhrapur	March 22, 2005

Table 2.1

One six day workshop on European Patent Laws and Practice with focus on pharmaceuticals and drugs was also organized. This was attended by 28 participants from leading pharmaceutical companies.

These workshops have been spread all over the country, and open to all R&D institutions, industry, academic institutions, government departments, NGOs and individuals.

IPR Bulletins

This is the first ever document of its kind in India, available in the public domain on IPR and has the readership of about 10,000 (8,000 through paper copy and more than 2,000 electronic copy through e-mail plus on website) scientists, technologists and policy makers. During the period, 12 issues of the IPR bulletin were brought out. These bulletins interalia covered analysis of patent applications filed in India in the area of biotechnology, which included bacteria, virus and fungi and a patent analysis related to plants in India. PFC also published articles on turmeric, operational aspects of geographical indications, case study on granted patents like tsunami patent, synthetic diamonds and advanced DNA fingerprint technology, case laws like Cola War, Cadila Pharmaceutical battle and domestic and international news. A total 113 issues of IPR bulletins have been brought by the end of the period.

Patenting/IPR protection Activity

PFC provides technical and financial support for protecting inventions emanating from academic institutions, schools, R&D institutions and government agencies. PFC facilitated filing of 31 patent applications during the period, including 28 in India, 1 abroad and 2 PCT applications to make the total number of filings to 287 patent applications.

PFC has entered into agreement by signing an MoU with Defence Research Development Organization (DRDO). As per the agreement, all patent/IPR applications of DRDO will now be filed through PFC-TIFAC. A total of 49 patent applications and two copyright applications have been filed in the name and on behalf of DRDO by PFC.

Registering Geographical Indications

PFC has taken initiatives to protect many items of traditional excellence which posses that property due to its origin from that geographical area under 'The Geographical Indication of Goods (Registration and Protection) Act'. Three applications for Geographical Indications were filed during the period. Two of them were from state of Himachal Pradesh - for Kullu Shawls and Kangra Tea. These were filed through PIC Shimla. The PIC Shimla has been declared as a Nodal Agency to file GI application from Himachal Pradesh by Himachal Pradesh Government. Third GI application was from state of Punjab for Phulkari embroidery and was filed through PIC Chandigarh.

Capacity building

Training Programmes on Patent Drafting

A three days training programme on 'Drafting of Patent Specifications' during Sep 2-4, 2004 was organized at National Institute of Health and Family Welfare, New Delhi. This training was given to about 30 participants which included women scientists under the Women Scientist Scheme of DST, project fellows at Patent Information Centres (PICs) of PFC and officers from Department of Atomic Energy (DAE), Indian Council for Medical Research (ICMR), etc.

Women Scientist Scheme

A Women Scientist Scheme was launched by DST which aimed at utilizing the dormant potential of women scientists qualified in science and technology by giving them opportunities for practicing their knowledge of science & technology in fruitful manner. Under this scheme PFC had trained 15 women scientists from all over the country. These scientists were placed at 8 different places including attorney firms, ICMR, URDIP-CSIR, Pune and PFC for hands-on training in patent related matters.

Six women candidates have cleared the patent agent exam conducted by the Patent Office in India and eight candidates have cleared the DL101 online course on IPR conducted by World Intellectual Property Organisation (WIPO). The scholarship period for most of these women has finished and they have found placement in reputed attorneys firms and IPR sections of other organizations. Going by the success of the scheme during the first batch, the scheme is being launched again in the year 2005.

Ekaswa-A and Ekaswa-B database

PFC pioneered two CD-ROM database on Indian patents, one on patent applications filed in India entitled Ekaswa-A and another on patents accepted by the Indian Patent Office entitled Ekaswa-B, which were brought out during 98-99. The coverage is the data as published in the Gazette of India from January 1, 1995 onwards, with quarterly updates. The databases are now available online through the PFC website www.indianpatents.org.in . The new software for the both these database was developed and now CDs are being made available with this new more efficient and user friendly retrieval software.

Exclusive website on PFC

The website www.indianpatents.org.in provides comprehensive details of the services and facilities provided by PFC and also serves as a gateway for updated online access of the Ekaswa –A and Ekaswa- B database on Indian patents. This is the first ever-online gateway to a database of patent applications filed in India since 1995.

Patent Information Centres (PICs)

Four more PICs were set up in the states of Goa, Haryana, Tamil Nadu and Karnataka. With these, total nineteen (19) PICs have been set up by PFC. The PICs are playing the role of a consultant for local scientists/technologists/policy makers, by providing guidance in filing of patent applications extending the patent search services and information about IPR. They are also assisting PFC in conducting workshops in their respective states. Some of the PIC officials are now serving as a faculty in workshops conducted by PFC.

Counseling and advisory role

PFC has become a national referral point for industry, universities, government agencies, NGOs, foreign embassies and individual scientists, innovators and consultants, for information and advice on IPR related matters, especially upto date patent information. PFC was instrumental in generating critical inputs including conceptual frame work, actual patent data, analysis, etc. for decision making, policy formulation and future planning at the national level in the area of IPR and related matters.

3 Technopreneur Promotion Programme (TePP)

Technopreneur Promotion Programme was initiated by Ministry of Science & Technology in 1998 to *promote individual innovators* to become technology based entrepreneurs. TePP is a joint activity between TIFAC and the Department of Scientific & Industrial Research (DSIR).

TePP support is available to any citizen of the country, having an original idea/invention/know-how. Selected projects are provided financial support of upto Rs.5 lakhs to undertake the development of working prototypes/ demonstration of processes. Further support is also given for:

- Scientific/technical consultancy,
- Fabrication assistance, market information and networking with related research labs/ institute as required.

Highlights and Achievements

A brief glimpse of highlights and achievements in some of the projects during the year is given below:

3.1 Projects Completed

S.No.	Project	Innovator
1.	Vanillin from dry pine needle alkali lignin	S. R. Verma, Nanital
2.	Laser Modem Transceiver (LMT)	Mr. Gaurav Kavathekar, Bhopal
3.	Fabrication of simple device for laboratory dialysis/desalting/purification of proteins	Dr. Parikshit Bansal, Chandigarh
4.	Development of Non-Metallic Conducting Grid for Lead Acid Storage Batteries	B.V. Patankar, Bangalore
5.	Improved and Scientific method of making "Paper Machie" material and process for making art and craft items	Smt. Uma B. Patankar, Bangalore
6.	Bus Heating System using exhaust	Deepak Kaushik, Gurgaon
7.	Solid Bio-mass Fired Furnace	R.K. Nibhoria, Chandigarh
8.	ZaDD Clamping of pressure cookers	Sh Manjunath, Varambally
9.	To test & popularized the production of bio-control agent (predatory mite), *Amblyscious sp.* Against coconut eriophid mite	N. Rajendran, Erode C/o SEVA, Madurai

Contd...

S.No.	Project	Innovator
10.	Herbal Pesticide for control of crop pests	Shri Nagarajan, Madurai
11.	Development of Air-energized pressure cooker	Shri K.R. Duraisamy, Erode
12.	Improving mechanical device for de-husking coconut	Shri Jayseelan, Madurai
13.	Design improvement and testing and weed-cutter-cum-inter-cultivator	Sh. V. India Bharathidasan, Madurai
14.	To improve the design of multi-purpose coconut harvester	Shri Karupaiah, Madurai
15.	Quick and consistent coconut breaker	Sh. M.S.V. Naidu, Bangalore
16.	Pulverizing of Red Sanders wood	Shri. K.X. Benedict, Kerala

Table 3.1

To test and standardise the production of bio-control agent (Predatory mite), *Amblyscious Sp.* Against coconut eriophid mite.

Under this project the innovator has identified and isolated a predatory mite *Amblyscius Sp.* against Eriophid mite in coconuts, which caused severe damage to coconut growers. This predator has been found to be very effective in combating the eriophid mites. Mass multiplication has been done successfully by the innovator at lab scale.

Herbal Pesticide for control of crop pests

The innovator has successfully prepared formulations of herbal pesticides to control pests of vegetable crops and paddy. He has already sold 500-1000 litres of pesticides to more than 300 farmers in 50 villages in nearby districts.

Design improvement and testing of weed-cutter cum inter-cultivator

A three-wheeler weed-cutter cum inter-cultivator by using Vespa Scooter engine has been successfully designed. The weeding machine can be used for crops like cotton, banana, groundnut etc. The cutter could achieve maximum of 2 ft depth. The new weeder can harvest 3 acres in a day and can also be used for short distance transport purposes with the mileage of 35 km per litre diesel consumed.

Final Assembly of weed-cutter-cum-inter-cultivator

Design Improvement of multi-purpose coconut harvester

The machine fabricated under the project using hydraulic jacks can harvest upto 600-650 trees by

two persons whereas by using manual method, only 160 trees could be harvested. Expenses have also been lowered to about Rs.460/- for 8 acres/ day by mechanical harvester whereas by manual harvesting it would amount to about Rs. 640/- for 2 acres/day.

Coconut harvester

The prototype has been demonstrated at many places.

Solid Biomass Fired Efficient Furnace

The entrepreneur has successfully designed a 'Solid Biomass Fired Efficient Furnace'. The system has taken care of the special requirements of primary and secondary air distributions for optimum combustion, optimum utilization of heat generated in different cooking chambers and also adequate insulation. Biomass briquette is used as fuel. The innovator has already installed several such systems in school canteens, and the school authorities have experienced significant amount of savings as compared to LPG.

3.2 Ongoing Projects

During the year the following ongoing projects were pursued. The status is as follows:

S.No.	Project	Innovator
1.	Anti roll back device for cars	Sh. Dilip Bapat, Mumbai
2.	Isolation and manufacture of antifeedants from seeds of Annona Squamosa (Sitaphal)	Prof. C. Subramanyam and Ms. Madhurima Benakareddy, Hyderabad
3.	Udder Care Kit for Prevention of Mastitis	Dr. R. Venkata-Krishanan, Chennai
4.	On demand tank-less water heater	Sh. B. P. Bansal, New Delhi
5.	Mass Production of novel metabolites from *Alternaria sp.* (LC #508) for use as eco-friendly agro-chemicals for Weed Management	Sh. Sanjai Saxena, New Delhi
6.	Development of DC MCBs for 5 KA, 130/220 V DC Fault Level	Sh. Chetan V. Shah, Baroda
7.	Autodistractor	Sh. P. N. Kulkarni, Sangli
8.	Prototyping of on-line Time Domain instrument for measurements in industrial and agricultural materials	Dr. Kalpana Joshi, Pune
9.	Automatic Pump Operator	Sh. Manoharmayum Manihar Sharma, Imphal

Contd...

10.	Design and development of variable reluctance electric servo actuator	Sh. K Srinivas, Bangalore
11.	Mikshafut Tareeq - path detection device	Dr. Bashir Ahmed Wani and Dr. G. Mohiuddin Bhat, Srinagar
12.	Top Loading, bottom heating and fixed type solar cooker	Sh. Suresh Vaidya Rajan, JNU, New Delhi
13.	Treatment of Diarrhea in Animals	Sh. Lakhanbhai B. Khatana *et. Al.*, Ahmedabad
14.	Wound healing in Animals	Sh. Devkaranbhai L. Eabari *et. Al.*, Ahmedabad
15.	Treatment of Bloat and Flatulence in Animals	Sh. Solanki Rahamatkhan P. *et. Al.*, Ahmedabad
16.	Retention of Placenta in Animals	Sh. Becharbhai D. Parmar *et. Al.*, Ahmedabad
17.	Treatment of Blood Pressure, Arthritis and Heart Problems	Sh. Sumara Karimbhai *et. Al.*, Ahmedabad
18.	Treatment of Pests in Cotton	Sh. Ivvappan et. Al., Ahmedabad
19.	To improve and popularize wheel plough and multi-seed drill	Sh. G. Gnanamani, Madurai

Table 3.2

Wheel plough and multi seed drill

Under the project, the innovator has successfully designed bullock and tractor drawn multi seed drill and tested in the fields. The seed drill (bullock/ tractor drawn) has several advantages over manual method. The sowing cost by manual method is Rs.350/- per acre whereas sowing cost with bullock driven seed drill is Rs.75/- per acre and tractor driven in Rs.250/- per acre. Using this seed drill, all seeds can be sown.

Field testing of tractor drawn multi seed drill

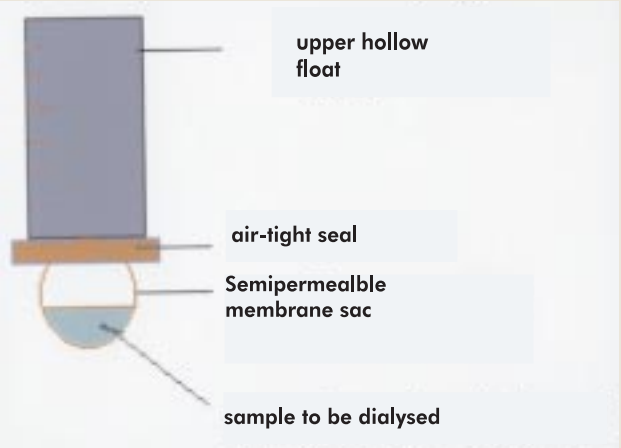
Top loading, bottom heating and fixed type solar cooker

In this prototype the heating takes place from the bottom. The geometrical property of the cylindrical parabolic mirror allows keeping the mirror focused to food box up to four days, without affecting the efficiency. The cookers warm much faster and efficiently and the window area is 75% less than that of the standard box cooker. The heat loss is also less.

Development of indigenous thermocycler for polymerase chain reaction (PCR)

Under the project thermocycler for polymerase chain reaction has been developed, which is much simpler and cheaper than imported thermocycler. Thermocyclers are extensively used in Polymerase Chain Reaction for DNA amplification techniques.

Human trials of the "Autodistractor" developed under the programme have commenced. The prototype has simplified bone lengthening and deformity correction by making distractor movement controlled through microprocessor motor.



Fully Assembled indigenous thermocycler

Doordarshan is preparing a special programme focusing on several innovative prototypes developed under TePP. The prototype focused include Autodistractor, DC-MCBs etc.

3.3 New Projects

S.No.	Project	Innovator
1.	Device to lift Chassis of vehicle (hydraulic)	Sh. Devesh Ashok Kulkarni, Nashik
2.	Tamper-proof Seal for Disposable Bottle and Jars	Sh. Narendra Prabhakar Bone, Mumbai
3.	Design refinement of JS Milker Milking machine	Sh. Joy John, Ernakulam
4.	Improvement in performance of Gasoline Engine by cooling of intake air through humidification	Sh. Anikhet R. Khare Nagpur
5.	Electronic Tagging of Book like objects	Sh. Balaji Swaminarayanan Chennai

Table 3.3

3.4 Projects Short-closed

The project *'Leakage projection device for generic kerosene based pressure stoves'* was short closed as the innovator was unwell and was unable to complete the remaining work as per the objectives of the project.

4 Home Grown Technology (HGT)

Highlights for the Year 2004-05

- Under the HGT project on HFC-134a a 5 kg/ hr pilot plant was installed and data collected for design of commercial plant. One of the licenses is setting up a Rs.50 crore facility for trial production, another has set up facilities to produce 1500 kg/ hr of HCFC-133a, an intermediate for HFC-134a production.
- FCIPT Gandhinagar has developed and fine-tuned the technology for safe disposal of hospital waste by plasma pyrolysis. The results of the analysis of exhaust & sludge by RRL, Thiruvananthapuram are satisfactory. Ministry of Environment and Forests has been requested to include this technology in the Gazette notification.
- Under the HGT project "Development of robots for manufacturing", M/s Systemantics India Pvt. Ltd. has developed SCARA type pick and place robots This robot developed by Systemantics under the HGT project is much cheaper than the ones currently available from some advanced countries. Its modular design with a minimum number of components ensures high reliability. It can be easily integrated into automation systems as it provides a wide range of auxiliary control interfaces for digital and analog inputs, digital outputs, pneumatics, Servo control for the AC Servomotor and stepper motor.
- M/s Filtra Catalysts & Chemicals Ltd., Mumbai has successfully installed a pilot plant for manufacture 3,5 xylenol from isophorone. 3, 5 Xylenol is a raw material for a range of products including agrochemicals, specialty resins, polymers etc. This pilot plant in long term would serve as Pilot testing of catalyst systems and processes necessitating high temperature operations.
- A pilot plant for producing omega 3 fatty acids enriched fish oil with production capacity of 12 tons/annum on one shift basis has been successfully commissioned by M/s Arjuna Natural Extracts Pvt. Ltd., Alwaye. This is South Asia's largest plant for manufacture of Omega 3-fatty acids. The company has been able to achieve overall purity of 70 % as envisaged with an yield of 15 %.
- A skid-mounted Hydrogen Generating unit was installed and run by M/s Filtra Catalysts and Chemicals Ltd., Thane. Such units are useful for economic on-site generation of hydrogen for various industries and also for future applications like installation at typical gas station for supply of hydrogen to hydrogen powered vehicles.
- A technology for production of eco-friendly lac-dye from the waste water of shellac industry has been successfully developed and commercialized by M/s Tajna Shellac Industries, Khunti, Ranchi.

5 Sugar Technology Mission (STM)

Sugar Production Technologies

The Sugar Technology Mission was set up in the year 1994, in close association with the Dept. of Food and Public Distribution. The Sugar Technology Mission aims to focus on technology upgradation in the Indian Sugar industry. The purpose is to use latest environment friendly cost effective technologies, with an aim to achieve efficient sugar production through improvements in plant efficiencies, energy saving and reduction in utilization of various inputs.

Achievements

Technology Upgradation of Sugar Factories

The Mission has so far prepared detailed schemes for 40 sugar factories for the purpose of their technological upgradation. This has lead to reduction in cost of conversion and improvements in capital output ratio. Detailed list of projects completed earlier is in Annexure-1.

The status of completed / on going technology upgradation projects during 2004-05 is as under:

5.1 Technology Projects Completed / Under Implementation During the year (2004-05)

Development of Cost Effective Fibrizer Hammer Tips

The Sugar Technology Mission, had entered into a bi-partite agreement with RRL, Bhopal to develop a cost effective wear resistant material for use as fibrizer hammer tips. STM has released Rs.13.25 Lac to RRL, Bhopal as TDA grant for implementation of the project.

The fibrizer is used in sugar mills for preparation of sugarcane before being fed to mills for juice extraction. Presently the fibrizer hammer tips are generally imported. RRL, Bhopal have developed a suitable alloy material for use as fibrizer hammer tips. These hammer tips are under field trials at Shree Chalthan Vibhag Khand Udyog Sahakari Mandli Ltd., Surat, Gujarat. An Expert team of STM visited the above sugar mill to evaluate the performance and cost effectiveness of the material.The members of the team were satisfied with the performance of the material for use as Fibrizer hammer tips. They also recommended that, the hammer tips can be used commercially as import substitute.

In addition to the above, technologies *viz.* ADU-FSB-WHR Combination, a system to recover waste heat during generation of SO_2 gas in thin film sulfur furnace, Massecuite Filter for separation of mother liquor and crystal, Short Retention Clarifier for clarification of sugarcane juice and NIR Technique for quick estimation of sugar content, were taken up for trial and evaluation, but could not be evaluated successfully so far due to certain design impediments. STM is reassessing the system design to achieve successful evaluation.

5.2 On-going projects for technology development and evaluation

Follow up activities continued for development of the following on-going projects initiated during the earlier years:

S.No.	Factory	Year	Status
1.	DSM Sugar, Mansurpur, U.P.	2004-05	DPR prepared for setting up of a modern green field project.
2.	Uttam Surgars Ltd., Bijnore, U.P.	2004-05	DPR prepared for setting up of a modern green field project.
3.	Terna SSSK Ltd., Ternanagar, Maharashtra	1999-00	Project under implementation
4.	Dr. V.K. Patil SSK Ltd., Pravaranagar, Maharashtra	1999-00	DPR completed. Project under implementation.
5.	Ashoka SSK Ltd., Ahosknagar, Maharashtra	2001-02	Detailed project report under revision.
6.	Uttam Sugars Ltd., Libeerheri, Uttaranchal	2002-03	Project under implementation

Table 5.1

Ethyl Lactate from Molasses

A project for development of technology to commercially produce Ethyl Lactate from Molasses has been implemented at M/s. The Godavari Sugar Mills Ltd., Sameerwadi, Karnataka.

The project has been commissioned to produce 500 t/annum Ethyl Lactate from molasses. An Expert team of STM will visit the site to evaluate the performance of the project.

Technologies approved for implementation

The Sugar Mission Advisory committee during its 17th meeting held at New Delhi on 23rd December 2004 approved the following new technologies for their implementation.

- GSM based cane procurement system
- Cane Separation System
- Cane Juice clarification using Membrane Separation Technology.
- NIR Technique for quick estimation of sugar content.

Suitable and willing sugar mills for implementation of the above technologies are being identified are being identified.

5.3 Evaluation of New Technologies

The Mission has also evaluated a number of modern technologies and has rendered financial support to 23. new technologies so far for their trials and evaluation. The work has led to benefits of improved sugar recovery, energy saving and improvements in sugar quality. There have been about 200 replications already out of the successful new technologies.

The new technologies, which had been successfully evaluated earlier and replicated/ ready for replication now are:

- Separate Clarification of Vacuum Filtrates

- Thin Film Sulphur Burner for Continuous generation of SO_2 to achieve satisfactory juice clarification parameters.
- PLC based integrated clarification control system for automatic control of juice purification, better removal of non-sugars.
- Blanco Directo / Syrup treatment process for production of superior quality sugar.
- Low Pressure Extraction System (LPE).
- Computerized Automation of Condensing and Cooling System
- Planetary Gear Box
- Enterprises Resources Planning (ERP) System
- Alternate Material Components for Sugar Mills
- Monitoring and Control System for pan boiling
- Distillery effluent treatment system.
- Ethanol from secondary Juice.

Replications

After successful trials, there have been about 25 replications of the eight successfully evaluated technologies in different sugar factories during the year 2004-05.

Overseas Assignment

On the request of Government of Fiji, the Sugar Technology Mission has surveyed the status of Sugar Industry in their country. On the basis of survey, detailed project report for revival and technology upgradation of their sugar mills has been prepared and submitted.

The proposal of revival of sugar mills in Fiji is under implementation. The above task is in addition to the progress / work submitted and completed by STM.

Other Activities

STM has also assisted the Government of India to study and prepare a report on revitalization of Sugar Industry in India.

6 Fly Ash Utilisation Programme (FAUP)

Fly Ash Utilisation Programme (FAUP), TIFAC, DST is continuing the activities of Fly Ash Mission (FAM) since April, 2002. Fly Ash Mission (FAM) commissioned in 1994, as assessed by Fly Ash Mission Apex Committee as well as Performance Appraisal done by Expenditure Finance Committee, has accomplished much more than what was planned / envisaged. Turn around has been achieved in terms of converting the perception of fly ash from "A Polluting Waste Material" to "A Resource Material". Large number of technologies have been demonstrated successfully, standards / specifications have been updated / prepared for new applications.

Acceptance of fly ash and its products had started gaining momentum and by March 2005, the utilisation reached to 42 million tonne / year (38% of about 112 million tonne, the then generation). Coal would continue to remain as a source of energy to power sector for quite a long time and hence utilisation / management of ash whose production would increase considerably with addition of power generation capacity, would continue to need concerted efforts inter-alia S & T inputs for its gainful utilisation / safe management.

Ongoing Technology Demonstration Projects commissioned under FAM were monitored and steered by FAUP during the previous years (2002-03 & 2003-04) towards successful completion. Follow-up actions on Technology Demonstration Projects in terms of dissemination of information, facilitation for large scale adaptation and / or for further / related work is being pursued by FAUP.

Eight projects taken up during last year were monitored and steered and four more new projects were commissioned during this year.

6.1 Ongoing Projects

The list of ongoing projects of FAUP is as given below:

Sl.No.	Brief title of the Project	Implementing & Participating Agencies
1.	High Volume flux bonded fly ash building components	RRL, Trivandrum (M/s. KAP India Tiles, M/s. ST Joseph Tiles and CBRI, Roorkee are the participating agencies).
2.	Manufacture of cold setting structural brick/block with high volume of fly ash	RRL, Bhubaneshwar
3.	Separation of Cenospheres from Fly Ash	RRL, Bhopal

Contd...

Sl.No.	Brief title of the Project	Implementing & Participating Agencies
4.	Removal of pollutants from Waste water using fly ash and sunlight	CMERI, Durgapur
5.	Radioactivity analysis in fly ash	IOP, Bhubaneshwar
6.	Fly Ash as ameliorant	IGFRI, Jhansi
7.	Determination of rate of consolidation, flow rate, settlement and load bearing characteristics of Fly Ash slurry after stowing	IIT, Kharagpur
8.	Granulometric and mineralogical evaluation of fly ash	CBRI, Roorkee

Table 6.1

All the projects are being continuously monitored and steered by a Project Monitoring Committee (PMC), which reviews the project status and progress regularly. The projects are progressing satisfactorily.

6.2 New Projects

During this year, four new projects were taken up. These projects are :

Sl.No.	Brief title of the Project	Implementing & Participating Agencies
1.	Stowing of large volume of pond ash in underground mines at SCCL (M)	CMRI - Dhanbad, HWB / HWP (M), SCCL - Manuguru, CFRI - Dhanbad
2.	Fly Ash for efficient management of Irrigation water	Potash Research Institute of India, Gurgaon
3.	Development and Demonstration of HCSD System	IIT, Delhi
4.	Mathematical Modelling for the Mix Design of Cement Bonded Fly Ash Bricks	CBRI, Roorkee

Table 6.2

Major Highlights

Bricks with 80% fly ash

The results of the FAUP projects taken up at RRL, Trivandrum and RRL, Bhubaneshwar show that the bricks with 80% fly ash can now be manufactured. All our earlier technologies for manufacture of fly ash bricks use fly ash to the extent of 55-70%. Parallel work is going on for development of two technologies for manufacture of bricks with 80% fly ash. One technology is intended to manufacture these bricks through firing process and another one is using the cold process. The technologies when developed and established, are expected to give a major fillip to use of fly ash in brick manufacturing.

TIFAC, MSEB-MoU

An MoU has been signed between Maharashtra State Electricity Board (MSEB) and TIFAC for five years for providing technical guidance to MSEB towards efforts to be taken up to enhance fly ash

utilisation of all seven thermal power stations of MSEB. Use of fly ash in brick manufacturing, agricultural and mining sector have been identified as major areas where the concerted thrust is required. It has been planned that two demonstration-cum-training programme would be organised at each thermal power station every year for use of fly ash in clay brick manufacturing. The meetings and programmes would also be organised at each thermal power station to identify and encourage the farmers to use fly ash in their agricultural fields. The work at all seven thermal power stations has already been started and initial results and response are quite encouraging.

Use of fly ash in Dam construction

The construction has been started for lower dam under Ghatghar Pumped Storage Scheme of Govt. of Maharashtra using Roller Compacted (RCC) technology with high dosages of fly ash (about 65% replacement of cement by fly ash) in January, 2005. The dam is about 90 meter high and would use about 5,68,000 m^3 concrete with RCC technology. This is a multiplier effect of FAM / FAUP's projects for construction of 2 dams (upper dam and saddle dam) of Ghatghar Pump Storage Scheme near Nasik with RCC technology using high dosages of fly ash. The Mix Design being used for construction of lower dam is similar to the Mix Design used for Upper dam and Saddle Dam construction.

Further, many more dams have been planned to be constructed with this technology, some of them are :

- Teesta Lower Dam – IV in West Bengal (by NHPC).
- Middle Vaitrana Dam near Mumbai (by Municipal Corporation of Brihan Mumbai)
- Check dam near Srisailem (by APGENCO)
- Srinagar Hydro Power Project dam (by M/s. Tata Power)
- Rehabilitation (spillway reconstruction) of Mitti dam, Kutch district (by Gujarat Government.
- The dams at Jamrani (U.P.), Sawalkot (Jammu & Kashmir) etc.

Series of Seminars-cum Business Meets

A series of National Seminars-cum-Business Meets has been initiated by FAUP, TIFAC alongwith other stake holder agencies on use of fly ash in various sectors. The series of National Seminars would culminate in an International Congress-cum-Business Meet on fly ash utilisation in December, 2005. The calendar of events is as given below:

Sl.No.	Name of Seminar	Venue	Date
1.	Use of fly ash in Hydro Sector	Mumbai	March, 4-6, 2005
2.	Use of fly ash in Building Components	Delhi	March, 17-18 2005
3.	Use of fly ash in Roads & Embankments	Allahabad	June, 5-6, 2005
4.	Use of fly ash in Agriculture & Waste Land Development	Delhi	September, 16, 2005
5.	Use of fly ash in Mining Sector	Hyderabad	September, 2005
6.	Handling & Transportation of fly ash	Kolkata	October, 24-25,2005
7.	International Congress	Delhi	December, 4-7, 2005

Table 6.3

Film of fly ash utilisation

A film of FAM / FAUP work undertaken in various parts of the country in various ash utilisation area over the period of last one decade alongwith other stake holder agencies has been prepared with an objective of disseminating the information and experiences gathered among the stake holder agencies / individuals. The film was telecasted on prime channel of Delhi Doordarshan (DD - 1).

CPWD Circular

As a result of the field work undertaken by FAUP, TIFAC alongwith other stake holder agencies and continuous discussions and follow-up with CPWD, CPWD has issued a circular No. CDO/SE(RR)/Fly Ash (Main)/387 dated 13.05.2004 permitting the use of fly ash in Reinforced Cement Concrete (RCC). It marks a land-mark in the history of use of fly ash in cement and concrete in India as its use was prohibited by CPWD since 1987 vide their circular no. CDO/SE(D)/NMT/24/142 dated 11.11.1987. This circular supersedes the earlier circular of 1987.

Updation of standard/guidelines pertaining to Hydro Sector

The guidelines of Central Water Commission pertaining to construction materials being used by various agencies for construction of structure in Hydro-sector were reviewed by the Technical Group for "Gainful Utilisation of Fly Ash in the Hydro Power / Water Resources Sector" constituted by Ministry of Power under the Chairmanship of Adviser, FAUP, TIFAC. The amendments were suggested towards maximising use of fly ash in hydro-sector. Further, 43 amendments proposed in BIS standards pertaining to use of fly ash in hydro-sector were followed-up and 22 amendments out of them have been approved by BIS for printing. 18 proposed amendments have also passed through stages of wide circulation and are in various stages of discussion of BIS towards their approval for printing. The balance 3 are under discussion in BIS Committees.

Replacement of 65% cement by Fly Ash- Upper dam of Ghatghar pumped storage scheme (Near Nashik, Maharashtra constructed with Roller Compacted Concrete technology

Consultancy Assignments

Dry Fly Ash conveying, bagging and Classifying System

FAUP, TIFAC has completed the consultancy assignment of BSES (now re-named as M/s. Reliance Energy Ltd.) for providing technical consultancy services for setting-up of Dry Fly Ash conveying, bagging and classifying system at Dahanu Thermal Power Station, M/s. Reliance Energy Ltd. The equipments have been arrived at site and are under installation and commissioning.

FAUP, TIFAC has provided technical design engineering and consultancy for construction of Ash Pond Dyke for 2 x 210 MW Expansion Unit at Parichha Thermal Power Station. This is for the first time that the Starter Dyke for an Ash Pond would be constructed with pond ash. Earlier, either pure soil or the pond ash mixed with soil were used for construction of Starter Dyke. The Designs have been approved and the construction is being started.

Clay fly ash brick manufacturing demonstration

Demonstration – Cum - Training Programmes have

been organised in Punjab and Nagpur in technical association with CBRI, Roorkee, for use of fly ash in clay brick manufacturing. The programmes were well attended and many more brick manufacturers have shown interest in utilising fly ash in brick manufacturing. These assignments were taken up with the funds provided by Punjab Pollution Control Board and Ministry of Environment and Forests respectively.

A consultancy assignment has been taken up to provide technical guidance and design for providing Liner System for 2 x 210 MW Parichha Thermal Power Station Expansion Project (near Jhansi).

Use of fly Ash for 4/6 laning NH-6 (Dhankuri-Kologhat Kharagpur Sector, West Bengal)

Pond Ash Stowing in underground mine of SCCL, Manuguru

7 Advanced Composites Programme (ACP)

The Advanced Composites Programme has been catalytic in helping Indian composite industry for absorption & adaptation of certain technology intensive processes/products. The programme has attempted to enhance the utilisation and application of composites as an important performance material in various sectors and to improve the laboratory-industry linkages towards development & commercialisation. This has contributed significantly to the upgradation of composite technology in terms of basic design parameters, raw material selection, process of fabrication, testing, quality assurance and certification resulting in the development of novel composite products for a wide array of applications.

Programme Achievements

The Advanced Composites Programme has generated confidence among industry & the user. The products developed with upgraded technology are successful in replacing some of the imported ones with better efficiency & enhanced life. This has paved the way for good business potential in the domestic market as well as avenues abroad.

35 projects have been launched under the programme in active collaboration with the research institutes and composite industries in India. Apart from enhancing design capabilities in composites technology & human resource development, the programme has diversified in key economic & industrial sectors such as *railways, automobiles, bio-medical & rehabilitation, industrial products, chemical processes, building & construction, marine, telecom etc.*

7.1 Projects Completed in 2004-05

No.	Projects	Partners
1.	Moulded GRP Grids/Gratings	Technocraft-Chennai & IIT-M
2.	Sky Bus Coach for Konkan Railway	Kineco Pvt. Ltd., Panaji & IIT-B

Table 7.1

Moulded GRP Grids/Gratings

The project was launched in partnership with *M/s. Technocraft, Chennai* with technology support from *IIT-Madras*. The project aimed at developing GRP grids/gratings by vacuum infusion moulding technique to replace the conventional ones. GRP grating has equal load carrying capacity in both the directions thus leading to higher impact strength. As an integral part of the project, a special purpose computer controlled automatic glass fibre laying & compression moulding system was designed & fabricated indigenously for manufacturing of grids & gratings of different sizes. The maximum velocity of the fibre lay-up was 1.50 m/sec. A software was specially developed for laying fibre in the mould. The composite grids/gratings could be used as walkways, foot-bridges, roofing systems, decking, partition, paneling etc. in oil platforms, process plants, transportation & civil/infrastructural sectors.

Composite Sky Bus Coaches

Under this project launched in partnership with M/s. Kineco Pvt. Ltd., Panaji with technology support from IIT-Bombay, two composite Sky Bus coaches were designed, fabricated and supplied to Konkan Railway for field trials and technology

demonstration in August 2004. Each coach was designed to carry 150 passengers. Trial runs for Sky Bus on 1.60 Kms. Sky track at Madgaon were successful covering maximum speed of 70 KMPH. In addition, the suspended behaviour of the Sky Bus had proved satisfactory. Composite material for the Sky Bus coach has contributed significantly to its lightweight & aesthetics. Konkan Railway would be licensing Sky Bus technology for commercial usage to agencies in India or abroad.

7.2. On-going Projects

No.	Projects	Partners
1.	Composite Acoustic Enclosure for DG Sets	Supal FRP Pvt. Ltd, Hyderabad & IIT - Bombay
2.	Composite Interiors for Driver's Cabin in Diesel Locomotive	Black Burn Co. Pvt. Ltd., Kolkata & IIT - Bombay
3.	Composite Interiors for Railway Passenger Coaches	Century Polymer Industries, Vadodara & IIT Bombay
4.	Industry Interaction Meets	FRP Institute, Chennai & TIFAC
5.	Natural Fibre based Composite Panels & Door Shutters	Artglas Industries, Jaipur & CBRI, Roorkee
6.	Composite Applications Laboratory	IIT-Kharagpur
7.	Composite Houseboat for Tourism	Samudra Shipyard Pvt. Ltd., Aroor, Kochi
8.	TIFAC Rehab Project for Tsunami Victims	SASTRA, Thanjavur at Nagapattinam
9.	Bamboo Composite Laminates	Emmbee Forest Products Pvt. Ltd., Kolkata & Dept. of Polymer Science & Technology, University of Calcutta
10.	Composite Pressure Vessels	Kineco Pvt. Ltd., Panaji & IIT-Bombay

Table 7.2

Composite Interiors for Driver's Cabin in Diesel Locomotive

The project was launched in partnership with M/s. Black Burn & Co. Pvt. Ltd., Kolkata with technology support from IIT-Bombay. The project aims at improved usage of available space envelope of driver's cabin incorporating superior aesthetics & ergonomics for Indian Railways using composite components. The design of interiors comprising wall & roof panels, flooring, console panel etc. was carried out by IIT-Bombay based on assessment of human body clearances, space requirement for tool box, drivers' belongings etc.

Composite interiors for drivers cabin of Diesel Locomotive

The necessary moulds were fabricated and the fabrication of prototype interiors was underway for WDM 2C model diesel locomotive. The cabin interiors would be fabricated to provide high elegance without any sharp edges and to provide maximum comfort to the users.

Composite Modular Acoustic Enclosures for DG Sets

The project was launched in partnership with M/s. *Supal FRP Pvt. Ltd, Hyderabad* with design inputs from the *Industrial Design Centre (IDC)* of *IIT-Bombay*. Under the project, composite modular enclosure for 15 KVA DG set was fabricated and successfully tested by the Naval Science & Technology Laboratory (NSTL)-Visakhapatnam, the agency authorized by the Govt. of India. The enclosure had met the 75 dB noise level at 1 m from the noise source as prescribed by *Environment (Protection) Act, 1986*. The enclosure was supplied to M/s Kirloskar Oil Engines Ltd., Pune for testing and its performance was found quite satisfactory. Another prototype composite enclosure for higher rating DG sets (75-125 KVA) has also been developed. Its testing & approval is underway. The composite enclosure offers resistance to corrosion and provide high internal damping & low noise transmission. In order to achieve the required noise attenuation, insulation with FT-70 foam has been provided. The foam is non-ignitable type, light in weight and it can also withstand temperature up to 170 ^{0}C. Commercial exploitation of the product are currently underway.

Composite Interiors for Railway Passenger Coaches

The project, launched with *M/s. Century Polymers, Vadodara* & *IIT-Bombay*, aims at designing and fabricating complete interiors for railway passenger coaches thereby improving the aesthetics and ergonomics towards improved passenger comfort. All the sharp edges and corners would be avoided for preventing any cause of injury in case of an accident. The project would focus on design & development of composite interiors for an AC-III tier coach for retro-fitment. Two to three design approaches were worked on for an AC-III tier coach by Industrial Design Centre of IIT and the final design was frozen by Indian Railways. A scaled down version of coach interiors is being developed by IIT Bombay.

Development of Composite House Boat for Tourism

The project was launched in partnership with *M/s. Samudra Shipyard Pvt. Ltd., Aroor*. The project aims at design & development of composite houseboat for tourism in the backwaters of Kerala. The project scope covers development of boat hull, composite deck and the superstructure. The superstructure comprises 2 bed-rooms & common areas such as dining, living space, kitchen, passage, toilets etc. The *Dept. of Ocean Engineering* of *IIT-Madras* is engaged in hydrodynamic design of boat hull and testing of boat stability. Industrial Design Centre/ IIT-Bombay has been working on design of superstructure especially for shape, form, contour and colour scheme of the modular superstructure. NGN Composites-Chennai has carried out mechanical design of hull and the deck. Structural design of superstructure as well as technical assistance for fabrication of composite hull by vacuum infusion method are also being extended by NGN Composites. It is proposed to use composite moulded gratings for the deck overlaid by composite bamboo flooring tiles. Fabrication of hull and the design of superstructure are expected to be completed by Jun 2005.

Composite Applications Laboratory

The project on setting up the *Composite Applications Laboratory* (CAL) has been launched under the *Dept. of Chemical Engineering/IIT Kharagpur*. CAL has been conceptualized as an industry focused and industry oriented centre of excellence. CAL would extend technology support in composite product design & fabrication along with process optimization, QA & QC requirements

etc. Another important aspect of CAL activities would be developing appropriate human resources by taking up advanced research, offering courses in composites to B.Tech & M.Tech students and very importantly conducting modular training programmes in composite product design & fabrication for the Indian composite industry. Mechanical equipment for composite fabrication. viz. SMC manufacture & compression moulding, resin transfer moulding, filament winding etc. is being installed. The modular training program for the industry would commence in October 2005 and a comprehensive course on composite technology would commence in early 2006.

Development of Natural Fibre based Composite Door Shutters & Panels

The project launched in partnership with M/s. Artglas Industries, Jaipur with technology support from CBRI-Roorkee, aims at development of natural fibre reinforced polymer composite based door shutters & panels as wood substitutes for housing sector on a commercial scale. The products would consist of hybrid resin based cellular foam as the core material and natural fibre mats made of jute/sisal as face veneers. The high-density core foam creates an elastic plastic network in the rigid polyester with properties similar to wood so that the material can be screwed and nailed without any need of wooden inserts and edge lipping/framing. Detailed testing for physico-mechanical properties, thermal, termite, fire, mycological and weathering on the prototype doors/panels was carried out by the technology partner, CBRI-Roorkee as per IS standards. Specification for raw materials was finalized and the sources were also identified under the project. The procurement of plant & machinery and testing equipment is currently underway.

TIFAC Initiatives for Rehabilitation of Tsunami Victims

The Advanced Composites Programme has undertaken initiatives in rehabilitation of tsunami victims for distributing 55 nos. composite catamaran type motorized fishing boats and constructing 50 nos. community sheds (24 ft. long X 20 ft. wide X 12 ft. high) made of natural fibre composites. TIFAC CORE at *Shanmugha Arts, Science, Technology & Research Academy (SASTRA), Thanjavur* has been entrusted with the construction of community sheds. Project sites at the worst affected villages viz. *Nambiar Nagar, Akkaraipet, Tharangampadi, Chandrapadi, Chinnangudi, Palayar* and *Vanagiri* in & around Nagapattinam have been identified for the project. The sheds can be used as *classrooms, vocational training centres, anganwadis, libraries, dispensaries, storage of supplies, govt. offices* etc.

Community shed Constructed under TIFAC Rehab project for tsunami victims at Nambiar Nagar.

The *composite catamaran fishing boat* would measure 28.5 ft. long, 69" wide and 28" deep. The first set of 5 community sheds and 15 fishing boats were handed over to the beneficiaries on March 06, 2005 by the Hon'ble Minister of State (S&T) at Nambiar Nagar, Nagapattinam dist. Further, 9 more sheds have been completed at *Akkaraipet, Tharangampadi*– these have been handed over to the local panchayat on March 25, 2005. 10 more composite catamaran fishing boats have also been distributed to the fishermen at *Akkaraipet & Tharangampadi*. It is expected that the entire project on construction of 50 sheds and distribution of 55 fishing boats would be completed by June 2005.

Composite motorized fishing boats distributed to fishermen affected by tsunami.

TIFAC - FRP Institute Industry Interaction Meets

As a part of the outreach programme of the Advanced Composites Programme, *Industry Interaction Meets* were organized in smaller towns/ cities of the country in collaboration with *FRP Institute*, Chennai. The meets were aimed at improving the awareness among moulders on various composite applications as well as to generate new project proposals/ideas. Five such meets were convened during May 2004 to December 2004 at *Kochi, Belgaum, Nagpur, Vadodara & Pune*. The interaction meets involved the local FRP industry showcasing the achievements of the Advanced Composites Programme. Apart from the Advanced Composites Programme, the meets had presentations by the noted consultants offering technology/problem-solving support to the industry. Innovative project proposals such as *composite houseboat for tourism, composite components for passenger buses, high-speed composite boats, GRE pipes, fittings & pressure vessels etc.* have been generated out of such industry meets.

8 National Mission on Bamboo Applications (NMBA)

8.1 Composites & Wood Substitutes

Flooring tiles

Bamboo Composite Roofing

1. Technology development carried out at RV-TIFAC CDC Bangalore for bamboo mat based sandwich composite materials & products, including glass fibre-bamboo composite material. Products include roofing (with ridge protectors), panels and cladding.
2. Sliver based model developed for strip board/ flooring – and being implemented in Assam.
3. 60,000m^2 pa plant at Guwahati (KOSONs) established, to manufacture composites/ flooring boards. The unit has entered trial production in April 2005.
4. Bamboo plywood (mat/ flattened strip core) prepared at APIL Namsai (Arunachal Pradesh)
5. Pilot production and training facility for bamboo composite material established at RV-TIFAC CDC
6. Product promotion scheme initiated under which users have been supported by providing grant for procurement of composite material. Product range displayed, along with technical specifications at workshops/ seminars/ exhibitions.
7. Market assessment studies on bamboo flooring & on bamboo furniture components carried out; subsequently published & disseminated.

8.2 Construction & Structural Applications

8. Pre-fabricated structures developed by a) RV-TIFAC CDC, and b) Arunachal Plywoods (APIL). 3 RV-TIFAC structures delivered to Army for multi-locational trials in March 2005. Structure at Dinjan inspected by NMBA in April 2005. APIL structures erected/ demonstrated at Pragati Maidan (April 2005). Requests received from different sources for demonstration of pre-fab structures.
9. Clustered 44 house rehabilitation project using culms, BMB, BMCS at Wardha. Specialist advice provided by the Mission in selection/ treatment, designing structurally sound housing, and the use of BMCS. Repeated prototypes built, till a model that met criteria of good design & engineering principles finalised. Structures designed to be earthquake resistant, comfortable & durable; culms treated with simple preservation techniques. Structures uses lattice of built up columns, beams, trusses and purlins, made with locally available *Dendrocalamus strictus*. Bamboo columns were grouted in cement concrete, to avoid direct contact with the ground. BMB used for doors & windows. Bamboo bahareque walls were used, embedding a layer of bamboo splits and chicken mesh in cement mortar. BMCS used for roofing, additional thermal insulation.

Bamboo Composite Structure at 2 Mountain divisin Army

Bamboo Composite Flooring

Steel joints provided structural stability & strength.

10. 6 innovative structures completed at/ near Guwahati based on use of using whole bamboo namely *Bambusa balcooa*

11. 2 workshops (August 2004 at Gurgaon, and March 2005 at Kohima) held on high end structures, with technical inputs from Simon Velez of Colombia. Core group of trained workers formed by Government of Nagaland (almost 90 trained workers)

12. Design, other pre-elements of structures at Garden of Five Senses (DTTDC), New Delhi completed. For supervision, documentation, testing IIT Roorkee approached. Demonstration structure to be built first, likely to commence in June 2005. Subsequently pavilion and bridge structures will be erected.

13. Building manual (TRADA-IPIRTI) published. Second manual, based on construction systems developed in Wardha under preparation. Third manual, based on constructional systems developed in North East under preparation

14. Inclusion of Chapter on 'Building with Bamboo' in National Building Code, with BIS

15. Awareness creation and training exercise held at IIT Roorkee on building with bamboo – March 2005

16. BIS recommended procedures reviewed with the assistance of sectoral specialists. Recommended preservation/ treatment processes brought together in the form of a training manual, presently under review/ finalisation.

17. Treatment procedures for structural applications developed, utlised at Wardha and Guwahati.

18. Prototyping/ demonstration activities being carried out; user agencies involved. Indian Army carrying out user trials (no cost/ no commitment) basis for prefab structures.

19. Demonstrative activity for clustered rural housing structures (Government of Tripura/ HUDCO Building Centre), with mat-fibre glass roofing on Indira Awas Yojana pattern.

20. Packages of practices developed for biotic shelter belts, including a) Wind breaks, b) Embankment & landslip protection c) Camouflage (canopy cover & vertical screening) for Army, d) buffer zones & e) perimeter fencing based on thorny bamboo (*Bambusa bambos*).

21. Discussions underway with Indian Army for different applications.

22. Planar and space trusses – developed with Bambutec, and displayed in March 2004; subsequent dissemination/commercialisation has been slow. Arched engineering models for wide span structures/low cost housing being worked on by Haritha Trust, Khammam (Andhra Pradesh).

23. Efforts now been made to develop agencies to take on prototype manufacture of prefabricated of latticed structures consisting of columns beams, trusses.

8.3 Food & Agro-Processing

24. Draft standards for processed bamboo shoot prepared and furnished to BIS

25. Community level processing technology, producing up to 100 Kg of processed shoot on a daily basis, standardised, training manual prepared and disseminated.

26. Two entrepreneurial units being established – one at Dimapur with a processing capacity of 900 TPA and other at Jorhat, with a processing capacity of 200 TPA- the production in both to start from this shoot season.

Community level shoot process technology

27. 13 demonstrations carried out in 2003-2004 drawing an overwhelming response. 6 demonstrations to be carried out in 2005 during shoot season.

28. Training manual on processing of bamboo shoot at community/ tiny enterprise level prepared and disseminated as a low priced publication (also utlised as training material during training workshops/ demonstrations). Second edition of training manual currently being prepared, incorporating additional information and the experience gained in training workshops over the preceding 2 years.

8.4 Industrial products

29. Establishment of 2 x 1 Mw thermal gasifier units each at HPC (Jagi Road & Silchar units) under process. IISc Bangalore prepared DPRs, and provided technical specifications for the systems and equipment. HPC has finalised tenders and issued supply orders for the gasification and support systems to M/s Aruna Electrical Works Private Limited, Tamil Nadu, an IISc approved licensee. IISc requested to a) support the process of induction and operationalisation as well, and b) monitor and document critical & pivotal aspects of project implementation for both units, in particular integration of gasification system with planned thermal utilisation, confirmation of specification, compatibility and testing of briquetting and drying sub-systems, monitoring of schedule of implementation and reporting & documentation, confirmation

2x100 Kwc electrical gasifier at 2 Mountain Division, Army

Bamboo Gasification System(drum charring)

of performance parameters and support for trouble shooting, if required.

30. 2 x 100 KWe electrical gasifiers to be established at mountain locations of Indian Army. The first unit, for a Brigade location in forward area of the NE under fabrication – to be installed by August 2005. Army has raised issue of procurement of raw material, consistent with their internal procurement systems.

31. 100 KWe to be established by Bambootec, Meghalaya based on waste generated at stick making unit.

32. 500 KWe units under discussion for establishment at Chakmaghat, Tripura & Sairang, Mizoram with the Tripura Renewable Energy Development Agency & Mizoram Rural Energy Development Agency (ZEDA).

33. Thermo-chemical characterisation of bamboo done by IIT-Bombay. 100kg capacity drum charring unit with yield of 25-28% developed. System designed to use off gases for heating or as fuel. Suitable for community & tiny scale operations. Unit demonstrated at 5 locations in partnership with NGOs/SHGs. A separate activity carried out with Development Alternatives for establishment of optimised system for charcoal production, briquetting & gasification. Production in beehive kiln, indirect method of heating & direct heating method carried out; the cost of production was lowest in the brick kiln method. Development of a village level enterprise under process

34. Feasibility study for conversion of bamboo to activated carbon was carried out by IIT Bombay. Activation in the presence of carbon dioxide and using zinc chloride as promoter. Activated product obtained had surface area above 1200m--2/gm. Yield of carbonisation and activation 40% and 75% respectively. Of the 3 species used, activated carbon from *Bambusa tulda* found to be the best in terms of surface area & adsorption capacity.

35. Since the experimentation was done at lab scale, problems faced in upscaling to commercial level. A market assessment was carried out for consumption, production, export & import of activated carbon. To generate process data for commercial manufacturing, trial runs carried out with industry partners. Data being generated will be used to design a model activated carbon plant. Identification of entrepreneurs under process.

36. Trial production carried out at wood based activated carbon unit, a part of the charcoaling in brick kilns & the rest by pit method. Yield in brick kiln was 25%. The yield of activation was only 20%. Ash content needs to be lowered. Process parameters, product quality and plant economics were established through it. Two derivative activities have resulted from this – a) development of a village level enterprise for charring & briquetting in collaboration with DA, b) establishment of a commercial scale prototype for carbonisation & activation with Naglaxmi Industries.

37. Demonstration of 2 brick kilns at DA Taragram under process. The activity also includes briquetting of charcoal to improve value addition.

38. Discussions on with State Governments – with Arunachal Pradesh; Government of Nagaland has identified its preference for 25 Kwe and below class.

39. IIT Delhi (Textile Engineering) carrying out project for development & standardisation of technology for bamboo based fibre production, on the non-destructive, non-pulping route, seeking to establish the process and parameters, working with a pilot plant. Birla Research Institute for Applied Sciences (BRIAS), Nagda validating bamboo fibre production through the pulping route at pilot plant at Nagda, to determine a) optimum process conditions for dissolving grade pulp from bamboo chips, b) producing viscose fibres from pulp, c) analysis of the pulp and fibre for different characteristics including fibre moisture absorption capacity and antibacterial properties. SIIR Delhi is exploring the feasibility of utilising of bamboo fibre for non woven applications such as absorbent material for hygiene applications and wound dressings.

40. Development of 2 x 5 Kwe gasifiers for the Indian Army; fabricated and dispatched ex-Bangalore, likely to be installed in June 2005 at forward locations in Eastern sector, at remote/ isolated posts.

41. Mobile gasifiers developed (1 kg/ hour) – one placed with Central University, Tezpur and one with the Indian Army.

42. Training programmes at IISc Bangalore for a) Army personnel (November 2004) & b) entrepreneurs/ Government agencies from North East (March 2005) and at Central University, Tezpur on bamboo based gasifiers, using mobile gasifier, by Central University, Tezpur – November 2004

43. Usage of bamboo/ composite material for bamboo pallets investigated, as substitute for present wooden pallets used by the Tea industry (ICD Amingaon). Prototypes developed, using bamboo plywood from APIL; being re-prototyped, incorporating user modifications, & to make them more price-competitive. International Phyto-sanitary regulations (ISPM-15) introduces stringent treatment for wooden pallets; bamboo is exempt – only PF resin can be used. CIPET Changsari being requested to carry out testing in accordance with ASTM.

44. Development of product applications with bamboo fibre reinforced thermoplasts is being pursued with NFC International Mittweida, Germany and CIPET in a four phase activity covering a) Materials specification, b) Compounding and testing, c) Product selection and injection moulding experiments and d) Definition of recipes and final materials specification, leading to subsequent commercialisation.

8.5 Product Applications - Small Enterprise

45. One unit (Deva Bamboo & Allied Industries) established at Imphal, Manipur, in collaboration with NEDFi. The unit has a production capacity of 1000 kg of bamboo sticks per day. Trial production is underway and commercial production expected to commence June 2005.

Bamboo Furniture & Handicrafts Products

46. Establishment of 3 sliver/ stick making units in process, pre-appraisal carried out at Siliguri (BK Bamboo), Tezpur (Crystal Processors) and Bongaigaon (SP Fabricators).

47. Collaborative project being developed with ILFS for establishment of stick making ventures at Tripura.

48. Mechanised blind making unit being established by Vighnaraj Bamboo Products, Guwahati. NMBA provided technology support/ specialist advice & developed configuration of equipment to enable the unit to produce more blinds, and to improve their quality. The Mission is supporting the induction of equipment for carbonisation and bleaching, and of mechanised looms. The Mission has also trained Vighnaraj workers (IIT Delhi) in the use of commercial natural dyes that would add value & appeal.

49. Development and standardisation of technology for application of natural colorants on bamboo and bamboo products completed by IIT Delhi (Textile Engineering). Suitable dyes from the range of commercially available dyes were short listed. Each dye was tested and checked for reproducibility and for basic parameters like colour fastness and stability, and tested on bamboo intermediates & products. Shade cards with dyed bamboo strips & slivers were prepared. Originally less emphasis was given to coatings & lacquers. But this was later taken up on the request of round bamboo furniture manufacturers. A basic document outlining processes and information about the dyes was prepared and circulated. Document has been modified based on feedback obtained. 2 training workshops have been held.

50. Development & documentation carried out of bamboo based orthotic and prosthetic applications to provide low cost solutions to address individual disabilities (Viklang Kendra, Allahabad). Documentation complete, likely to be prepared and printed for wider dissemination by August 2005.

51. Establishment of mechanised furniture making unit, VEDHA, Nagpur. In first phase, craftspersons trained in the use of machinery, tools and jigs for the manufacture of furniture, with assistance provided by DST. Now in second phase, NMBA has supported the induction of processing machinery and finishing equipment, enabling the establishment of demonstrative and potentially replicable enterprise in the form of a production unit to manufacture bamboo products and furniture on a commercial scale. A range of products has emerged, and are being marketed successfully, in Nagpur and in metro markets.

52. Manufacturer for moulded products identified, discussions underway for establishment of unit at Tripura.

8.6 Processing machinery & technology

53. The Mission has worked with machinery manufacturers in Ludhiana, Dewas & Delhi to develop efficient, sturdy & low-cost and processing machinery, suited to Indian conditions & species, to reduce drudgery, improve productivity and minimise wastage. With inputs from engineering consultants, initial prototypes were developed, and then subjected to testing. Design modifications then carried out, and machinery subjected to further testing. This process was repeated till the needed efficiency levels, measured on power consumption, yield, wastage minimization, cost and quality were achieved. The machines were intended to carry out a wide range of operations, converting bamboo culms to strips, slivers and sticks of varying dimensions. These products would be used in manufacture of boards, by craftspersons, and for consumer products like agarbattis. The machinery manufacturers – NS Tools, Ludhiana, Garnet Tools, Dewas & Sugga Engineering, Delhi ready to supply machines.

54. Initially a series of slicing machines in a line balanced manner planned to produce slivers of 0.6–0.8 mm thickness, for mat making. However, the process of reducing sliver thickness below 1.5mm, even with intermediate slivering/slicing machine did not work. It was accordingly felt that a different machine should be developed. Subsequently a thin slivering machine has since been developed by M/s. Sugga Engineering Works, with technical support from NMBA This machine is now commercially available.

55. Cost economics of coated tools vis-à-vis presently used carbide tipped tools have not been worked by the ARCI. ARCI has been requested to work out and confirm before further trials for selected coatings.

56. Lack of conformity of process parameters with engineering details of the press finalized by the ARCI. Also earlier exposure to ARCI personnel by sending him to the CBRC by the NMBA does not seem to have been absorbed. AMC was of the view that due to lack of technical depth relevant to the activity, it should not be taken forward with ARCI. If required the work may be done through an appropriate consultant and press manufacturer.

57. Efforts on to carry out work on development of hydraulic hot presses with press manufacturers.

58. Development of micro-wave drying with ARCI Hyderabad has not been successful. Micro-wave dried samples showed 30% reduction in strength. Even if process is efficient and effective, its commercial application is unlikely. AMC suggested testing strip board, and to try a combination of micro-wave & conventional air drying to see if strength reduction can be overcome.

59. Prototyping and development of bamboo slat dryer: Single conveyor module of continuous bamboo slate dryer has been designed, developed and tested in Bangalore in February 2005; results have been encouraging. Moisture for test samples, within 24 hours cycle, brought down to 8% from initial moisture of 55%. No problem of warping has been noticed. Testing with bundles of slats also carried out and a few slats in the middle of bundles have moisture content of 14-15%. Subsequent trial by altering the orientation of slats in bundles to simulate 3 stage conveyor and its movement also carried out. A batch of full capacity of 25,000 slats tested on 18th February and dryer has performed satisfactorily. Dryer has been dismantled subsequently and transported / erected at Emmbee Forest Products, Siliguri, to carry out regular operations to establish the operating parameters over an extended period. Satisfactory performance over an extended period would lead to erection of all the three conveyor modules.

60. Secondary processing equipment developed with machinery manufacturers in Ludhiana – undergoing testing and validation.

61. Development of tooling for bamboo based construction – project under development/ consideration with IIT Guwahati – tooling to be developed along with bamboo construction teams in Nagaland.

62. Training manual for primary processing of bamboo; under preparation

8.7 Propagation & cultivation

63. Packages of practices being demonstrated at Farukkhabad, Korba and Sehore using fly ash & mycorrhizal amendments.

64. Plantation of *Dendrocalamus asper* being established at Tripura for edible shoot production. Site preparation activities completed, and initial batch of plant material dispatched.

65. Entrepreneur based cultivation planned, in partnership with the Jharkhand Forest

Development Corporation (JFDC).

Shoot proliferation

66. Erosion control activity being carried out at Majuli island (Brahmaputra river) by planting bamboo and using bamboo based engineering material for erosion control. Project progress slower than anticipated – coordination and plant material problems, efforts on to ensure that civil works completed before onset of monsoon. RFRI Jorhat requested to expedite work.

67. Study on existing windbreaks taken up with RFRI for testing windbreak their efficacy and obtaining information based on computer simulation for windbreak design.

68. High quality TC plant (*Bambusa balcooa, Bambusa nutans*) material being hardened at facility at HPC Nagaon. A total of 3 lakhs plants will be transferred.

69. Multi-locational trials being carried out for standardising package of practices, nutrient requirement, irrigation requirement, organic & inorganic nutrients and intercropping and observing the suitability of species at various locations are being carried out at national level. 8 parameters will be worked on – species trials, micro & macro propagation, nutrient management, organic/ inorganic farming, water management, cropping systems, clump management and spacing. 9 organisations selected for carrying out trials with GB Pant University as the coordinating/ nodal Centre. The institutions are: KFRI Peechi, IWST Bangalore, GBPUAT Pantnagar, RFRI Jorhat, BCKVV West Bengal, IFGTB Coimbatore, IHBT Palampur, AFRI Jodhpur, AAI Allahabad.

70. IHBT Palampur is establishing TC protocols for monopodial *Phyllostachys pubescens,* based on the seed route (delivery by February 2006), covering procurement of 3 Kg seed from China in January 2005 (delayed to March 2005), inducing seed germination, maintenance of seedlings in IHBT nursery, & providing 60,000 seedlings by February 2006 to NMBA.

71. Development and validation of 'flute' technology' for vegetative propagation of select bamboo species carried out. The College of Forestry, Allahabad Agricultural Institute is establishing a bamboo nursery for mass multiplication and conservation of *Bambusa balcooa, Bambusa nutans,* for assemblage and mass multiplication of superior stocks and their conservation. Flute technology will be used to plant 3.0 lakh plants in the first year.

72. Commercial production of TC plants of a) *Bambusa balcooa*, b) *Bambusa nutans*, c) *Dendrocalamus asper* & d) *Dendrocalamus hamiltonii* established at units at Chandigarh and Hosur. 3 lakh TC plants are being readied for dispatch to the North East. Export of 50,000 TC plants of *Bambusa balcooa* carried out from Growmore Biotech, Hosur in November 2004.

73. Training of personnel from States in vegetative propagation by flute technology carried out at Allahabad in first week of April 2005 by AAI, b) at Garh Mukteshwar on vegetative propagation of Dendrocalamus asper in last week of April 2005.

74. Assessment team formed for identification and assessment of TC units for plant material requirements of next planting season.

8.8 Support & linkages

75. Site work, coordinated by TERI commenced at Hyderabad (Government of Andhra

Pradesh), Pantnagar (GB Pant University) and Guwahati (Government of Assam), for establishing bambusetums for identification and conservation of elite plant material.

76. Discussions underway with DBT and TERI; DBT has committed support for the project.

77. Assessment & quantification of the bamboo resources of the North East based on remote sensing taken up with the Survey of India. Little progress achieved.

78. BMCS standard approved by BIS and adopted. BMCS specifications issued vide IS 15476-2004, IS code for bamboo flooring awaited. Based on trial production (at commercial unit) of bamboo based activated carbon, & work carried out at IIT Bombay, & testing of activated carbon (tested to be Type III –pharmaceutical grade), BIS requested for inclusion of bamboo also as raw material for activated carbon. Draft Indian Standard for testing bamboo in round and split form, prepared (KFRI), and submitted to BIS.

79. Documentation of plantation practices and experience with Dendrocalamus asper being carried out. Vermi-composting commercial model developed, based on leaf litter on managed plantations.

80. Survey & assessment of availability of plant material, tissue culture facilities and commercial and commercialisable protocols being carried out.

81. Production – consumption study for select area in Maharashtra taken up.

82. The Mission has taken up issues relating to the access and regulatory regime, with GOI Departments/ & States. Under the Indian Forest Act, 1927, Section 2(7): "tree" includes bamboo, etc & therefore attracts provisions of Act for regulation of transit. Bamboo, because of its management & annual extraction system should be treated as an agricultural/ horticultural crop. Many States have exempted species (poplar, eucalyptus & neem) from Section 41/ 42 i.e. from need to obtain transit passes. Since bamboo difficult to distinguish, once harvested & stored, in practice provisions of the Forest Act, intended to apply only to notified forest areas, are extended to homestead & private plantations. Planning Commission took up the legal provisions for harvesting and transportation, especially non-forest bamboo in 2003. Ministry of Agriculture (2003) proposed that bamboo be declared as a horticultural and plantation crop, without restrictions on its cultivation, extraction, transportation & bonafide commercial and household applications, if grown outside forest areas. This has not yet been acceded to by MOEF.

Vermicom-posting between Bamboo plantation

9 Umbrella Scheme on Technology Vision 2020 Projects in Mission Mode (TV2020)

Follow up of Umbrella Scheme on Technology Vision 2020 Projects in Mission Mode in six identified sectors namely: I) Agriculture & Food Processing, II) Road Construction and Transportation Equipment, III) Up gradation of Textile Machinery/Industry, IV) Health Care Services and Herbal/Natural Products, V) Up-gradation of Science, Engineering, technical and professional Institutions Relevant to Industries, and VI) Targeted Programs in Other Important Areas, have been the main thrust during this year.

9.1 AGRICULTURE & AGRO-FOOD PROCESSING

a) Agriculture & Fisheries

9.1.1 Agriculture Projects

The objective of this sector is to increase productivity in low productivity regions and select field demonstration including ancillary activities related to rural areas and society. The main emphasis is on demonstration of an established and tested technology in actual field conditions. This comprises various facets, namely, Increasing productivity not only in larger areas alone but in smallholdings as well, and secondly to increase the traditional base of approach by local farmers in food & agriculture sector. Maintenance of water resources would be an important aspect of this exercise. Increased production is to be backed by proper measures to prevent pre & post harvesting losses, reduction in primary & secondary processing wastages, better utilization of by-products etc. Further, it can be supplemented by value addition for higher returns, keeping this in view following four priority / thrust areas have been identified:

- Crop Production and Diversification for Sustainable agriculture
- Water, Nutrients and Farm Energy Management for Resources Conservation and Input Use Efficiency
- Fish Farming and Fish Technology including value added products.
- Post-harvest handling, Primary Processing and Value Addition to Agriculture Produce

Ongoing projects:

Demonstration of systems approach in agriculture in low productive areas of Sone Command distributaries, Patna

Location: Sone Command Distributaries of Patna District, Bihar

Systems approach towards increasing productivity of paddy, wheat and other crops is being demonstrated in low productive areas of Sone Command distributaries of Patna district. The project implementation started in 1999 with 2.4 ha demonstration of paddy crop cultivation. The technology now is being adopted in about 2000 ha in Kharif 2003 and in about 2200 ha in Rabi 2003 season. The 'System of Rice Intensification' (SRI) method of cultivation for Rice crop introduced in the project area, resulted in yields up to 7-8 t/ha. Extensive farmers training programmes were organised before each cropping season on cultivation technology of paddy, wheat and pulse

Farmers in the paddy field at Paliganj, Patna

Wheat crop at village. Garer, Deoria

crops. In addition, institutional training for project staff and selected farmers were also organised at different reputed institutes of the country.

Other activities

The Agro Service Centre created in this project arranged good quality fertilizers for the farmers. In addition, the agro service centre also provided crop protection services apart from providing agro machines and implements on rent. As a result of all these initiatives the trend since 1999 of increasing productivity of both paddy and wheat continued this year also in the area.

Demonstration of systems approach in selected low productivity regions of Deoria district in Uttar Pradesh

Location: Deoria district (Blocks : Deoria, Baitalpur, Bhaluani, Bhatpurrani and Bankata)

The Bihar project model is also being replicated in Deoria district since 2000. The systems approach has spread to more than 1700 ha in Rabi 2003 season covering about 300 villages. Extensive village level training camps were organized on paddy, Wheat and Pluse cultivation technology, which were attended by about 1000 villagers from around 80 villages. Improved variety of paddy seeds (variety: Pusa 44, Sugandh-2,3,4, BPT 5204, MTU 7029) wheat seeds (HD 2733, HD 2643) and short duration legume seed were arranged for farmers. Zero tillage machines are being preferred by farmers for line sowing of wheat and about 100 acres of wheat fields were sown by zero tillage machines, this year.

Demonstration of systems approach in selected low productivity regions of Ballia district in Uttar Pradesh

Location: Ballia District, U.P.

Seeing the success of Deoria project, similar model is being implemented at Ballia. This project was started implementing in Kharif 2002 season. During kharif 2004 season around 40.00 quintals paddy seed (MTU 7029 & BPT 5204) and 0.50-

Kisan Mela at Ballia Project site

quintal hybrid maize seed were arranged for farmers. Four training camps on paddy cultivation and two training camps on maize cultivation were organized at different villages of project area. The productivity of paddy were in general very low due to severe drought conditions prevailed in the region. However, the productivity at farmers demonstration field recorded as around 3.00 tonnes/ha as compared to around 2.00 tonnes/ ha, in normal field. Training camps on cultivation techniques of wheat and pulses were also organized. A *Kisan Mela* was organized in Nov. 2004, around 3000 farmers participated in this *Mela*.

Agriculture development project at Pinder valley, Uttaranchal

Location: Pinder Valley, (Chamoli and Bhageswar Districts), Uttaranchal

The project was started in February 2001 with a benchmark survey. Under this project around 250 polyhouses (around 70 polyhouses constructed during 2004) have been erected in different villages of Pinder valley. District wise so far 180 polyhouses erected in Chamoli and 70 in Bhageshwar district. Ten poly tunnels were also erected in various villages of project area. Details of polyhouse construction are given as follows:

Farmers are being given extensive training on various aspects of cultivating vegetables under polyhouse conditions. Farmers are extensively utilizing these polyhouses for cultivation and seed production of vegetables. Irrigation facilities created at village Ghesh (High altitute) is catering to the irrigation requirement of about 14 families (112 persons). As part of documentation of selected local medicinal plants available in the region, so far information regarding 160 (75 during 2004) medicinal plants have been documented. Economic benefits emanating to the farmers varies with altitude, in low altitude polyhouses (900 – 1300 m) farmers benefit per polyhouse is approximately around Rs.5000/- per year whereas for medium altitude (1300 – 1800 m) it is Rs.5600/- per year and for high altitude (>1800 m) it is around Rs.7050/- (excluding income from medicinal and herbal plants).

Training to rural women on cultivation of vegetables under polyhouse conditions

Name of the District	Name of the Block	No. of Polyhouses constructed
Chamoli	Narayan Bagar	43
	Tharali	40
	Dewal	58
	Dasoli	7
	Joshimath	5
	Karanprayag / Gairsain	27
Bageshwar	Kapkot	67
	Garud	3
	Total	250

Table 9.1

Polyhouses at Pinder Valley

Technology Demonstration for Higher Income Generation for Farmers of Sikkim

The project started in January 2003 in a collaboration of three institutes viz. G B Pant Institute of Himalayan Environment and Development, Sikkim Unit, IARI, Kalimpong Center and Advanced Center for Plant Virology, IARI, New Delhi. This project is being implemented at 3 locations in coordination with above-mentioned institutes

G B Pant Institute of Himalayan Environment and Development:

Location: Village Tarku and Chamgaon (South Sikkim) and Central Pandam (East Sikkim)

The project was started with an objective to demonstrate technology for vegetable cultivation, production of disease free ginger, large cardamom and citrus. Towards this, 15 poly tunnels have neem constructed in three villages viz., Tarku, Central Pandam and Chamgaon of Sikkim. Two training camps were organized in Central Pandam and Chamgaon to demonstrate the seed treatment of ginger through organic route. As a result of these trainings, ginger productivity increased in the demonstration plot. Three training camps were organized in three villages on vegetable cultivation and their seed production. Initiatives were taken for plantation of disease free large cardamom plants. Around 2300 disease resistant large cardamom suckers as well as seedlings obtained from IARI, Kalimpong Centre were distributed amongst the farmers in the project area.

Poly tunnel for vegetable cultivation at village. Tarku, Sikkim

Production of Disease-Free Planting Materials of Large Cardamom and Citrus at IARI, Kalimpong Centre

The activities in this center started in March 2003 with an objective to multiply disease free planting material of large cardamom and citrus plants. Seedlings of large cardamom cultivar Bharlangey (SBLC-47) were raised in the primary nursery. About

Large Cardamom secondary nursery at IARI, Kalimpong Center

5000 disease free large cardamom suckers and seedlings were produced for distributing to the farmers of Sikkim project area. Regarding production of disease free citrus plant material, seedlings of mandarin orange and other citrus plants were grown from seeds *in-vitro*. Different citrus species *viz*. Rangpur lime, Rough lemon and Sour orange were also grown from seeds *in-vitro* for root stocks, for grafting upon with scions from healthy mother plants of Darjeeling orange.

Molecular diagnostics of viruses of large cardamom at *Advanced Centre for Plant Virology (ACPV), IARI, New Delhi*

The activity in this centre started in September, 2003 with an objective to develop molecular diagnostics for viruses affecting large cardamom. At this centre *Chirke* virus particles (causing Chirke disease of large cardamom) were identified and has been purified to produce specific antibody for development of diagnostics. In case of *Foorkey* disease, viral DNA from *Foorkey* affected plant samples was isolated and sequenced. Preparation of diagnostic kit for pre emergence detection of *Foorkey* virus is in progress.

Demonstration of Systems Approach in Agriculture & Cattle Development in Walajabad Panchayat Union, Kancheepuram District

Location: Walajabad Panchayat Union of Kancheepuram District, Tamil Nadu

The basic objectives of the project is to improve the productivity levels of agricultural crops in Kancheepuram area along with improvement of live stock and provide knowledge based farm related services to the farmers for overall agriculture development. During the year, around 100 soil and water sample analysis were carried out and based on this recommendations were given to farmers to adopt farm practices according to the soil and water conditions. About 100 crop

Artificial Insemination activity at project site

demonstration activities were taken up to increase the productivity of the region. Around 950 Artificial Insemination were performed to cattle in the project area to produce improved breed of cattle, in this context around 9 cattle health and fertility camps were organized in the project area to create awareness. So far, more than more than 300 calves have borne due to AI services. Farmers' trainings: like mushroom cultivation, vermicomposting, formation of Self-help groups, goat rearing, fodder production, bee keeping etc were also organized.

New Projects:

In addition to continue the ongoing projects, new projects will be undertaken as per the recommendations of Apex Committee.

9.1.2 Fisheries Projects

The projects in Fisheries sector focused on production of high quality value added products from low value aquatic resources and thereby adding value to aquatic products, utilizing resources optimally and empowering the women population of the economically weaker sections of the society.

Progress

Apart from the completed project "Production possibilities of fish products from low cost fish in

the coastal village conditions" implemented by Matsyagandha Mahila Gruh Udyog Ani Utpadak Sahakari Sansthan Ltd., Thane, Maharashtra; the progress of the ongoing projects are as under:

Technology transfer to fisherwomen of some value added products from low cost sea fish

This project is under implementation by Shaluk Fisherwomen's Cooperative Society Ltd., Captain Bhery, Kolkata in technical collaboration of Department of Fisheries, Govt. of West Bengal. Production of value added products such as fish/ prawn pickle, fish papad, fish jhuri bhujia, fish noodles and fish sandwich are underway. The project is in progress.

Production possibilities of value added fishery products from low cost fish/ shellfish by the fisherwomen of West Bengal

This project is under implementation by Tapuriaghata Nari Unayan Kendra, Tiljila, Kolkata in technical collaboration with Kolkata Centre of Central Institute of Fisheries Education. Production of value added products such as fish/ prawn pickle, fish papad, fish jhuri bhujia, fish noodles and fish chakli are underway. The project is in progress.

Followed by exploratory visits, few projects in the area of value added product development and other areas are under consideration.

b) Agro Food Processing

The overall objective of this sector is to demonstrate technology interventions/ developments to improve productivity, quality, value addition including extending shelf life of perishable products, post harvest processing and waste utilization; adoption of new technologies in the areas of Milk, Cereals, Fruits & Vegetables and several other primary sector products.

9.1.3 Milk & Milk Product Processing Sector

Completed Projects

A documentary film titled "Uday – The Dawn", based on the success stories and initiatives of TIFAC in Milk Sector, has been successfully produced and is ready for dissemination.

Ongoing Projects

In addition to three earlier completed projects in the states of Punjab, Karnataka, and Andhra Pradesh; one project on " Clean Milk Production" is under implementation at 24 Parganas (North) and Murshidabad Districts of West Bengal with West Bengal Co-operative Milk Producers' Federation, Kolkata. The project is under progress.

The project on "Improving Genetic Quality and Productivity of Livestock" is being implemented by Bharat Agro Industries Foundation (BAIF), Pune. Under this project so far around 64 calves were born (20 at field and 44 at station) through embryo transfer (ET) technology and 14 animals are pregnant (1 in field and 13 at station). The first calf borne through ET, a male Jersey breed (F- 509 named as *Jayan*) has come to semen production and has so far produced around 13089 semen doses of which 8510 doses have been used for Artificial Insemination in the field area. The project is progressing well.

More projects are under consideration

9.1.4 Fruits & Vegetables Sector

The Fruits & Vegetables sector emphasizes on post harvest management and value addition of horticultural produce through improved storage/ shelf life, packaging, by product & waste utilization to minimize post harvest losses and enhance requirement of quality produce at competitive costs.

Under this sector, few projects based on storage and processing technologies of horticultural crops /produce are under consideration.

9.1.5 Spice Irradiation And Bakery Products Processing Sector

This sector aims at extending shelf life and quality of spices and baked goods by way of modern processing and packaging technologies.

TIFAC launched two projects titled "1.5 Tons per day Spice Manufacturing Plant with Hygienization of Spices by Irradiation Processing" and "100 Kg per hour Nutritious Bakery Products including Ragi Bread by Modern Baking Technology" with M/s. Annapurna Mahila Mandal (AMM), Shindewadi, Shirwal, Satara District, Maharashtra. Despite signing of Technology Development Assistance Agreement (TDAA) for both the projects, in view of the non compliance of terms & conditions as per TDAA by M/s. AMM, the Project Review & Monitoring Committee (PRMC) recommended their closure as non-starters, with no further follow ups.

9.2 ROAD CONSTRUCTION & TRANSPORTATION EQUIPMENT

In the sector of Road Construction & Transportation Equipment, the aim is to strengthen the manufacturing capabilities of Engineering Industry and to upgrade, standardize and commercialize crucial and important Road Construction Machinery and Road Transport Vehicles.

The innovation project could target higher productivity, better quality, energy saving, increased safety, reduced pollution, economic viability and future relevance. Individual companies could approach TIFAC for risk sharing in their innovative technology project, carried out inhouse or in association with R&D labs, under this scheme.

TIFAC also promotes consortium research in which half a dozen or more agencies (companies & labs) could join together to work on pre-competitive technologies. This is being supported under the C.A.R. initiative. There are three clear priority areas for collaborative technology development programme: *Advanced Materials*, *Alternate Propulsion*, & *Automotive Infotronics*

The Principal Scientific Adviser to Govt. of India (PSA) had set up the *"Core-group on Automotive Research"* (C.A.R.) in April 2003, with membership drawn from among the Automobile OEMs, Component Manufacturers, senior academics and representative of government departments and industry associations (SIAM, ACMA). Then in March 2004, an inter-departmental Programme Advisory Committee (CAR-PAC) was set up to consider and approve specific the pre-competitive consortia projects. TIFAC is the secretariat & implementing agency for CAR project.

Significant Achievements from Projects completed earlier

Total six individual innovation projects were completed. These have been deployed for the first time in the country.

Details of the technology are as follows:

Multipurpose Loader is a skid steer type multipurpose front-end loader with hydrostatic transmission, high maneuverability and short turning radius. It can be used for material handling in hot mix plants, paper industries, log handling, biomass power plants, municipal corporations, sugarcane handling in cane centers etc. (M/s Escorts Construction Equipment Ltd, Faridabad)

Self Propelled Articulated Crane with four part multisection boom, high reach and boom height of 17.6m and travel speed upto 47Kmph. (M/s Escorts Construction Equipment Ltd, Faridabad)

Disaster Management Equipment consists of an excavator with various attachments like Combi-cutter having Shearer and Crusher, Breaker and Grappler. This can help enable rehabilitation

activities to be taken up at faster rate after an earthquake. During normal periods, the standard equipment cold be used for infrastructure development activities. (M/s Bharat Earth Movers Ltd, Bangalore)

Radio Control System is an un-manned dozer remotely operated from a distance with the help of a transceiver set. This machine can be deployed for clearing debris in quake-hot areas. It can also be used in border roads at high altitude zones having risk of landslides and handling of hazardous material in nuclear power stations. (M/s Bharat Earth Movers Ltd, Bangalore)

Indirect Bitumen Heating Equipment comprises bitumen indirect heating tank (sizes 20Ton, 30Ton, 40Ton & 50Ton) and thermic oil heater necessary for the indirect heating (in sizes 5 lac Kcal and 4 lac Kcal capacities). It controls bitumen temperature to low tolerance with the help of an independent automatic control panel. (M/s Apollo Construction Equipments Pvt. Ltd, Ahmedabad)

Kerb Laying Machine using slip form paving technique is used for continuous casting of kerb and kerb with channel in the central median and/or along the footpaths or separators in conformity with the lines, levels and dimensions. A quick fit mould system makes mould changes less time consuming. (M/s Apollo Construction Equipments Pvt Ltd, Ahmedabad)

Completed Projects

Paver Finishers: Developed two prototypes for each model of 7 meter and 9 meter with hydrostatic drive, hydraulically extendable screed, automatic sensor controls for grade & slope with minimum import content containing mainly hydraulics and controls. . (M/s Gujarat Apollo Equipments Ltd, Ahmedabad)

Road Milling Machine: with milling width of 1000 mm and milling depth of 1-100 mm. (M/s Gujarat Apollo Equipments Ltd, Ahmedabad)

9.3 UPGRADATION OF TEXTILE MACHINERY

This sector aims to increase and strengthen the manufacturing capabilities of engineering industry in the area of textile machinery and to upgrade, develop and commercialize selected textile processes & components, equipment and machinery.

Under this activity, TIFAC launched 15 projects with active participation by the industry. Out of 15 projects 12 projects have been completed successfully earlier. Highlights of the activities are as follows:

Completed Project

Dye Exhaust Rate Controller: This project has been complete successfully in April 2004 with M./s. Semitronik Instruments, Ahmeadbad. It is an online-measurement and controller for dosing the chemicals in jiggers and jet dyers. This is system is helpful in optimizing dyeing cycle, which can save the chemicals, energy and time considerably.

Ongoing Projects

"Design, Development and Manufacture of Continuous Bleaching Range" with M/s. Harish Enterpises Ltd, Mumbai and "Design and Development of Shuttlelees Weaving Machines and Ancillaries" with M/s. Industrial Engineering works, Bangalore are being implemented currently and both will be expected to completed during 2005.

Design and Development of Pilling Tester using Digital Image Processing (DIP) Technology: As the pilling grading results of both Random Pilling Tester and ICI 2 Box Pilling tester have not been validated by the company with other testing agency, project has been recommended for foreclosure by Project Review and Monitoring Committee.

9.4 HEALTH CARE SERVICES & HERBAL/NATURAL PRODUCTS

The aim of this sector is to establish a good services and maintenance system in health care sector along with expanding utilization of vast bio-diverse natural agro-climatic conditions of various natural plant species. Development, demonstration and commercialization of technologies, products and processes of selected herbal and natural products

Objectives:

- To develop and establish a good services & maintenance system in health care sector.
- To expand the utilization of vast natural resources of herbal and natural products & to develop, demonstrate and commercialize the few selected technologies, products and processes.

Ongoing Projects:

Mobile Hospital and Research Centre in Uttaranchal (Kumaon)

The aim of this project has been to bring advancements in modern medical sciences at the doorstep of the common man, who otherwise remain neglected of its benefits. Implementing Agency: Birla Institute of Scientific Research, Bhimtal and is a joint project of TIFAC and Govt.

Mobile Hospital Van

Patients waiting at Mobile Hospital Van for treatment

of Uttaranchal, each sharing the recurring cost equally.

Duration: 5 Years (October 2002 to September 2007)

Project site: Champawat, Nainital, Almora, Bageshwar, Pithoragarh, Chamoloi districts of Uttaranchal.

Progress: The clinic is in operation since 20th October 2002 and the total patients attended by the clinic during the period April 2004 to March 2005 were 17615 including the revisits. The total numbers of patients starting from 20th October 2002 till March 2005 were 42801 in 442 camps. The average Below Poverty Line (BPL) patients treated amongst these were about 48%.

It is interesting to note that BPL comprises nearly 40% of the patients and for Ultrasound investigation they have even surpassed the 50% mark thus proving to be a boon to the people of Uttaranchal specially people belonging to BPL category.

New Projects Initiated:

Mobile Hospital and Research Centre in Uttaranchal (Garhwal)

Looking at the overwhelming response received by the Mobile Clinic and Research Centre at Kumaon, Uttaranchal Government has requested

for another similar hospital at garhwal. This is being pursued as joint project of TIFAC and Government of Uttaranchal.

The Himalayan Institute Hospital Trust (HIHT), Dehradun has been identified as the implementing agency for the above-mentioned project and an agreement is soon to be signed. The important point to be noticed is that in this case of Garhwal MHRC, TIFAC shall bear only the fixed cost and total operating cost shall be borne by HIHT, Dehradun.

Important activities undertaken in the Health sector:

The scheme for Technology Development Assistance (TDA) so as to undertake projects in the area of Herbals & Natural Products was advertised in 20 newspapers (13th May 2004 to 16th may) 2004 covering 21 states. Around 30 proposals have been received in response to an advertisement.

TIFAC has launched a project entitled "Manufacturing of Microencapsulated Omega 3 Powder" with M/s. Arjuna Natural Extracts Ltd., Coimbatore. The product obtained from fish oil has applications in pharmaceutical and food processing industry and can be a substitute for imported fish oil for omega 3 capsules and thus, aims at capturing export as well as domestic market.

9.5 MISSION REACH

Mission REACH aims to turn out human resources of international standards imparting high quality education in chosen areas of high relevance to industry and society and also to create sustainable linkages between academia & industry. Mission REACH also aims to upgrade selected Engineering, Science & Technical institutes relevant to industry as centers of excellence and to broaden the level of education and also in order to meet the scientific and technological manpower demand in the advanced emerging areas.

Objectives

The objectives of this task would be to – turn out human resource of international standards imparting high quality education in chosen areas of high relevance to industry and society and also to create sustainable linkages between academia & industry: and to upgrade selected Engineering, Science and technical institutes relevant to industry as centers of excellence and to broaden the level of education and also in order to meet the scientific and technological manpower demand in the advanced emerging areas.

Already 21 TIFAC-COREs in as many disciplines are functional and several more are expected to join the family in the months ahead. All these Centers are mandated to function in a tightly networked manner under the brand of TIFAC-CORE similar to the IITs. Most of them are located in smaller places of the country with a view to spread quality higher education far and wide across the country. For the first time these front-line entities are made to address vocational training requirements of the industries, a service that has not been forthcoming from them hitherto.

Progress during this Year

Like last year, a three-day Meet of TIFAC-COREs was organized at Surat during Oct 7-9, 2004. This year the Meet was jointly organized by TIFAC-CORE at Sarvajanik College of Engineering & Technology, Surat and their industrial partner Enviro Control Associates (I) Pvt Ltd. The Co-ordinators of all the 21 (18 existing and 3 new) TIFAC-COREs, the Heads of the Institutions (in which these Centers are located), experts associated with their Monitoring Committee, industrial partners, new prospective colleges and prospective industries and eminent persons from Government, Academia and Industries participated in this Meet. Dr. R. Chidambaram, Chairman, TIFAC and the Principal Scientific Advisor to the Government of India, inaugurated the Meet. Shri H.S. Kohli, Executive Director, Reliance, Hazira & Mr. G. S. Aloria, Commissioner, Surat Municipal Corporation, Surat addressed the

gathering. Prof. V. S. Ramamurthy, Secretary, Department of Science and Technology (DST) & Chairman, TIFAC-CUSEC (Committee on Upgradation of Science and Engineering Colleges) presided over the valedictory function.

During the Meet, three more institutions namely Vellore Institute of Technology (Vellore), Kumaraguru college of Technology (Coimbatore) and Amrita Vishwavidya Peetham (Kochi) signed Agreement with TIFAC to establish TIFAC-COREs in 'Automotive Electronics', 'Textile Technology & Machinery' and 'Biomedical Technology' respectively.

Prior to this, TIFAC also signed Agreement with Delhi College of Engineering, Delhi & Manipal Academy of Higher Education, Manipal on July 6, 2004 to establish TIFAC-CORE in 'Fibre Optics and Optical Communication' and 'Pharmacogenomics'.

Significant Acheivements

Mentioned below are some significant achievements by each TIFAC-COREs during last one year:

Closure orders from government revoked after TIFAC-CORE intervention in safety mechanism in case of two fireworks industries; about 27 in-plant training programmes conducted benefiting over 2000 workers during the year. [Mepco Schlenk College Sivakasi, Tamil Nadu, (Industrial Safety)]

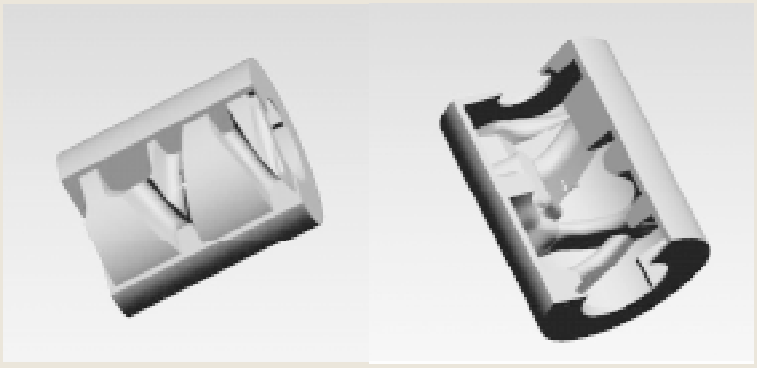
Short-term course on 'Sand Control' was organized in association with Dagang Oilfield Group, China (January 10-12, 2005); short-term course on ' Reservoir Optimization-Use of Innovative Drilling Fluid FLC2000' was organized in association with Impact Engineering Solutions, UK (March 2-5, 2005) [Dibrugarh University Dibrugarh, Assam (Clastic Petroleum Reservoir Engineering)]

Organized "BIOCONVERGENCE 2004", an International conference in Biotechnology (November 18-20, 2004.); Micro-propagation protocol for apple root plantlets developed. Supplied to Himachal Pradesh-the leading apple producing state in India [Thapar Institute of Engineering & Technology, Patiala, Punjab (Agro & Industrial Biotechnology)]

Signed an Agreement with Tamilnadu Agricultural University, Coimbatore to conduct a one-year PG Diploma in "Production and Quality Control in Medicinal Plant". [JSS College of Pharmacy, Ootacamund, Tamil Nadu (Herbal Drugs)]

Rendered consultancy to a large number of industries (including SMEs) for developing prototypes; Short-term courses (full-time, part-time & week-end) on Rapid Prototyping, Rapid tooling Reverse Engineering etc.) being regularly offered. [PSG College of Technology, Coimbatore, Tamil Nadu (Product Design & Optimization and Collaborative Product Commerce)]

Mudguard Developed for M/s PRICOL, Coimbatore



Cone winding Drum and Tray Developed for M/s Veejay Laxmi Engineering, Coimbatore

Conference on "Humanizing Work & Working Environment" (HWWE- 2004) organized during April 22-24, 2004; Compilation and analysis of worldwide Ergo standards undertaken. [National Institute of Industrial Engineering, Mumbai, Maharashtra (Ergonomics & Human Factors Engineering)]

A Transformer Repair Unit, unique to any educational institution formally inaugurated. [Jabalpur Engineering College, Jabalpur, Madhya Pradesh (High Voltage & Power Systems Engineering)]

An M.Pharm. (New Drug Delivery Systems) course introduced for the first time in the country; Industry consultancies and collaborative research with Zydus Cadilla & Torrent Research Centre taken up. [MS University, Vadodara, Gujarat (New Drug Delivery Systems)]

CISCO Networking Academy established (Feb 9, 2005). [Arulmigu Kalasalingam College of Engineering, Srivilliputtur, Tamil Nadu (Network Engineering)]

State-of-the-art "Reading & Grading Centre for Diabetic Retinopathy" established; Signed Agreement with World Diabetes Foundation (WDF); A VSAT mobile van developed in collaboration with WDF and ISRO for telemedicine consultation and clinical advice for diabetic retinopathy and retina patients. [Aravinda Eye Hospital & PG Institute of Ophthalmology, Madurai, Tamil Nadu (Diabetic Retinopathy)]

National Conference on Image Processing with focus on medical applications (NCIP-2004) organized during March 2005. [MS Ramaiah School of Advanced Studies), Bangalore, Karnataka (Digital Image Processing)]

A mobile pollution monitoring van co-funded by Surat Municipal Corporation launched (Oct 7, 2004); A short-term training course on 'Anaerobic Sewage Treatment' organized (December 13-18, 2004) in association with Lettinga Associates Foundation, The Netherlands [Sarvajanik College of Engineering & Technology, Surat, Gujarat (Environmental Engineering)]

International Society of Optical Engineering (SPIE) approved a student chapter with a total membership of 34-students/research scholars to work in CORE. [Delhi College of Engineering, Delhi (Fibre Optics and Optical Communication)]

A National Workshop on 'Pharmacogenomics' was organized during November 29-December 1, 2004; Organized symposium on "Radiation Biology & Cancer" on February 8, 2005 [Manipal Academy of Higher Education, Manipal, Karnataka (Pharamacogenomics)]

9.6 TARGETTED PROGRAMMES IN OTHER IMPORTANT AREAS

Objectives:

To undertake demonstration projects for bridging technological gap in harnessing country's potential in frontier areas and another important areas towards national capacity/capability building.

Completed Projects

9.6.1 Electric Power Projects

Two projects launched earlier viz., a) Static Compensator and b) Phase Shifting Transformer for improving efficiency of electric power sector including transmission and distribution networks. These projects envisaged designing & development of prototypes for commercial production. These projects implemented by BHEL corporate R&D Centre, Hyderabad have been completed successfully.

9.6.2 Hydrogen Programme

Ongoing Projects

Joint RV-TIFAC-Hydrogen Economy Technology Program (RV-TIFAC-HETP)

The joint efforts of TIFAC and RV College of Engineering under Rashtreeya Sikshana Samithi

Trust, Bangalore have resulted in establishing infrastructure and expertise for pursuing Hydrogen Technology development work in the following areas:

- Hydrogen induction into IC engines
- Hydrogen from biomass (through gasification route and microbial route)
- Aqua gas generation and application technologies
- Fuel Cell (testing and application)

Highlights of activities:

Hydrogen induction into IC Engines

Tests for performance, emission and combustion characteristics have been conducted with diesel and hydrogen on dual fuel mode. An electronic control system for regulating hydrogen flow rate according to engine speed and load conditions has been developed.

For up gradation of the existing IC Engine test bed, the following equipments were procured and commissioned:

- Fuel Balance: For measurement of diesel consumption.
- Smoke meter: For measurement of smoke density in Bosch Smoke Units.
- Indimeter: For analyzing combustion characteristics, mean effective pressure, heat release rate.
- Engine Data Acquisition and Control System (EDACS)

With hydrogen supplementation, the smoke density and the gaseous pollutant levels are reduced. Experiments being carried out on exhaust gas recirculation and water injection to take care of increased NO_x level.

Application Development of 500 W Hydrogen – Air PEM fuel cell

A Fuel Cell Laboratory has been set up with the following resources:

- A functional 1 kW Polymer Electrolyte Membrane Fuel Cell unit complete with water cooling system & inverter and two single cells with humidifiers and temperature controllers.
- Load dependant gas flow controller units.
- Electric loading units.
- Gas cylinders, regulators, power supply unit and other accessories.

Consorted interdisciplinary efforts of the staff and students from Chemical Engineering, Mechanical, Electrical and Electronics Depts. have been put for carrying out various tests like steady-state performance test, transient load test, startup test, performance at various concentration of fuel performance on various categories of loads such as personal computers, traffic blinkers, cooling box, battery charging etc.

Industrial Application of Hy-Ox gas generator

- Detailed Techno-economics of Hy-Ox system in metal cutting application prepared and submitted to BEML for comments. The comments of BEML were incorporated.
- Safety issues were taken up and discussion with Safety Experts held and their recommendations were incorporated.
- Design, engineering and fabrication of first prototype of indigenous Hy-Ox system was completed and trials carried out for metal cutting application. Further testing in progress.

H_2 Generation from Bagasse using Microbes

Attempts were made to degrade cellulose into simple sugars using cellulase enzyme and following experiments on hydrogen production carried out:

- Identification of secondary metabolites (Butyric acid) in eluted sample of bagasse.
- Identification of co-culture Rhodobacter

spheroides to utilize butyric acid with Clostridium pasteurianum.

- Control of pH in the bioreactor using alkali to neutralize secondary metabolites, which are acidic in nature to enhance hydrogen gas production.
- Another substrate namely corn fibre was used using Clostridium pasteurianum and the production of hydrogen was observed.

Design and Engineering of a 100 KVA Biomass – H_2 Stationary Power Plant

- 100 KVA gasifier - gas engine genset commissioned and part of the College electrical load fed by the system. Innovative biological route has been tried out to treat the small amount of effluent generated in the process of cleaning the gas.
- Study of waste heat recovery for improving the efficiency of the system being tried out and in progress.
- Hydrogen separation experiments using zeolite membranes being carried out and in progress.

Development of Polymer Electrolyte Membrane Water Electrolyzer (PEMWE) for Hydrogen Generation at SPIC Science Foundation, Tuticorin

- After relocation of SPIC Science Foundation at Tuticorin, the PEMWE unit-I consisting of 8 cells (~200cm^2 area) re-installed and carried out performance evaluation studies on H_2 production. Long run trial was attempted and the performance of the stack declined due to low performance of two cells. Replacement of these two cells was done.
- Initiated actions for the fabrication of PEMWE unit-II by making necessary improvements in the stack design, gas manifolds, flow channels, electrodes, Membrane Electrode Assembly and preparing electrocatlatysts.
- Single cell studies have been carried out after necessary design modifications.
- Training was imparted to the newly recruited staff members at SPIC Science Foundation.
- The project was extended up to May 2005 to complete the remaining activities.

9.6.3 Municipal Solid Waste

Completed project

Setting up of 6.6 MW electricity generation plant based on processed Municipal Solid Waste (MSW) by M/s SELCO International Ltd. in Hyderabad

- The project has tried to overcome the teething troubles like continuous feed of RDF to boiler by supplying combination of RDF and agri waste (rice husk) at an appropriate ratio through proper arrangement of separate hoper and conveyor belt. A separate shed to cover the MSW derived fuel under rainy season for controlling moisture was built up and improved bricks to the furnace wall provided to avoid frequent stoppage of the grate.
- The plant has run at output of 6.0 MW during many periods (not continuously) from January 2005 to March 2005 and achieved an average Plant Load Factor (PLF) of about 90% for a period of thirty days during December 2004 to January 2005 using on an average of more than 75% of RDF as fuel.
- M/s SELCO International Limited made the first installment of repayment of Rs.20 lacs to TIFAC in July 2004.
- It is reported by M/s SELCO that the plant has generated more than 44 million units of electricity and made a turn over of about Rs.13 crores since its commissioning in November 2003 and most of this have been achieved during the year 2004-2005.

- CII has given to this project the best technology achievement award for the year 2004 during the Technology Day celebration and Hon'ble President of India presented the award.

Ongoing Projects

Promotion of MSW to RDF technology

Towards promotion and replication of the MSW to RDF technology, TIFAC signed agreement with M/s GRASIM Industries Limited (Cement Division) on 15th September 2004 for transferring the MSW to RDF technology and providing overall technical assistance in setting up of MSW processing facilities for producing RDF as alternative fuel for cement plants exclusively for four cities in India viz. Jaipur, Trichy, Ajmer and Indore. Discussions were held with the officials of Municipal Corporations of Trichy and Jaipur.

Technical Documentation of MSW to RDF to electricity project

A project on "Preparation of Technology Documents and Monitoring of Performance status and performance evaluation of the plants for Processing Municipal Solid Waste (MSW) and generation of electricity from processed MSW" started in July 2004. Project work has been entrusted to M/s Foundation for Clean Energy & Environment (FCEE), Bangalore for a period of 12 months.

Objective of the project includes preparation of Technology Documents on the following four plants:

- MSW to RDF plant at Hyderabad of M/s SELCO International Ltd., Hyderabad
- MSW to RDF plant at Vijaywada of M/s Shriram Energy Systems Ltd., Hyderabad
- MSW to RDF plant at Guntur of M/s Shriram Energy Systems Ltd., Hyderabad
- 6.6 MW electricity generation plant based on processed MSW at Hyderabad of M/s SELCO International Ltd., Hyderabad

It also includes preparation of Performance Monitoring Status & Performance Evaluation reports on the following two plants:

- MSW to RDF plant at Hyderabad of M/s SELCO International Ltd., Hyderabad
- 6.6 MW electricity generation plant based on processed MSW at Hyderabad of M/s SELCO International Ltd., Hyderabad

FCEE submitted two draft Technology Documents pertaining to M/s SELCO International Ltd., Hyderabad during the period.

9.6.4 Ropeways

TIFAC is putting up material ropeway system between village Jiyari and an area near Bhawali, Almora Road, Near Almora, Uttaranchal. The ropeways are being put up as part of an initiative to develop and demonstrate technologies to mitigate the hardship of the people living in hilly regions. Commissioning work is being done under the supervision of RITES.

Site survey has been done and exact spots have been identified. Commissioning work is in progress and is expected to be completed by July 2005.

9.6.5 Pottery Sector

Projects related to Pottery Sector under the Technology Vision 2020 Programme have been taken up at:

- Shri Sarvodaya Glaze Pottery Sahkari Mandli Ltd., Mehsana, Gujarat for upgrading their stoneware products to Bone China products. Project is in progress.
- *Ceramic Centre of Rural Development (CCRD)*: The project envisages upgrading the existing stoneware production to Bone China to meet the current market demand and fetch

higher returns. The project is under progress. Trial production of Bone China products has begun.

Apex Committee for the Pottery Sector has been expanded to include experts from a wider spectrum.

Projects in pipeline:

A proposal from Subarna Ashram, Baruipur, West Bengal, aimed at upgrading the production of Bone China products from the existing production of Bengal China Stone wares to meet current market demand, is under consideration.

Establishing Training Centers:

For imparting training to rural potters for familiarization in modern techniques of pottery and upgrading their skills, in different parts of the country, is under consideration.

10 Other Activities

10.1 UNDP Programmes: IT-SAP & MATURE

The Department of Science and Technology, Government of India and U.N.D.P have evolved a projects on 'Information Technology for Sustainable Agriculture in Punjab' and MATURE. The Technology Information, Forecasting and Assessment Council (TIFAC) implemented this project on behalf of the Government of India.

IT for Sustainable Agriculture in Punjab (IT-SAP)

Goals

Utilising the state-of-art tools of spatial data management, set up an integrating framework at microlevel for examining the different problems of agricultural production system with the participation of farming community, government officials and academia.

Demonstrate its efficacy/utility in generating a new synergy between productivity and sustainability of agricultural production system.

Objectives

- Develop multi-level decision support models for synergising the natural resource system with economic and social imperatives.
- To develop indicators of sustainability for agricultural production system.
- Based on the above scientific assessment, suggest alternatives to conserve and improve the health of natural resource system.

Mission for Application of Technology to Urban Renewal & Engineering (MATURE)

This programme aims at demonstrating the positive effects of scientific, engineering and Technological inputs in the process of urban renewal through the direct involvement of municipalities in execution of projects with there financial contribution.

Demonstration/Pilot projects implemented in hilly terrain, coastal areas, mega cities and small cities, with appropriate design and technology options for urban renewal under varied situations.

Projects were taken up in six cities namely, Bhopal, Calicut, Itanagar, Mumbai, Tiruvannamalai and New Delhi. MATURE has successfully demonstrated pilot projects in improving the quality of urban settlements through use of advanced technologies and knowledge.

The projects under these two programmes have been successfully completed and these programmes have been closed.

10.2 Workshops/Seminars

The International Institute for Applied Systems Analysis – Austria (IIASA) is an independent non-governmental interdisciplinary research institution headquartered in Austria. It is sponsored by various scientific organizations from different countries. IIASA specializes in natural and social scientific research methods and models valued by policy makers, and the scientific community worldwide. India is likely to take up membership in IIASA, with TIFAC as the designated National Member Organization (NMO).

In this connection, TIFAC organized a Meet with IIASA wherein senior IIASA scientists interacted with senior Indian scientists, policy makers, and academicians. During the meet representatives of both countries were invited to make presentations on the following identified areas of interest.

- Forestry
- Environmentally Compatible Energy Strategies
- Transitions to New Technologies
- Land Use/Land Cover Change
- Risk, Modeling and Society.

The Meet was convened at Vishwakarma Bhavan, New Delhi on 25th-26th October, 2004.

The meet saw participation by senior scientists, and policy makers from different sectors and organization. The participating organizations included DST, NRDC, NISTADS, MNES, ICGEB, TERI, ICFRE, IARI, LPA, IIT, IIRS, CII, National Insurance Academy and many others.

Lively interactions followed every session; presentations were followed by remarks on, important issues and Indian perspectives by senior Indian Policy makers and scientists from leading organizations.

Seminar on "Synergizing S&T with judicial processes" was organized by TIFAC on 19 November, 2004, chaired Shri Kapil Sibal, Hon'ble Minister S&T and Ocean Development at TIFAC, New Delhi.

Topics covered in the seminar were - Biometrics and Judicial Processes, Role of DNA Finger Printing in Judicial Processes, Interfacing IT with Judicial Process through Documentation, Role of Forensic Technologies in Judicial Processes, Operationalisation of S&T in Judicial Process and Role of S&T in Judicial processes.

Investigating agencies, legal experts, experts from academia and institutes, CDFD, C-DAC, Forensic Science laboratories and International Human Rights Commission participated.

A two day brainstorming workshop on "Effective Disaster Warning Systems and Risk Communication Systems" was organized during 17th and 18th February, 2005 at TIFAC. Experts from India and abroad participated and shared their valuable experiences. The workshop focused on the generation, delivery and use of early warning and disaster alert information which is an integral component of Disaster Management. The objective is to empower individual and communities threatened by natural hazard to be able to act appropriately in sufficient time to reduce the possibility of personal injury, loss of life and damage to property.

The workshop was inaugurated by Shri Kapil Sibal, Hon'ble Minister S&T and Ocean Development. He stressed on the importance of human skills in effective disaster warning systems and said that the technology is only an aid which has to be used effectively. A lead talk (by teleconference) was given by Dr. Dennis Mileti former Director of the Disaster Research Centre at the University of Colorado and one of the best known experts in the areas of risk communication.

Dr. Laura Kong, Director, International Tsunami Information Centre, USA shared her experience of Disaster Management, the lessons learnt from disasters (Tsunami/earthquake) worldwide.

Mr. A.J. Rego and Mr. M.V. Subbiah from Asian Disaster Preparedness Center joined in on teleconference and spoke about the best practices employed in various countries in the Asian region.

Mr. Kamal Kishore of UNDP also joined in on the teleconference from Sri Lanka to present their views on structuring communication.

In view of the growing importance of information and communication technologies (ICTs), TIFAC organized a two-day workshop on "ICT as

Development Enabler: S&T interventions" in February 2005 at New Delhi. The workshop was inaugurated by Dr. R. Chidambaram, PSA to Government of India and Chairman-TIFAC. The workshop focused on the technologies that would help in achieving developmental objectives in various areas such as agriculture, health etc.

10.3 Interactions with International Agencies

- S&T Cooperation with ASEAN

  Under the area "Infrastructure and Resources Development", a workshop on 'Management of Technology Innovation' was organized by TIFAC at New Delhi, India during 12-14th January, 2005, supported by the ASEAN-India Cooperation Fund. There was a very enthusiastic response from all the ten ASEAN countries who deputed their Scientific Managers to attend this workshop. From the Indian side, there was participation from a wide range of professionals including persons from Industry, R&D Lab and Government of India. The Faculty comprised of top scientists and practicing Technology Management Experts from both ASEAN and India

- Membership of India in The International Institute for Applied Systems Analysis-Austria (IIASA), with TIFAC as the National Member Organization is under consideration.

Annexure-1

List of Projects Completed Earlier

1. Sugar Technology Mission

S.No.		Factory	Year Status
1	Vighnahar SSK Ltd., Junnar, Maharashtra	1995-96	Project completed
2	Ajinkyatara SSK Ltd.,Shahunagar-Shendre, Maharashtra	1995-96	Project completed
3	DSM Sugar, RozagaonDistt.Barabanki, U.P.	1996-97	Project completed
4	Motilal Padampat Udyog Ltd., Majhaulia, Bihar	1995-96	Project completed
5	Riga Sugar Co. Ltd., Riga, Bihar	1997-98	Project completed
6	Vishnu Sugar Mills Ltd., Gopalganj, Bihar	1997-98	Project completed
7	Upper Doab Sugar MillsShamli, U.P.	1998-99	Project completed
8	Rai Bahadur Narain Singh Sugar Mills, Lahksar, U.P	1998-99	Project completed
9	Sakthi Sugars Ltd.,Sakthi Nagar, T.N.	1997-98	Project completed
10	Godavari Sugar Mills Sameerwardi, Karnataka	1998-99	Project completed.
11	Pratappur Sugar Mills, Pratappur, U.P.	1998-99	Project completed.
12	Mawana Sugar Works, Mawana, U.P.	1998-99	Project completed.
13	Varalakshmi Sugar and Chemicals Ltd., Srikakulam, AP	2000-01	Project completed
14	L.H. Sugar Factories Ltd.Pilibhit, U.P.	1997-98	Project completed.
15	Shree Talala SKUM Ltd., Talala, Gujarat	1999-00	DPR Completed
16	Sanjivani Takli SSK Ltd., Maharashtra	2000-01	Project completed
17	Simbhaoli Sugar Mills ltd.Simbhaoli, U.P.	2001-02	Project completed
18	E.I.D. Parry India Ltd., Pugalur, Tamil Nadu	1999-00	Project completed.
19	Shri Valsad Sahakari Khand Udyog Ltd. Valsad, Gujarat	1995-96	Project completed.

S.No.	Factory	Year Status
20 Triveni Engineering Works Ltd., Unit – Deoband, U.P.	2002-03	Project completed
21 Shree Bileshwar SKUM Ltd., Kodinar, Gujarat	1999-00	DPR completed.
22 Vishwasrao Naik SSK Ltd., Yeswantnagar, Maharashtra	1999-00	DPR completed.
23 Rahuri SSK Ltd., Rahuri, Maharashtra	2000-01	DPR Completed.
24 Palwal Coop. Sugar Mills Ltd., Palwal, Distt. Faridabad Haryana	1996-97	DPR submitted to Haryana Federation of Coop., Sugar Mills Ltd., for implementation
25 Budhewal Coop. Sugar Mills, Budhewal, Ludhiana, Punjab	1997-98	DPR submitted. As insufficient sugarcane availability was anticipated, the project has been deferred.
26 Jind Coop. Sugar Mills Ltd., Jind, Haryana	1997-98	DPR submitted to Haryana Federation of Coop. Sugar Mills Ltd., for implementation
27 Shakumbari Sugar & Allied Industries Ltd., Saharanpur, UP	1999-00	DPR completed.
28 Dharani Sugars Ltd., Polur, Tamil Nadu	2001-02	Detailed project report and its financial appraisal completed.
29 Jagadamba SSK Ltd., Maharashtra	2001-02	Detailed project report and financial Appraisal completed.
30. Bharat Sugar Mills, Sidhwalia, Bihar	2002-03	Detailed project report evised on request of the sugar Mill.
31. Rana Sugars Ltd.,Buttar Savyan, Punjab	2002-03	DPR completed for implementation.
32. Simbhaoli Sugar Mills, Chilwaria, U.P.	2003-04	DPR completed & submitted to FI for financial appraisal
33. Shree Chamundeswari Sugars Ltd., Karnataka	2003-04	Project completed.
34. Triveni Engineering & Industries Ltd., Khatauli, U.P.	2003-04	DPR completed & submitted to FI for financial appraisal

2. Advanced Composites Programme

No.	Projects	Partners
1.	Thermoset Prepregs	NAL & ADA Bangalore & IPCL, Vadodara
2.	Manpower Development	CIPET, Chennai
3.	NDE Scanner for Composites	Vivace Sonics Pvt. Ltd., Hyderabad. & DRDL, Hyderabad
4.	Carbon-Carbon Brake-Disc for Aircraft	DRDL, Hyderabad & Graphite India Ltd., Bangalore
5.	FRP Sleepers for Railway Girder Bridges	Research & Development Establishment (Engrs.), Pune & RDSO, Lucknow
6.	Energy Efficient Axial Flow FRP Fans	Parag Fans & Cooling Systems Ltd., Dewas & IIT-Bombay
7.	FRP Pultruded Profiles	Sucro Filter Pvt. Ltd. & NCL, Pune
8.	Jute-Coir Composite Boards	Natura Fibretech Ltd., Bangalore
9.	Carbon Fibre Composites for Orthopaedic Appliances	S H Pitkar Orthotools Pvt. Ltd., Pune
10.	FRP Gear-Cases for Railway Locomotives.	Permali Wallace Ltd. & RRL-Bhopal
11.	RV-TIFAC Composite Design Centre, Bangalore	RV College of Engineering, Bangalore
12.	Vacuum Forming Press	Tecnico Engineering Pvt. Ltd. & HAL, Bangalore
13.	Composite Artificial Limbs	Mohana Orthotics & Prosthetic Centre & MIT, Chennai
14.	Composite Technology Centre (COMPTEC)	IIT-Madras, Chennai
15.	Composite CNG Cylinders for Automobiles	Strategic Engineering Pvt. Ltd. & MIT, Chennai
16.	Double-Wall FRP Vessel with Early Warning System for Leakage	Chemical Process Equipments Ltd., Mumbai
17.	FRP Modular Toilet Units for Railway Passenger Coaches	Hindustan Fibreglass Works, Vadodara & IIT-Bombay, Mumbai
18.	FRP Main Door for Passenger Coaches & Sliding Door for EMU Coaches	Urbane Industries, Chennai & IIT-Bombay, Mumbai
19.	Jute Composite Components for Footwear	APL Polyfab Pvt. Ltd., Kolkata & IJIRA, Kolkata
20.	FRP Armoured Optical Fibre Cables	Indore Composites Pvt. Ltd., Pithampur

No.	Projects	Partners
21.	Jute-Glass Composites for Railway Coaches	CGCRI, Calcutta & Fabtech Industries, Calcutta
22.	Evaluation of Bamboo Processing Machinery	Engineering Resources Group, Bangalore & NEDFi, Guwahati
23.	Feasibility Study on Composite Recycling & Reuse	Composite Technology Centre (COMPTEC), IIT-Madras

Annexure-2

List of Papers/Publications

1. Dr. Gulab Singh delivered lectures on fly ash utilisation with particular emphasis on use of fly ash in agriculture during the workshop on fly ash utilisation organised by Damodar Valley Corporation, Kolkata on 8th October 2004 at Ranchi.
2. *Composites - An Innovative Material for Process Industry* by G Srikanth, S Baksi & M Suresh Babu published in the proceedings for 1st Conference of Research Scholars and Young Scientists in Chemical Engineering (CRSYS), September, 2004 (p. 186-192).
3. Kumar V. & Mathur M, "Fly Ash: Building Material for Sustainable Development", National Seminar-cum-Business Meet on "Use of Fly Ash in Building Components", by FAUP, TIFAC; New Delhi, March 2005.
4. Kumar V, Suri S B, Vyas G C & Nagaraja K S, "Fly Ash and Hydro Sector : Indian Scenario", National Seminar-cum-Business Meet on "Use of Fly Ash in Hydro Sector", by FAUP,TIFAC; Mumbai, March 2005.
5. Kumar V, Mathur M and Ayithi A, "Fly Ash: Building Material for Sustainable Development", National Seminar on "Building Material & Technology for Sustainable Development" by CEPT-Ahmedabad, January 2005.
6. Kumar V & Mathur M, "Pulverised Fuel Ash for Improved Durability of Concrete –A Laboratory Study" International Conference on "Advances in Concrete Composites and Structures", by SERC-Chennai, January 2005.
7. Kumar V & Mathur M, "Pulverised Fuel Ash in Underground Minefills – A Successful Indian Endeavour", 21st Annual International "Pittsburgh Coal Conference", by University of Pittsburgh, USA; held at Osaka, Japan, September 2004.
8. *Composites – An Innovative Building Material* by M S Babu, S Baksi, G Srikanth & S Biswas published in Good Governance India, March-April, 2004.
9. *Composites Fabrication by Filament Winding* by M S Babu, S Baksi, G Srikanth & S Biswas, , published in FRP Today, April-May, 2004 (p. 11-13).
10. Thermoplastic *Composites – A New Business Avenue* by M S Babu, S Baksi, G Srikanth and S Biswas published in SEARCH, June 2004.
11. *Towards faster Trains: Role of Composites* by Sangeeta Baksi, G Srikanth, M Suresh Babu & Soumitra Biswas published in FRP Today, June-July, 2004 (Vol.4, Issue 4, p. 13-15).
12. *Eco-friendly Composites for Everyday Life – Indian Perspective* by Sangeeta Baksi, M Suresh Babu, Gudavalli Srikanth & Soumitra Biswas published in the Home Plan & life Style Magazine, July, 2004.

13. *Thermoplastic Composites – Applications Potential* by S Baksi, MS Babu, G Srikanth & S Biswas published in FRP Today, August-Sept., 2004 (p.13-15).

14. *Composites for Offshore Applications* by M Suresh Babu, Sangeeta Baksi, Gudavalli Srikanth & Soumitra Biswas published in SEARCH, September 2004.

15. *Composites – Indian Imperatives* by Sangeeta Baksi, M Suresh Babu, G Srikanth published in SEARCH, January 2005 (Vol. 8, No.1).

16. *Natural Fibre Composites as Building Material – Indian Scenario* by S Baksi, MS Babu, G Srikanth and S Biswas published in the proceedings of 5th All India Peoples' Technology Congress, February 19-20, 2005.

17. *Advanced Composites Programme – Concept to Commercialization* by Sangeeta Baksi, G Srikanth, M Suresh Babu and S Biswas published in the proceedings of international conference on Science & technology Policy: Future Challenges in the context of Globalization, March 07-10, 2005

18. Dr. Vimal Kumar, Adviser (Fly Ash), TIFAC, DST delivered key note address on fly ash utilisation during the workshop on ash utilisation organised by NTPC on 24th September 2004 at New Delhi.

19. Dr. Vimal Kumar delivered a key note address on Fly Ash Management during a workshop on fly ash utilisation organised by Damodar Valley Corporation, Kolkata on 6th October 2004 at Kolkata.

20. Dr. Vimal Kumar, Adviser, FAUP, TIFAC delivered key note address on fly ash management during the seminar on "Fly Ash Utilisation" organised by Jindal Steel Plant, Bellary on 28th April 2004.

Annexure-3

Foreign tours and participation in International Exhibition/Conferences

TIFAC participated in the following National and International Exhibitions during the financial 2004-05 :

1. Mr. J.J. Bhagat participated in FIJI Project at FIJI held during 8-23 April, 2004.
2. Dr S K Goel participated in 37th Algerian International Fair, Algiers held during 2-10 June, 2004.
3. Shri. Deepak Bhatnagar participated in ASEAN-India Working Group on S&T, Singapore, June9-11, 2004
4. Mr. J.J. Bhagat participated in Tropical beat Industries and Seminar organized by Syngenta at Spain held during 21 June -26 June, 2004.
5. Mr. J.J. Bhagat participated in FIJI Project at FIJI held during 17 July-02 August, 2004.
6. Mr. J.J. Bhagat participated in FIJI Project at FIJI held during 18 Aug-04 Sep, 2004.
7. Dr. Vimal Kumar, Adviser, Fly Ash, TIFAC, DST visited Netherlands, Poland, Germany and Czech Republic to see the installed systems and have discussion with the concerned agencies regarding handling and transportation of fly ash at high concentration and various areas of ash utilization during 30th August 04 to 6th Sept. 04.
8. Mr.G.Srikanth presented a paper on 'Innovative Composite Applications in Railways' and participated in the RP Asia-2004 Conference-cum-Exhibition, Bangkok during 1-2 September, 2004.
9. Dr. Vimal Kumar attended Consultants meet on "Radiation Process of Gases and Liquid Effluents" held at Sofia, Bulgaria during 7th – 10th Sept' 2004.
10. Mr. Mukesh Mathur, Scientist, FAUP, TIFAC visited Osaka, Japan to attend 21st Annual International Pittsburgh Coal Conference organised by University of Pittsburgh during 13th – 17th September 2004. He also presented a technical paper 'Pulverised Fuel Ash in Underground Minefills – A Successful Indian Endeavour' during the conference.
11. Prof. Anand Patwardhan, Executive Director, TIFAC participated in the STAP meeting held at Washington DC from 4th to 8th October, 2004.
12. Mr. J.J. Bhagat visited Ethenol and beat Sugar Industries at Paris held during 13 Oct-20 Oct, 2004.
13. Mr. J.J. Bhagat participated in FIJI Project at FIJI held during 2 Nov-10 Nov, 2004.
14. Mr. J.J. Bhagat participated in FIJI Project at FIJI held during 5 Feb-20 Feb, 2005.

15. Ms. Sangeeta Baksi presented a paper on 'Composites for Offshore Applications; in the International Conference on 'Corrosion Management for Oil & Gas' in Kaula Lumpur during 28 February -01 March 2005.

16. Mr. J.J. Bhagat participated in FIJI Project at FIJI held during 2 Nov-10 Nov, 2004.

17. Mr. J.J. Bhagat participated in FIJI Project at FIJI held during 5 Feb-20 Feb, 2005.

18. Prof. Anand Patwardhan, Executive Director, TIFAC participated in the STAP meeting held at Washington DC from 7th to 10th March, 2005.

Auditor's Report Together with Audited Statement of Accounts

Auditor's Report

The Members,
Governing Body
Technology Information, Forcasting &
Assessment Council,
New Delhi – 110 016

We have audited the attached Balance Sheet of TECHNOLOGY INFORMATION, FORCASTING AND ASSESSMENT COUNCIL (TIFAC), NEW DELHI as on 31st March 2005 and also the attached Income & Expenditure Accounts for the year ended on that date.

These financial statements are the responsibility of the management of the TIFAC. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform 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 the management, as well as evaluating the overall presentations of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

Subject to our Audit objections as per Annexure AR-1, comments given in the following Notes on accounts as per schedule -48 & 49, Note No B-1->Provision of Depreciation during the year, Note No.B-2 -> Non – Accounting of Stock of Publication of TIFAC, Note No. B-4 -> Non-receipt of utilization statements in respect of grant utilized from the implementing agency in some cases, we report that :-

1) We have obtained all the information and explanation which to the best of our knowledge and belief were necessary for the purposes of our Audit.

2) In our opinion proper books of account as required by law have been kept by TIFAC.

3) The Balance sheet and Income and Expenditure Accounts dealt with by this report are in agreement with the books of account.

4) In our opinion and the best of our information and according to the explanations given to us, the said accounts read with the schedules and notes thereto given the information required by Society Registration Act, in the manner so required and given a true and fair view :-

   a) In case of Balance Sheet , of the state of affair of the TIFAC as at 31st March 2005.

For Rakesh Raj and Associates
Chartered Accountants

Sd/-
Ashwani Taneja
(Partner)

Date : 01.12.2005
Place : New Delhi

Annexure : AR1 - Audit Objections

1. TIFAC has been recognized as a Scientific and Industrial Research Organisation by Department of Scientific and Industrial Research (DSIR) for the period from 30.06.1993 to 31.03.1995 and subsequently from 01.04.1995 to 31.03.2000, 01.04.2000 to 31.03.2003 & 01.04.2003 to 31.03.2006 and TIFAC has been declared "SCIENTIFIC INSTITUTION" by the prescribed authority under Rule 6 of the Income Tax Rules for the purpose of Clause (ii) of Sub-section (I) of Section 35 of the Income Tax Act, 1961 vide Notification No. 951 (F. No. DG/IT(E)/ND-116/35(i)(ii)/93-IT(E) dated 30th November 1993. The Income Tax liability for earlier year if any will be provided in the books of account on the basis of actual payment to Income Tax Department. The recognition has expired on 31.03.2003. Application has been made for renewal but renewal has not been received so far after 31.03.2003.

2(a) As per the agreement of various Projects the Financial Assistance given by TIFAC will be refunded in Instalments as per the specified period as mentioned in the agreement but it is analyzed that there are many companies have not repaid their instalments according to the agreements. The details are as under.

(b) Out of which the following amount are overdue as on 31.03.2005. (Rs. In Lacs)

Name of the Project	Overdue upto Six months	Overdue from more than six months upto 3 years	Over due more than 3 Years	Total
Fly Ash Mission	0.00	74.400	16.000	90.400
Advanced Composite	0.00	11.940	1334.400	1346.340
Home Grown Technology	118.950	338.160	1110.230	1567.340
Vision 2020:Agriculture Sector	11.628	21.250	0.000	32.878
Vision 2020:OtherTargetted Programme	51. 200	2.400	0.000	53.600
	181.778	448.150	2460.630	3090.558

The above amount does not include any interest which is chargeable at 18% on overdue amount as per terms of the agreement signed by beneficiaries. It is explained to us that as per policy of TIFAC interest on overdue amount is accounted for on receipt basis only.

3 (i) The assets hypothecated to TIFAC are required to be insured by the beneficiaries as per terms of agreement, but it was not ensured that the assets are insured in all cases.

4 (a) TDS has not been deducted in the following cases on account of payment released towards legal charges.

1) Dr.D.V.Singh Rs. 70000

2) Dr.Abhijit Lahiri Rs. 25000

5 Income Tax Return of the financial year 2002-2003and 2003-2004 have been filed on 22.03.2005. IT return for the Financial year 2004- 2005 has not been filed with IT Department upto 31.10.2005.

for **RAKESH RAJ & ASSOCIATES**
CHARTERED ACCOUNTANTS

-Sd-	-Sd-	-Sd-	-Sd-
ASHWANI TANEJA	**ACCOUNTS OFFICER**	**REGISTRAR/**	**EXECUTIVE DIRECTOR**
(PARTNER)		**HEADS OF PROGRAMME, TIFAC**	**TIFAC**

DATE: 01.12.2005
PLACE: NEW DELHI

Replies to Audit queries "Annexure AR 1" TIFAC

1. Application for renewal of Income Tax exemption for the period from 01.04.2003 onwards was filed with Income Tax Department, New Delhi on 1st April 2004. No queries or objection has been raised by I.T. Department. However necessary notification granting exemption is yet to be issued by Income Tax Department. We are pursuing the matter with authorities concerned vigorously.

2 (a) Wherever non payment of instalments are there the matter is being pursued with concerned beneficiaries for early payment of instalments.

(b) Extension of time for repayment in few cases was allowed with the approval of competent authority on case to case basis depending upon the special facts and circumstances of the case with proper recommendation not to charge late payment/penal interest.

(c) In few cases legal action has already been initiated to recover the due amount.

3. Insurance in respect of assets hypothecated to TIFAC is done by the beneficiary concerned.

4. Matter is being taken up with the concerned officers for remittance of TDS.

Technology Information, Forecasting & Assessment Council
BALANCE SHEET AS ON 31.03.2005

(Amount-Rs.)

	Schedule	Current Year	Previous Year
CORPUS/CAPITAL FUND AND LIABILITIES			
CORPUS /CAPITAL FUND	1	845230516.64	602272309.99
RESERVES AND SURPLUS	2	0.00	0.00
EARMARKED/ ENDOWMENT FUNDS	3	0.00	0.00
SECURED LOANS AND BORROWINGS	4	0.00	0.00
UNSECURED LOANS AND BORROWINGS	5	0.00	0.00
DEFERRED CREDIT LIABILITIES	6	0.00	0.00
CURRENT LIABILITIES AND PROVISIONS	7	28027090.06	15472665.00
TOTAL		**873257606.70**	**617744974.99**
ASSETS			
FIXED ASSETS (NET)	8	113272114.82	7056397.04
INVESTMENTS – FROM EARMARKED/ENDOWMENT FUNDS	9	0.00	0.00
INVESTMENTS – OTHERS	10	0.00	0.00
CURRENT ASSETS, LOANS, ADVANCES ETC.	11	716803167.88	486557910.95
CAPITAL WORK IN PROGRESS.	11A	43182324.00	124130667.00
MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)			
TOTAL		**873257606.70**	**617744974.99**
SIGNIFICANT ACCOUNTING POLICIES	48		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	49		

As per our report of even date
for **RAKESH RAJ & ASSOCIATES**
CHARTERED ACCOUNTANTS

Sd/-	Sd/-	Sd/-	Sd/-
ASHWANI TANEJA	**ACCOUNTS OFFICER**	**REGISTRAR/**	**EXECUTIVE DIRECTOR**
(Partner)		**HEAD OF PROGRAMME, TIFAC**	**TIFAC**

Date : 01.12.2005
Place : New Delhi

T.I.F.A.C (REGULAR ACCOUNT)
Income and Expenditure Account For the Year Ended 31.03.2005

(Amount – Rs.)

Income	Schedule / Annexure	Current Year	Previous Year
Income from Sales/Services	Schedule 12	0.00	0.00
Grants/Subsidies	Schedule 13	154000000.00	92400000.00
Fees/Subscriptions	Schedule 14	157000.00	0.00
Income from Investments	Schedule 15	0.00	0.00
Income from Royalty, Publication etc.	Schedule 16	880807.87	553332.00
Interest Earned	Schedule 17	12524843.00	11484325.00
Other Income	Schedule 18	524149.00	355414.00
Increase/(Decrease) in stock of Finished goods and Works-in-progress	Schedule 19	0.00	0.00
Refund from Projects	Annexure5	37434438.00	30511949.00
Total (A)		**205521237.87**	**135305020.00**
Expenditure			
Establishment Expenses	Schedule 20	15041254.00	11380957.00
Other Administrative Expenses etc.	Schedule 21	17305446.00	20206798.00
Expenditure on Grant, Subsidies etc.	Schedule 22	90868906.00	75113412.00
Interest	Schedule 23	0.00	0.00
Depreciation (Net Total at the year end)	Schedule 8	13446068.22	1339670.00
Total (B)		**136661674.22**	**108040837.00**
Balance being excess of Income over Expenditure (A-B)		68859563.65	27264183.00
Transfer to Special Reserve (Specity each)			
Transfer to/from General Reserve			
Balance Being Surplus (Deficit) Carried to Corpus/Capital Fund		68859563.65	27264183.00
Significant Accounting Policies & Notes on Accounts			
Contingent Liabilities			

As per our report of even date
for **RAKESH RAJ & ASSOCIATES**
CHARTERED ACCOUNTANTS

Sd/-	Sd/-	Sd/-	Sd/-
ASHWANI TANEJA	**ACCOUNTS OFFICER**	**REGISTRAR/**	**EXECUTIVE DIRECTOR**
(Partner)		**HEAD OF PROGRAMME, TIFAC**	**TIFAC**

Date : 01.12.2005
Place : New Delhi

T.I.F.A.C
Technology Vision 2020
Income and Expenditure Account For the Year Ended 31.03.2005

(Amount – Rs.)

Income	Schedule / Annexure	Current Year	Previous Year
Grants/Subsidies	Schedule 24	130000000.00	0.00
Interest Earned	Schedule 25	8781390.00	13017514.00
Other Income	Schedule 26	297800.00	0.00
Refund from Project	Annexure8	35837735.00	24550553.40
Total (A)		**174916925.00**	**37568067.40**
Expenditure			
Establishment /Administrative Expenses	Schedule 27	4131882.00	5227786.00
Project Expenditures	Schedule 28	83671536.00	147649220.00
Total (B)		**87803418.00**	**152877006.00**
Balance being excess of Income over Expenditure (A-B)		**87113507.00**	
Balance being excess of Expenditure over Income (A-B)			**(-) 115308938.60**
Balance being Deficit transferred to Corpus/Capital Fund		**87113507.00**	**(-) 115308938.60**

As per our report of even date
for **RAKESH RAJ & ASSSOCIATES**
CHARTERED ACCOUNTANTS

Sd/-	Sd/-	Sd/-	Sd/-
ASHWANI TANEJA	**ACCOUNTS OFFICER**	**REGISTRAR/**	**EXECUTIVE DIRECTOR**
(Partner)		**HEAD OF PROGRAMME, TIFAC**	**TIFAC**

Date : 01.12.2005
Place : New Delhi

T.I.F.A.C
Patent Facilitating Centre
Income and Expenditure Account For the Year Ended 31.03.2005

(Amount - Rs)

Income	Schedule / Annexure	Current Year	Previous Year
Grants/Subsidies	Schedule 29	10000000.00	15000000.00
Interest Earned	Schedule 30	0.00	0.00
Other Income	Schedule 31	250437.00	255020.00
Refund from Project		0.00	0.00
Total (A)		**10250437.00**	**15255020.00**
Expenditure			
Establishment / Administrative Expenses	Schedule 32	6825238.00	7777392.00
Project Expenditures	Schedule 33	6694542.00	4744319.00
Total (B)		**13519780.00**	**12521711.00**
Balance being excess of Income over Expenditure (A-B)			**2733309.00**
Balance being excess of Expenditure over Income (A-B)		**(-) 3269343.00**	
Balance being Surplus transferred to Corpus/Capital Fund		**(-) 3269343.00**	**2733309.00**

As per our report of even date
for **RAKESH RAJ & ASSOCIATES**
CHARTERED ACCOUNTANTS

Sd/-	Sd/-	Sd/-	Sd/-
ASHWANI TANEJA	**ACCOUNTS OFFICER**	**REGISTRAR/**	**EXECUTIVE DIRECTOR**
(Partner)		**HEAD OF PROGRAMME, TIFAC**	**TIFAC**

Date : 01.12.2005
Place : New Delhi

T.I.F.A.C
National Mission on Bamboo Applications
Income and Expenditure Account For the Year Ended 31.03.2005

(Amount - Rs)

Income	Schedule / Annexure	Current Year	Previous Year
Grants/Subsidies	Schedule 34	85149896.60	0.00
Interest Earned	Schedule 35	0.00	0.00
Other Income	Schedule 36	76540.00	165450.00
Refund from Projects		0.00	0.00
Total (A)		**85226436.60**	**165450.00**
Expenditure			
Establishment / Administrative Expenses etc.	Schedule 37	6438544.00	5878837.00
Project Expenditures	Schedule 38	43135232.00	41999883.00
Total (B)		**49573776.00**	**47878720.00**
Balance being excess of Income over Expenditure (A-B)		**35652660.60**	
Balance being excess of Expenditure over Income (A-B)			**(-) 47713270.00**
Balance being Surplus transferred to Corpus/Capital Fund		**35652660.60**	**(-) 47713270.00**
Balance being Deficit transferred to Corpus/Capital Fund			

As per our report of even date
for **Rakesh Raj & Associates**
CHARTERED ACCOUNTANTS

Sd/-	Sd/-	Sd/-	Sd/-
ASHWANI TANEJA	ACCOUNTS OFFICER	REGISTRAR/	EXECUTIVE DIRECTOR
(Partner)		HEAD OF PROGRAMME, TIFAC	TIFAC

Date : 01.12.2005
Place : New Delhi

T.I.F.A.C
Scholarship for Women Scientists
Income and Expenditure Account For the Year Ended 31.03.2005

(Amount - Rs)

Income	Schedule / Annexure	Current Year	Previous Year
Grants/Subsidies	Schedule 39	0.00	1781000.00
Interest Earned	Schedule 40	0.00	0.00
Other Income	Schedule 41	0.00	0.00
Refund from Projects		0.00	0.00
Total (A)		**0.00**	**1781000.00**
Expenditures	Schedule 42	2120362.00	361121.00
Total (B)		**2120362.00**	**361121.00**
Balance being excess of Income over Expenditure (A-B)			**1419879.00**
Balance being excess of Expenditure over Income (A-B)		**(-) 2120362.00**	
Balance being Surplus transferred to Corpus/Capital Fund		**(-) 2120362.00**	**1419879.00**

As per our report of even date
for **Rakesh Raj & Associates**
CHARTERED ACCOUNTANTS

Sd/-	Sd/-	Sd/-	Sd/-
ASHWANI TANEJA	**ACCOUNTS OFFICER**	**REGISTRAR/**	**EXECUTIVE DIRECTOR**
(Partner)		**HEAD OF PROGRAMME, TIFAC**	**TIFAC**

Date : 01.12.2005
Place : New Delhi

T.I.F.A.C
CORE-Group on Automotive Research (CAR)
Income and Expenditure Account For the Year Ended 31.03.2005

(Amount - Rs)

Income	Schedule / Annexure	Current Year	Previous Year
Grants/Subsidies	Schedule 43	55000000.00	0.00
Interest Earned	Schedule 44	0.00	0.00
Other Income	Schedule 45	0.00	0.00
Refund from Projects			
Total (A)		**55000000.00**	**0.00**
Expenditure			
Establishment / Administrative Expenses etc.	Schedule 46	0.00	0.00
Project Expenditures	Schedule 47	27923.00	0.00
Total (B)		**27923.00**	**0.00**
Balance being excess of Income over Expenditure (A-B)		**54972077.00**	**0.00**
Balance being excess of Expenditure over Income (A-B)			
Balance being Surplus transferred to Corpus/Capital Fund		**54972077.00**	**0.00**

As per our report of even date
for **Rakesh Raj & Associates**
CHARTERED ACCOUNTANTS

Sd/-	Sd/-	Sd/-	Sd/-
ASHWANI TANEJA	ACCOUNTS OFFICER	REGISTRAR/	EXECUTIVE DIRECTOR
(Partner)		HEAD OF PROGRAMME, TIFAC	TIFAC

Date : 01.12.2005
Place : New Delhi

Technology Information Forecasting and Assessment Council (TIFAC)
Schedules Forming Part of Balance Sheet AS AT 31.03.2005

SCHEDULE 1 – CORPUS/CAPITAL FUND

(Amount –Rs.)

	TIFAC	Vision 2020	Patent Facilitating Centre	National Mission on Bamboo Applications	Scholarship for Women Scientists	CORE- Group on Automotive Research (CAR)	Total	Previous Year Balance
Opening Balance	**298058692.83**	**300802926.16**	**3740915.40**	**(1750103.40)**	**1419879.00**	**0.00**	**602272309.99**	**733877147.59**
Amount Received from NMBA	1750103.40	0.00	0.00	0.00	0.00	0.00	1750103.40	0.00
Excess of Income Over Expenditure	68859563.65	87113507.00	0.00	35652660.60	0.00	54972077.00	**246597808.25**	31417371.00
Total	368668359.88	387916433.16	3740915.40	33902557.20	1419879.00	54972077.00	850620221.64	765294518.59
Excess of Expenditure over Income	0.00	0.00	3269343.00	0.00	2120362.00	0.00	**5389705.00**	163022208.60
Total	0.00	0.00	3269343.00	0.00	2120362.00	0.00	5389705.00	163022208.60
Closing Balance	368668359.88	387916433.16	471572.40	33902557.20	(700483.00)	54972077.00	845230516.64	602272309.99

SCHEDULE 2 – RESERVE AND SURPLUS :	Current Year		Previous Year	
1. Capital Reserve :				
As per last Account		0.00		0.00
Addition during the year		0.00		0.00
Less : Deductions during the year		0.00		0.00
2. Revaluation Reserves :				
As per last Account		0.00		0.00
Addition during the year		0.00		0.00
Less : Deductions during the year		0.00		0.00
3. Special Reserve :				
As per last Account		0.00		0.00
Addition during the year		0.00		0.00
Less : Deductions during the year		0.00		0.00
4. General Reserve :				
As per last Account		0.00		0.00
Addition during the year		0.00		0.00
Less : Deductions during the year		0.00		0.00
TOTAL		**0.00**		**0.00**

Technology Information, Forecasting & Assessment Council
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2005

Amount – Rs.)

SCHEDULE 3- EARMARKED/ENDOWMENT FUNDS		
a) Opening Balance of the funds	**0.00**	0.00
b) Additions to the Funds:		
i) Donations /grants	0.00	0.00
Ii) Income from investments made on account of funds	0.00	0.00
Iii) Other Additions (Specify)		
TOTAL (a+b)	**0.00**	**0.00**
c) Utilization /Expenditure towards objectives of funds		
i) Capital Expenditure	0.00	0.00
Fixed Assets	0.00	0.00
Others	0.00	0.00
Ii) Revenue Expenditure		
Salary, Wages and allowance etc	0.00	0.00
Rent	0.00	0.00
Other Administrative Expenses	0.00	0.00
TOTAL (c)	**0.00**	**0.00**
Net Balance as at the year end (a + b– c)	**0.00**	**0.00**
Notes 1) Disclosures shall be made under relevant Heads based on conditions attaching to the Grants. 2) Plan Funds received from Central /State Governments are to be shown as separate Funds and not to be mixed up with any other Funds		

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)

Schedules Forming Part of Balance Sheet as at 31.03.2005

(Amount –Rs.)

SCHEDULE 4 – SECURED LOANS AND BORROWINGS:	Current Year		Previous Year	
1. Central Government		0.00		0.00
2. State Government (Specify)		0.00		0.00
3. Financial Institutions				
a) Term Loans		0.00		0.00
b) Interest accrued and due		0.00		0.00
4. Banks:				
a) Term Loans		0.00		0.00
- Interest accrued and due		0.00		0.00
b) Other Loans (specify)		0.00		0.00
- Interest accrued and due		0.00		0.00
5. Other Institutions and Agencies		0.00		0.00
6. Debentures and Bonds		0.00		0.00
7. Others (Specify)		0.00		0.00
TOTAL		**0.00**		**0.00**
Note : Amounts due within one year				

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)
Schedules Forming Part of Balance Sheet As At 31.03.2005

(Amount –Rs.)

SCHEDULE 5 – UNSECURED LOANS AND BORROWINGS:	Current Year		Previous Year	
1. Central Government		0.00		0.00
2. State Government (Specify)		0.00		0.00
3. Financial Institutions		0.00		0.00
4. Banks:				
a) Term Loans		0.00		0.00
b) Other Loans (specify)		0.00		0.00
5. Other Institutions and Agencies		0.00		0.00
6. Debentures and Bonds		0.00		0.00
7. Fixed Deposits		0.00		0.00
8. Others (Specify)		0.00		0.00
TOTAL		0.00		0.00
Note : Amounts due within one year				

SCHEDULE 6 – DEFERRED CREDIT LIABILITIES:	Current Year	Previous Year
a) Acceptances secured by hypothecation of Capital equipment and other assets	0.00	0.00
b) Others	0.00	0.00
TOTAL	0.00	0.00
Note : Amounts due within one year		

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)

Schedules Forming Part of Balance Sheet As At 31.03.2005

(Amount – Rs.)

SCHEDULE 7 – CURRENT LIABILITIES AND PROVISIONS	Current Year		Previous Year	
A. CURRENT LIABILITIES				
1. Acceptances				
2. Sundry Creditors:		0.00		0.00
a) For Goods				
b) Others		0.00		0.00
		0.00		0.00
3. Advances Received				
Development of project for High purity magnesia		78680.00		78680.00
4. Interest accrued but not due on:				
a) Secured Loans/borrowings		0.00		0.00
b) Unsecured Loans /borrowings		0.00		0.00
5. Statutory Liabilities:				
a) Over dues		0.00		
b) Others		0.00		0.00
6. Other current Liabilities				0.00
a) Salary Payable (Prof. Ganapathy)		1800.00		1800.00
b) Nominal Charges for Dissemination of TIFAC Report		6183.00		6183.00
c) Earnest Money (JVD Builders)		0.00		50000.00
d) Security Ecorel Multitech System		10730.00		89975.00
e) Earnest Money (Maunnu Lal and Sons.)		500000.00		500000.00
f) Security Depoist				
Matrix Power products		15741.00		40045.00
Union Tech India P.Ltd		81017.00		81017.00
Apex Peripherals (I) Pvt. Ltd.		1845.00		1845.00
System Technology		1695.00		5555.00
M/s Mannu Lal & Sons (Electrical Works)		474307.00		0.00
M/s Graphic System Pvt Ltd		89454.00		0.00
M/s Mannu Lal & Sons (Interior/Civil)		324397.00		0.00
M/s Impressions Services Pvt. Ltd.		30000.00		0.00

	Stale Cheque		102003.06		98209.00
g)	Expenses Payable (As per Annexure9)		2201275.00		2668977.00
h)	CPF		0.00		1200.00
i)	Computer Advance:Sh.S.K.Pandey		450.00		450.00
j)	Project ICOSER (Annex.11)		10663154.00		10663154.00
k)	Indian Myanmar S&T Friendship library in Yangon. (Annex.12)		959659.00		959659.00
l)	Indian Copper Market Focus on Recyclable (Annex. 13)		225916.00		225916.00
m)	MSEB-Ash Utilization / Management (Annex. 14)		2107131.00		0.00
n)	FAM Large Scale Stowing of HWP Pond Ash into the underground Mines of SCCL (M) Manuguru (Annex.15)		5296703.00		0.00
o)	Earth Quake Surving Nature's Fury (Annex.16)		1480100.00		0.00
p)	Earnest Money : M/s Geo – Hydromechs (India), Roorkee.		30000.00		0.00
q)	Earnest Money : M/s Crompton Greaves (EPBAX Work & Lan Work).		15000.00		0.00
r)	Earnest Money : M/s Impression Pvt Ltd, House Keeping Work of TIFAC Building.		20000.00		0.00
s)	Earnest Money : M/s HCL Infosystem Ltd		50000.00		0.00
t)	Fly Ash Sponsorship for National Seminar-cum- Business Meet.		670705.00		0.00
u)	DRDO – PFC (Annex.18)		300000.00		0.00
v)	Sundry Creditor : M/s H.R.Electronics Pvt Ltd		8490.00		0.00
w)	Sundry Creditor : M/s Mahashwari Rice Mills Pvt Ltd		1062500.00		0.00
x)	GSLIS		27.00		0.00
y)	Supply of Primary Bamboo Processing Machinery (Textile Machinary)(Handicraft)		1200000.00		0.00
z)	Pm's Relief Fund (TSUNAMI)		18128.00		0.00
TOTAL (A)			**28027090.06**		**15472665.00**

B. PROVISIONS				
1. For Taxation		0.00		0.00
2. Gratuity		0.00		0.00
3. Superannuation /Pension		0.00		0.00
4. Accumulated Leave Encashment		0.00		0.00
5. Trade Warranties/Claims		0.00		0.00
6. Others (Specify)		0.00		0.00
TOTAL (B)		0.00		**0.00**
TOTAL (A+B)		**28027090.06**		**15472665.00**

Technology Information Forecasting And Assessment Council (TIFAC) (Regular)

Schedules Forming Part of Balance Sheet As At 31.03.2005

(Amount – Rs)

	GROSS BLOCK				DEPRECIATION				NET BLOCK	
SCHEDULE 8-FIXED ASSETS DESCRIPTION	Cost / valuation As at beginning of the year	Additions during the year	Deductions during the year	Cost / valuation at the year end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total upto the year end	As at the current year end	As at the precious year end
A. FIXED ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. a) Freehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b) Leasehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2. BUILDING	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
a) On Freehold Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b) On Leasehold Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
c) Ownership Flats/Premises	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d) Superstructures on Land not belonging to the entity	117850000.00	0.00	0.00	117850000.00	0.00	11785000.00	0.00	11785000.00	106065000.00	0.00
3. PLANT MACHINERY & EQUIPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4. VEHICLES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. FURNITURE & FIXTURES	1429483.60	100380.00	0.00	1529863.60	867476.49	99358.00	0.00	966834.49	563029.11	562007.11
6. OFFICE EQUIPMENT	18068517.06	1403034.00	8500.00	19463051.06	12492521.16	640275.69	0.00	13132796.85	6330254.21	5575995.90
7. COMPUTER/PERIPHERALS	1327180.00	291100.00	0.00	1618280.00	902030.00	412605.00	0.00	1314635.00	303645.00	425150.00
8. ELECTRIC INSTALLATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LIBRARY BOOKS	4778161.55	25772.00	0.00	4803933.55	4284917.52	508829.53	0.00	4793747.05	10186.50	493244.03
10. TUBEWELL & W.SUPPLY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11. OTHER FIXED ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OF CURRENT YEAR	143453342.21	1820286.00	8500.00	145265128.21	18546945.17	13446068.22	0.00	31993013.39	113272114.82	7056397.04
PREVIOUS YEAR	24926509.21	853883.00	177050.00	25603342.21	17207275.17	1339670.00	0.00	18546945.17		
B. CAPITAL WORK IN PROGRESS										
Cost of Assets on hire purchase basis included above										

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)

Schedules Forming Part of Balance Sheet As At 31.03.2005

(Amount – Rs.)

SCHEDULE 9– INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS	Current Year	Previous Year
1. In Government Securities	0.00	0.00
2. Other approved Securities	0.00	0.00
3. Shares	0.00	0.00
4. Debentures and Bonds	0.00	0.00
5. Subsidiaries and Joint Ventures	0.00	0.00
6. Others (to be specified)	0.00	0.00
TOTAL	**0.00**	0.00

SCHEDULE 10 – INVESTMENTS - OTHERS		
1. In Government Securities	0.00	0.00
2. Other approved Securities	0.00	0.00
3. Shares	0.00	0.00
4. Debentures and Bonds	0.00	0.00
5. Subsidiaries and Joint Ventures	0.00	0.00
6. Others (to be specified)	0.00	0.00
TOTAL	**0.00**	**0.00**

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)
Schedules Forming Part of Balance Sheet As At 31.03.2005

(Amount –Rs.)

SCHEDULE 11 – CURRENT ASSETS, LOANS, ADVANCES ETC.	Current Year		Previous Year	
A. CURRENT ASSETS				
1. Inventories:				
a) Stores and Spares	0.00		0.00	
b) Loose Tools	0.00		0.00	
c) Stock-in-trade				
Finished Goods	0.00		0.00	
Work-in-progress	0.00		0.00	
Raw Materials	0.00	0.00	0.00	0.00
2. Sundry Debtors:				
Sundry Debtor – DST	2639680.00		2639680.00	
Sundry Debtors-MTNL	5357.00		5357.00	
Sundry Debtors – Honorarium	5000.00		5000.00	
Sundry Debtor- DSIR	12712.00		12712.00	
Sundry Debtor- Punjab Tech. Univ.	0.00		0.00	
Sundry Debtor – STM	40240969.00		40001166.00	
Sundry Debtor – Cabinet Sectt.	450295.00	43354013.00	212334.00	42876249.00
3. Cash balances in hand (including cheques/drafts and imprest)		39518.00		7560.00
4. Bank Balances:				
a) With Scheduled Banks: (Union Bank of India)				
On Current Accounts	0.00		0.00	
On Deposit Accounts (Short term deposits) (Annex 7)	385475070.00		412164104.00	
On Savings Accounts	281816495.33		25114061.40	
On Interest Receivable	0.00	667291565.33	0.00	437278165.40
		0.00		0.00
With non-Scheduled Banks:				
On Current Accounts		0.00		0.00
On Deposit Accounts		0.00		0.00
On Savings Accounts		0.00		0.00
5. Post Office-Savings Accounts		0.00		0.00
TOTAL (A)		710685096.33		480161974.40

B. LOANS, ADVANCES AND OTHER ASSETS				
1. Loans				
a) Staff (Annexure No. 1)		**652002.00**		**1025977.00**
2. Advance and other amounts recoverable in cash or in kind or for value to be received.				
a) On capital Account				
1) Advance for projects materials				
IIM Bangalore	2630.00		2630.00	
SAIL NMPP.	19736.55	**22366.55**	19736.55	**22366.55**
b) Prepayments		**0.00**		**0.00**
c) Others				
- Advance : Franking Machine	36675.00		33250.00	
- Security Deposit with Qutub Hotel.	0.00		1840000.00	
- Security Deposit with Hauz Khas P.O.	17.00		17.00	
- Security Deposit Guest House	0.00		46500.00	
- Security Deposit MTNL	61500.00		61500.00	
- Security Deposit Lease Accomodation	9500.00		9500.00	
- Advance to BISR (Haldwani)	76173.00		76173.00	
- Construction of Reception Office (DST)	3259953.00		3259953.00	
- Security Deposit :Kendriya Vidyalaya Sangat	0.00		2000.00	
- Security Deposit:S.R.Enterprises	2700.00		2700.00	
- Security Deposit Tata Teleservices Ltd.	16000.00	**3462518.00**	16000.00	**5347593.00**
3. Income Accrued:-				
a) On Investments from Earmarked/ Endowment Funds	0.00		0.00	
b) On Investment – Others	0.00		0.00	
c) On Loans and Advances	0.00		0.00	
d) Others (includes income due unrealized Rs.....)	0.00	**0.00**	0.00	**0.00**
4. Claims Receivable				
Interest HBA : Dr. D.N. Singh		**94518.00**		**0.00**
Security Deposit : Guest House (Sarupriya Vihar)		**75000.00**		**0.00**
Sundry Debtor : M/s Subramaniam Natraj & Associates		**1435.00**		**0.00**
Sundry Debtor : Lease Rent		**9500.00**		**0.00**
Advance : M/s HCL Infosystems Ltd		**1600000.00**		**0.00**
Advance : Ashok Hotel		**200000.00**		**0.00**
CPF		**732.00**		**0.00**
Total – B		**6118071.55**		**6395936.55**
Total (A + B)		**716803167.88**		**486557910.95**

Technology Information Forecasting and Assessment Council (TIFAC)(Regular)
Schedules Forming Part of Balance Sheet As At 31.03.2005

(Amount – Rs.)

SCHEDULE 11A – CAPITAL FUND IN PROGRESS	Current Year		Previous Year	
i) Advance to IIT Delhi for Land & Building	0.00		117850000.00	
ii) Advance Mobilisation (Civil)	0.00		1447173.00	
iii) Advance Mobilisation (HVAC)	986413.00		986413.00	
iv) Interior Work of TIFAC Building (Civil/Elect)	42195911.00	43182324.00	3847081.00	124130667.00
		43182324.00		**124130667.00**

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount –Rs.)

SCHEDULE 12– INCOME FROM SALES /SERVICES	Current Year	Previous Year
1. Income from Sales		
a) Sale of finished Goods	0.00	0.00
b) Sale of Raw Material	0.00	0.00
c) Sale of Scraps	0.00	0.00
2. Income from Services		
a) Labors and Processing Charges	0.00	0.00
b) Professional/Consultancy Services	0.00	0.00
c) Agency Commissions and Brokerage	0.00	0.00
d) Maintenance Services (Equipment/Property)	0.00	0.00
e) Others (Specify)	0.00	0.00
TOTAL	0.00	0.00

SCHEDULE 13– GRANTS/SUBSIDIES (TIFAC Regular) (Irrevocable Grants & Subsidies Received)	Current Year	Previous Year
1. From Central Government		
A. TIFAC GRANTS		
Grants in Aid (Plan)	120000000.00	91400000.00
Grant in Aid (Non plan)	900000.00	1000000.00
Grant in Aid : Bamboo Composite Laminates	33100000.00	0.00
2. State Government(s)	0.00	0.00
3. Government Agencies	0.00	0.00
4. Institutions/Welfare Bodies	0.00	0.00
5. International Organisations	0.00	0.00
6. Others (Specify).	0.00	0.00
TOTAL	**154000000.00**	**92400000.00**

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount –Rs.)

SCHEDULE 14– FEES/SUBSCRIPTIONS	Current Year	Previous Year
1. Entrance Fees	0.00	0.00
2. Annual Fees/Subscriptions	0.00	0.00
3. Seminar/Program Fees	0.00	0.00
4. Consultancy Fees	0.00	0.00
5. Others (Specify)		
i) Tender Documents for EPABX & Lan Network for TIFAC Building	7000.00	0.00
ii) Technology Transfer Fee : Muncipal Solid Waste to Refuse Derived Fuel project for Grasim Cement Plants	150000.00	0.00
TOTAL	**157000.00**	0.00

SCHEDULE 15– INCOME FROM INVESTMENTS (Income on Invest. From Earmarked/Endowment Funds transferred to Funds)	Investment from Earmarked Fund		Investment – Others	
	Current Year	Previous Year	Current Year	Previous Year
1. Interest				
a) On Govt. Securities	0.00		0.00	0.00
b) Other Bonds/Debentures	0.00		0.00	0.00
2. Dividends:				
a) On Shares	0.00		0.00	0.00
b) On Mutual Fund Securities	0.00		0.00	0.00
3. Rents	0.00		0.00	0.00
4. Others (Specify)	0.00		0.00	0.00
TOTAL	**0.00**		0.00	0.00

TRANSFERRED TO EARMARKED/ENDOWMENT FUNDS

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)

Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount –Rs.)

SCHEDULE 16– INCOME FROM ROYALTY, PUBLICATION ETC.	Current Year	Previous Year
1. Income from Royalty	0.00	0.00
2. Income from Publications	809498.87	515463.00
3. Others (Specify)	0.00	0.00
4. Interest : Mobilisation Advance. (Civil)	71309.00	37869.00
TOTAL	**880807.87**	**553332.00**

SCHEDULE 17– INTEREST EARNED (REGULAR)	Current Year	Previous Year
1. On Term Deposits:		
a) With Scheduled Banks	9184893.00	10639024.00
b) With Non-Scheduled Banks	0.00	0.00
c) With Institutions	0.00	0.00
d) Others	0.00	0.00
2. On Savings Accounts:		
a) With Scheduled Banks	3329416.00	833581.00
b) With Non-Scheduled Banks	0.00	0.00
c) Post Office Savings Accounts	0.00	0.00
d) Others	0.00	0.00
3. On Loans:		
a) Employees/Staff	10534.00	11720.00
b) Others (Long term advances)	0.00	0.00
4. Interest on Debtors and Other Receivables	0.00	0.00
TOTAL	**12524843.00**	**11484325.00**

Note - Tax deducted at source to be indicated

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)
Schedules Forming Part of Income & Expenditure for the Period/Year Ended 31.03.2005

(Amount –Rs.)

SCHEDULE 18-OTHER INCOME.	Current Year	Previous Year
1. Profit on Sale/disposal of Assets		
a) Owned assets	0.00	0.00
2. Assets acquired out of grants, or received free of cost	0.00	0.00
3. Export Incentives realized	0.00	0.00
4. Fees for Miscellaneous Services	0.00	0.00
5. Miscellaneous Income		
- Other receipts (computers)(TIFAC, FAUPT & ACPT)	17800.00	14400.00
- Other receipts	177767.00	17514.00
- Asian India Workshop	78582.00	0.00
- Construction :TIFAC Building / Interior (Tender Documents)	0.00	124500.00
- Recovery of Rent from Qutab Hotel	0.00	199000.00
- Workshop on ICT as a Development Enabler – S&T Interventions	250000.00	0.00
TOTAL	524149.00	355414.00

SCHEDULE 19– INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS & WORK IN PROGRESS	Current Year	Previous Year
a) Closing stock		
- Finished Goods	0.00	0.00
- Work-in-progress	0.00	0.00
b) Less: Opening Stock		
- Finished Goods	0.00	0.00
- Work -in –progress	0.00	0.00
NET INCREASE/(DECREASE) [a-b]	0.00	0.00

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)

Schedules Forming Part of Income & Expenditure for the Period/Year Ended 31.03.2005

(Amount –Rs)

	Current Year	Previous Year
SCHEDULE 20–ESTABLISHMENT EXPENSES (TIFAC REGULAR)		
a) **Salaries**	13442795.00	10105344.00
b) Allowances and Bonus	0.00	0.00
c) TIFAC Contribution to Provident Fund	511469.00	489933.00
d) Contribution to Other Fund (specify)	0.00	0.00
e) Staff Welfare Expenses	0.00	0.00
f) Expenses on Employees' Retirement and Terminal Benefits (Gratuity)	0.00	0.00
g) Others (Specify)		
- Consulting charges	3690.00	31925.00
- Wages	0.00	504.00
- Honorarium	27200.00	68500.00
- Medical Expenses	792983.00	408242.00
- Leave Travel Concession	147115.00	276509.00
- Leave Salary & Pension Contribution	116002.00	0.00
TOTAL	**15041254.00**	**11380957.00**

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount –Rs.)

SCHEDULE 21-ADMINISTRATIVE EXPENSES ETC.	Current Year	Previous Year
a) Repairs and maintenance	364760.00	396732.00
b) Rent, Rates and Taxes	2603178.00	5521725.00
c) Car Hire Charges	1173658.00	1011729.00
d) Postage, Telephone and Communication Charges	1943054.00	1232879.00
e) Printing and Stationary	1651389.00	1471401.00
f) Travelling and Conveyance Expenses	2716507.00	1563111.00
g) Expenses on Seminary/Workshops/Meeting Expenses/Others Exp.	2012744.00	6625404.00
h) Subscription Expenses	1197026.00	1036028.00
i) Expenses on Fees (Tution fee)	5280.00	2880.00
j) Auditors Remuneration	19396.00	19396.00
k) Advertisement and Publicity	1032749.00	242141.00
l) Others (Specify)		
- Bank Charges	23641.00	0.00
- MISC. Office Expenses	1272448.00	496096.00
- TIFAC Membership	10000.00	10000.00
m) Maintenance of Vishwakarma Bhavan	1000000.00	450000.00
n) Loss on sale of Fixed Assets	0.00	91319.00
o) Legal Charges	270120.00	35957.00
p) Bio-Medical Engineering	7396.00	0.00
q) International Conference on Fly Ash	2100.00	0.00
TOTAL	17305446.00	20206798.00

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)

Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount –Rs.)

	Current Year	Previous Year
SCHEDULE 22-EXPENDITURE ON GRANTS, SUBSIDIES ETC.		
a) Grants given to Institutions/Organisations		
Project Expenditure (As per Annexure-4)	90868906.00	75113412.00
b) Subsidies given to Institutions/Organisations	0.00	0.00
TOTAL	**90868906.00**	**75113412.00**

Note_– Name of the Entities, their Activities along with the amount of Grants/Subsidies are to be disclosed.

	Current Year	Previous Year
SCHEDULE 23– INTEREST		
a) On Fixed Loans (Including Bank Charges)	0.00	0.00
b) On Other Loans (including Bank Charges)	0.00	0.00
c) Others (Specify)	0.00	0.00
TOTAL	**0.00**	**0.00**

T.I.F.A.C
TECHNOLOGY VISION 2020
Schedules Forming Part of Income & Expenditure for The Year Ended 31.03.2005

(Amount - Rs)

SCHEDULE 24– GRANTS/SUBSIDIES (VISION 2020)	Current Year	Previous Year
(Irrevocable Grants & Subsidies Received)		
2. From Central Government		
A. Technology Vision 2020 GRANTS		
Grants in Aid (Plan)	130000000.00	0.00
Grant in Aid (Non plan)	0.00	0.00
2. State Government(s)	0.00	0.00
3. Government Agencies	0.00	0.00
4. Institutions/Welfare Bodies	0.00	0.00
5. International Organisations	0.00	0.00
6. Others (Specify)	0.00	0.00
TOTAL	**130000000.00**	**0.00**

SCHEDULE 25 – INTEREST EARNED	Current Year	Previous Year
1. On Term Deposits:		
a) With Scheduled Banks (Annexure 2)	8781390.00	13017514.00
b) With Non-Scheduled Banks	0.00	0.00
c) With Institutions	0.00	0.00
d) Others	0.00	0.00
TOTAL	**8781390.00**	**13017514.00**
Note - Tax deducted at source to be indicated		

T.I.F.A.C
TECHNOLOGY VISION 2020
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount - Rs)

SCHEDULE – 26	Current Year	Previous Year
Other Income (Agriculture)	100000.00	0.00
Sponsorship Fee from ONGC	197800.00	0.00
TOTAL	297800.00	0.00

SCHEDULE – 27	Current Year	Previous Year
ESTABLISHMENT & ADMINISTRATIVE EXPENDITURE (Annexure 6)	4131882.00	5227786.00
TOTAL	4131882.00	5227786.00

SCHEDULE – 28	Current Year	Previous Year
Project Expenditure (Annexure 6 A)	83671536.00	147649220.00
TOTAL	83671536.00	147649220.00

T.I.F.A.C
PATENT FACILITATING CENTRE
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount - Rs)

SCHEDULE 29– GRANTS/SUBSIDIES (Irrevocable Grants & Subsidies Received)	Current Year	Previous Year
3. From Central Government		
A. Patent Facilitating Centre GRANTS		
Grants in Aid (Plan)	10000000.00	15000000.00
Grant in Aid (Non plan)	0.00	0.00
2. State Government(s)	0.00	0.00
3. Government Agencies	0.00	0.00
4. Institutions/Welfare Bodies	0.00	0.00
5. International Organisations	0.00	0.00
6. Others (Specify)		
TOTAL	**10000000.00**	**15000000.00**

SCHEDULE 30 – INTEREST EARNED	Current Year	Previous Year
1. On Term Deposits:		
a) With Scheduled Banks -	0.00	0.00
b) With Non-Scheduled Banks	0.00	0.00
c) With Institutions	0.00	0.00
d) Others	0.00	0.00
TOTAL	**0.00**	**0.00**

Note - Tax deducted at source to be indicated

T.I.F.A.C
PATENT FACILITATING CENTRE
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount - Rs)

SCHEDULE – 31	Current Year	Previous Year
Other Income (Annexure 3)	250437.00	255020.00
TOTAL	250437.00	255020.00

SCHEDULE – 32	Current Year	Previous Year
ESTABLISHMENT & ADMINISTRATIVE EXPENDITURE (Annexure 3 A)	6825238.00	7777392.00
TOTAL	6825238.00	7777392.00

SCHEDULE – 33	Current Year	Previous Year
Project Expenditure (Annexure 3 B)	6694542.00	4744319.00
TOTAL	6694542.00	4744319.00

T.I.F.A.C
NATIONAL MISSION FOR BAMBOO APPLICATIONS
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount - Rs)

SCHEDULE 34– GRANTS/SUBSIDIES (Irrevocable Grants & Subsidies Received)	Current Year	Previous Year
1. From Central Government		
A. National Mission for Bamboo Applications GRANTS		
Grants in Aid (Plan)	85149896.60	0.00
Grant in Aid (Non plan)	0.00	0.00
2. State Government (s)	0.00	0.00
3. Government Agencies	0.00	0.00
4. Institutions/Welfare Bodies	0.00	0.00
5. International Organisations	0.00	0.00
6. Others (Specify)	0.00	0.00
TOTAL	**85149896.60**	**0.00**

SCHEDULE 35– INTEREST EARNED	Current Year	Previous Year
1. On Term Deposits:		
a) With Scheduled Banks	0.00	0.00
b) With Non-Scheduled Banks	0.00	0.00
c) With Institutions	0.00	0.00
d) Others	0.00	0.00
TOTAL	**0.00**	**0.00**

Note - Tax deducted at source to be indicated

T.I.F.A.C
NATIONAL MISSION FOR BAMBOO APPLICATIONS
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount - Rs)

SCHEDULE – 36	Current Year	Previous Year
Other Income : Sale of Publications	74140.00	165450.00
Other Income (Computers)	2400.00	0.00
_TOTAL	**76540.00**	**165450.00**

SCHEDULE – 37	Current Year	Previous Year
Establishment & Administrative Expenditure (Annexure10)	6438544.00	5878837.00
TOTAL	**6438544.00**	**5878837.00**

SCHEDULE – 38	Current Year	Previous Year
Project Expenditure (Annexure10 A)	43135232.00	41999883.00
TOTAL	**43135232.00**	**41999883.00**

T.I.F.A.C
SCHOLARSHIP FOR WOMEN SCIENTISTS
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount - Rs)

SCHEDULE 39– GRANTS/SUBSIDIES (Irrevocable Grants & Subsidies Received)	Current Year	Previous Year
1. From Central Government		
A. SCHOLARSHIP FOR WOMEN SCIENTISTS GRANTS		
Grants in Aid (Plan)	0.00	1781000.00
Grant in Aid (Non plan)	0.00	0.00
2. State Government(s)	0.00	0.00
3. Government Agencies	0.00	0.00
4. Institutions/Welfare Bodies	0.00	0.00
5. International Organisations	0.00	0.00
6. Others (Specify)	0.00	0.00
TOTAL	**0.00**	**1781000.00**

SCHEDULE 40– INTEREST EARNED	Current Year	Previous Year
1. On Term Deposits:		
a) With Scheduled Banks	0.00	0.00
b) With Non-Scheduled Banks	0.00	0.00
c) With Institutions	0.00	0.00
d) Others	0.00	0.00
TOTAL	**0.00**	**0.00**

Note - Tax deducted at source to be indicated

T.I.F.A.C
SCHOLARSHIP FOR WOMEN SCIENTISTS
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount - Rs)

SCHEDULE –41	Current Year	Previous Year
Other Income	0.00	0.00
TOTAL	0.00	0.00

SCHEDULE – 42	Current Year	Previous Year
Expenditure (Stipend to women Scientist including exam expenses)	2120362.00	361121.00
TOTAL	2120362.00	361121.00

T.I.F.A.C
CORE-Group on Automotive Research (CAR)
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount - Rs)

SCHEDULE 43– GRANTS/SUBSIDIES (Irrevocable Grants & Subsidies Received)	Current Year	Previous Year
1. From Central Government		
A. CORE-Group on Automotive Research (CAR)		
Grants in Aid (Plan)	55000000.00	0.00
Grant in Aid (Non plan)	0.00	0.00
2. State Government(s)	0.00	0.00
3. Government Agencies	0.00	0.00
4. Institutions/Welfare Bodies	0.00	0.00
5. International Organisations	0.00	0.00
6. Others (Specify)	0.00	0.00
TOTAL	**55000000.00**	**0.00**

SCHEDULE 44– INTEREST EARNED	Current Year	Previous Year
1. On Term Deposits:		
a) With Scheduled Banks	0.00	0.00
b) With Non-Scheduled Banks	0.00	0.00
c) With Institutions	0.00	0.00
d) Others	0.00	0.00
TOTAL	0.00	0.00

Note - Tax deducted at source to be indicated

T.I.F.A.C
CORE-Group on Automotive Research (CAR)
Schedules Forming Part of Income & Expenditure for the Year Ended 31.03.2005

(Amount - Rs)

SCHEDULE – 45	Current Year	Previous Year
Other Income	0.00	0.00
TOTAL	**0.00**	**0.00**

SCHEDULE – 46	Current Year	Previous Year
Establishment & Administrative Expenditure (Annexure17)	0.00	0.00
TOTAL	**0.00**	**0.00**

SCHEDULE – 47	Current Year	Previous Year
Project Expenditure (Annexure17 A)	27923.00	0.00
TOTAL	**27923.00**	**0.00**

Technology Information, Forecasting & Assessment Council
SCHEDULES FORMING PART OF ACCOUNTS FOR THE PERIOD ENDED 31.03.2005

SCHEDULE – 48

ACCOUNTING POLICIES AND NOTES TO THE ACCOUNTS FOR THE YEAR ENDING 31ST MARCH, 2005

A) ACCOUNTING POLICIES

1 The Council has adopted Mercantile System of the Accounting.

2 Fixed Assets are shown at cost Less Depreciation.

3 Prior period and extra ordinary items and changes in accounting policies having material impact on the financial affairs of the Council are disclosed.

4 Depreciation has been calculated as per Income Tax Act, 1961.Deviation are as per Note B(1) below.

5 Amounts released under various projects are accounted as expenditure for the year in which the same are released, irrespective of the fact that the amounts so released may not have been fully utilised towards the projects during the accounting year.

6 Unspent amount of grant received during the year for specific purposes has transferred to Capital Account.

7 The repayment of grant / assistance to TIFAC by the beneficiaries, as per condition stated in agreements with them shall be accounted on receipt basis.

8 All disbursements for projects are treated as expenditure during the Financial Year and assets created, if any, out of the said disbursements to the project, are not accounted for as assets in the books.

9 Contingent liabilities in respect of on-going Projects / Studies etc. are neither provided nor determined.

10 Total expenditure is not bifurcated in plan and non plan expenditures in financial statements.

B) NOTES TO THE ACCOUNTS

1 Depreciation amount Rs.13446068.22 has been provided during the financial year 2004-2005 but depreciation is not provided for Fixed Assets created in respect of following project (i.e expenditure on Fixed Assets treated as Revenue Expenditure)-Capital Expenditure of Vision 2020-Capital Expenditure of Patent Facilitating Centre- Capital Expenditure of National Mission on Bamboo Applications.

2 Stock of Publications and Studies, which are published and printed by the Council and distributed at a cost are not accounted for as Stock in hand at the end of the year.

3 Expenses for purchase of Capital Goods debited to grants utilized and not shown as fixed assets in the final statements are as below:

	CURRENT YEAR (Rs.)	PREVIOUS YEAR (Rs.)
Capital Expenditure of Visio 2020		
Furniture	0.00	36200.00
Office Equipment	3600.00	161833.00
Computer/ Peripherals	24700.00	390090.00
Patent Facilitating Centre		
Office Equipment	0.00	7150.00
Computer	180720.00	14750.00
Furniture	0.00	6850.00
MISSION PROJECT ON TECHNOLOGY FOR BAMBOO PRODUCTS		
Office Equipment	0.00	552723.00
Computer/ Peripherals	149515.00	622905.00
Furniture	9350.00	111088.00
Others	2660.00	13753.00

4. Audited financial statements / utilization statements duly certified by Chartered Accountants in respect of grant utilized / released during the year has not yet been received in some cases from the implementing agencies.

5 There are no query / note by parliament / Department of Science and Technology outstanding in respect of previous audited accounts of TIFAC. This is as certified by the registrar.

6. Previous year figures have been regrouped wherever necessary, to make them comparable with current year figures.

7. Accounts have been prepared as per New format provided by CAG for Non-profit organization. Previous year's figures have also been re-arranged as per new format. The format for Income & Expenditure A/cs has been changed in order to reflect all types of grants received by TIFAC in the account. The previous year's figures have been regrouped accordingly in the Income & Expenditure Account.

8. Liability towards gratuity payable on death / retirement of employees is not provided for.

9. Provision for accumulated leave encashment benefit to employees is not provided for.

10.	Necessary Provision has been made for the following Expenses	
	Salary	1248119.00
	Audit Fees	38792.00
	Repair & Maintenance	34000.00
	Car Hire Charges	119498.00
	Telephone Expenses	73566.00
	Other Expenses	687300.00
11.	Travelling expenses related to meeting paid to outside party has been accounted for as meeting expenses during the Financial year 2004-2005.	
12. A)	The following advances have been created during the F.Y 2004-2005	
	Advance Mobilisation (HVAC)	986413.00
	Interior Work of TIFAC (Civil / Electrical)	42195911.00
B)	Rs.117850000/- shown in Capital Fund in Progress (Schedule 11A) in F.Y. 2003-2004 has been transferred to Fixed Assets.	

for **RAKESH RAJ & ASSOCIATES**
CHARTERED ACCOUNTANTS

-Sd-	-Sd-	-Sd-	-Sd-
ASHWANI TANEJA	**ACCOUNTS OFFICER**	**REGISTRAR/**	**EXECUTIVE DIRECTOR**
(PARTNER)		**HEADS OF PROGRAMME, TIFAC**	**TIFAC**

DATE: 01.12.2005
PLACE: NEW DELHI

Technology Information, Forecasting & Assessment Council
Schedules Forming Part of Accounts for the Period ended 31.03.2005

SCHEDULE 49 – CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS (Illustrative)

1. CONTINGENT LIABILITIES

1.1. Claims against the Entity not acknowledged as debts – Rs. ___NIL____ (Previous year Rs. ____NIL____)

1.2. In respect of
- Bank guarantees given by/on behalf of the Entity – Rs. ___NIL___ (Previous year Rs. ___NIL___)
- Letters of Credit opened by Bank on behalf of the Entity – Rs. ___NIL___ (Previous year Rs. ___NIL_)
- Bills discounted with banks Rs. ____NIL____ (Previous year Rs. ____NIL____)

1.3. Disputed demands in respect of :

Income-tax Rs. ____NIL___ (Previous year Rs. ____NIL____)
Sales-tax Rs. _____NIL___ (Previous year Rs. ____NIL_____)
Municipal Taxes Rs. ___NIL_____ (Previous year Rs. ____NIL_____)

1.4. In respect of claims from parties for non-execution of orders, but contested y the Entity – Rs. __NIL_(Previous year Rs. ___NIL__)

2. CAPITAL COMMITMENTS

Estimated value of contracts remaining to be executed on capital account and not provided for (net of advances) Rs. ____NIL___ (Previous year Rs. ____NIL_____)

3. LEASE OBLIGATIONS

Future obligations for rentals under finance lease arrangements for plant and machinery amount to Rs. _NIL(Previous year Rs. NIL)

4. CURRENT ASSETS, LOANS AND ADVANCES

In the opinion of the Management, the current assets, loans and advances have a value on realization in the ordinary course of business, equal at least to the aggregate amount shown in the Balance Sheet.

5. TAXATION

In view of there being no taxable income under Income-tax Act 1961, no provision for Income Tax has been considered necessary.

SCHEDULE 49– CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS (Illustrative) – Contd.

(Amount-Rs.)

6. FOREIGN CURRENCY TRANSACTIONS	Current Year	Previous Year
6.1. Value of Imports Calculated on C.I.F. Basis:		
- Purchase of finished Goods	N.A.	N.A.
- Raw Materials & Components (Including in transit)	N.A.	N.A.
- Capital Goods	N.A.	N.A.
- Stores, Spares and Consumables	N.A.	N.A.
6.2. Expenditure in foreign currency:		
a) Travel	N.A.	N.A.
b) Remittances and Interest payment to Financial Institutions/ Banks in Foreign Currency	N.A.	N.A.
c) Other expenditure:		
- Commission on Sale	N.A.	N.A.
- Legal and Professional Expenses	N.A.	N.A.
- Miscellaneous Expenses	N.A.	N.A.
6.3. Earnings:		
Value of Exports on FO basis	N.A.	N.A.
6.4. Remuneration to auditors:		
As Auditors	0.00	0.00
- Taxation matters	0.00	0.00
- For Management services	0.00	0.00
- For certificate	19396.00	19396.00
Others		

7. Corresponding figures for the previous year have been regrouped/rearranged, wherever necessary.

8. Schedules 1 to 49 are annexed to and form an integral part of the Balance Sheet as at 31.03.2005 and the Income and Expenditure Account for the year ended on that date.

Annexure-1

STAFF ADVANCES

A Advances	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
ADVANCE		
RDCIS , Ranchi	4852.00	4852.00
Staff Advance		
Shri Shambu Kumar	544.00	6000.00
Shri Gautam Goswami	0.00	3500.00
Shri.Surender Prasad	0.00	5500.00
Shri Ravi Dutt.	0.00	3500.00
Ms. Geeta Nair	0.00	3500.00
Ms. Reena Dwivedi	0.00	1000.00
Shri Anil Kumar Rai	10544.00	6000.00
Shri Surender Kumar	500.00	6500.00
Shri Ramesh Kumar	0.00	500.00
Ms. Anita Nair	0.00	500.00
Shri Sushil Kumar Jha	2000.00	8000.00
Ms. Mini K.K.	3000.00	9000.00
Shri Rajan Sharma	7500.00	0.00
Shri N.S. Nair	2500.00	8500.00
Shri M. Thamaraiselvan	0.00	1500.00
Shri.T.Chakradhar	4000.00	10000.00
Dr.P.K.Anil Kumar	2000.00	0.00
B. HBA Advance		
Mr. N.S. Nair	99000.00	153000.00
Dr. D.N. Singh	0.00	279698.00
C. Scooter Advance		
Shri Shambu Kumar	12500.00	18500.00
Shri.Ramesh Kumar	20650.00	27730.00
Shri Ranbir Singh	10850.00	15050.00
Shri.D.Ghosh	2500.00	30000.00
Shri.Rajan Sharma	30000.00	0.00
D. Car Advance		
Shri A.K. Ahuja	68750.00	83750.00
Shri.N.S.Nair	71600.00	85040.00
Shri.Deepak Bhatnagar	120000.00	156000.00

Contd...

STAFF ADVANCES (Contd...)

A Advances	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
E. LTC		
Shri Ramesh Kumar	0.00	8460.00
Shri. Suresh Kumar	0.00	5900.00
Shri.N.S.Nair	0.00	12000.00
Ms.Sangeeta Bakshi	0.00	8100.00
Shri.M.Themaraiselvan	0.00	1780.00
Shri.Sh.T.Chandrasekhar	13000.00	0.00
Shri.Shushil Kumar Jha	1800.00	0.00
F. Tour Advance		
Shri.Arghya Sardar	0.00	2500.00
Shri.G.Srikanth	10000.00	2000.00
Shri.Deepak Bhatnagar	4000.00	4000.00
Shri.Mahender Vittal	0.00	18039.00
Ms.Deepti Debas	0.00	18039.00
Ms.S.Chakraborty	0.00	18039.00
Sh.S.K.Pandey	149912.00	0.00
Total	652002.00	1025977.00

Annexure-2

INTEREST EARNED (Technology Vision 2020)

1. On Term Deposits	Current Year Amount (Rs.)	Previous Year (Amount (Rs.)
— Vision 2020	4044054.00	7510288.00
— Targeted Programme in other important areas	0.00	693620.00
— Textile machinery	1059613.00	1073092.00
— Road Construction & Transportation	2552395.00	2597636.00
— Up gradation of Engg College	1125328.00	1142878.00
Total	8781390.00	13017514.00

Annexure - 3

PATENT FACILITATING CENTRE

	Current Year Amount Rs	Previous Year Amount Rs
Other Income		
Interest received on staff advances	528.00	352.00
Charges for computer provided at residence	3600.00	0.00
Patent search charges	226.00	9810.00
CD ROM Ekaswa A & B	244583.00	239958.00
Sale of Cassettes	0.00	1400.00
Nominal charges for dissemination of report	1500.00	3500.00
Total	250437.00	255020.00

Annexure-3A

PATENT FACILITATING CENTRE

	Current Year Amount Rs	Previous Year Amount Rs
Establishment & Admninistrative Expenditure		
Office equipments	0.00	7150.00
Computer/peripherals.	180720.00	14750.00
Furniture	0.00	6850.00
Salary	878353.00	941621.00
Medical Reimbursement	54865.00	64494.00
Honorarium	0.00	13459.00
LTC	12112.00	10900.00
Rent	321256.00	856254.00
Printing Charges	717258.00	745105.00
Printing of Publications	0.00	211306.00
Miscellaneous Office Expenses	317878.00	137531.00
Conveyance	300.00	0.00
Telephone & Telex	66067.00	81257.00
Postage & Courier	449830.00	473805.00
Filing of Patent	3630967.00	3943259.00
Ekaswa A& B CD Rom	30453.00	124245.00
TIFAC Contributory Provident Fund	61841.00	46412.00
Car hire charges, annual subscription, -periodicals & Magazines, stationery, Meeting -Expenses, Traveling Expenses etc.	91822.00	65341.00
Repair & maintenance	11516.00	33653.00
Total	6825238.00	7777392.00

Annexure-3B

PATENT FACILITATING CENTRE

Particulars	CurrentYear	Previous Year
Project Expenditure		
Patent information Centre, (PIC) Bhopal.	0.00	559000.00
Patent information Centre Lucknow	298800.00	35000.00
Patent information Centre Kolkata	0.00	347026.00
Patent information Centre GB	208000.00	0.00
Patent information Centre Trivandrum	0.00	30000.00
Patent Information Centre Chandigarh	0.00	160052.00
Patent Information Centre Guwahati	0.00	559000.00
Patent Information Centre, MP Council S&T	179000.00	0.00
Patent Information Centre, (PSCST)	444944.00	0.00
Patent Information Centre, (HSCST)	559000.00	0.00
Patent Information Centre, (KSCST)	559000.00	0.00
Patent Information Centre, (TSCST)	559000.00	0.00
Patent Information Centre, GOA	559000.00	0.00
Compendium of Laws	0.00	150000.00
Project related Expenditure (including patent workshop expenses)	3327798.00	2904241.00
Total	6694542.00	4744319.00

Annexure-4

PROJECT EXPENSES (TIFAC Regular Account)

PARTICULARS	Current Year Amount (Rs.)
TA/TF STUDIES	
Fertilizer Dictionary	301000.00
Sub Schedule Total	301000.00
HOME GROWN TECHNOLOGIES	
Project related expenses	1317135.00
Development of four Product Field of Power	900000.00
Development of Robots for Manufacturing	1300000.00
Prebleaching of Kraft Pulp XYLA	1206000.00
Compating Sult Erosion Hydroturbine	76969.00
Componentizatoin of Human Blood towards optimization of its utilization & Exploitation of its derivative	1500000.00
Cortico Sterroid Project Beclamethasone Diproprionate	4500000.00
Development & Production of indigenously developed flammable gas sensors & other monitoring Instruments	1500000.00
Eco-Friendly Lac Dye from Shellac waste water effluent	100000.00
Multi Process Pilot Facility for Demonstration of Hydrogen Generators reforming of Natural Gas/Methon	1650000.00
Pilot Scale Manufacture of Bio Reactors	1000000.00
Commercialisation of Decorative Zirconium Nitride (ZRN) Coating using Physical V.P.T	3200000.00
Manufacturing Plant for Heat Pipe based heat sinks	1200000.00
Flexible Machining Centre	1000000.00
A Novel Method for the preparation of low molecular weigh heparin & phanmoceutical formulation camp	1050000.00
Establishing Production & Marketing set up for production of Evaporation Boats	3520000.00
Technology Development & Commercialization of Haemoconcentrators for open heart surgical application	1440000.00
Low Cost Dehydration of Fruits & Vegitables, which can be rehydrated & reconstituted	2500000.00
Water Repellent Coating on Glass	900000.00
Manufacture of Nutan Himveer Bukhari	1500000.00
Sub Schedule Total	31360104.00
TECHNO MARKET SURVEY	
Study on Vaccines & Molecular Diagnostics	265000.00
Demand Projects of Refractory for the next 10 years	25000.00
Bio-invasion SPS measures & import of wood & wood products into India	169878.00
Water & waste water management in Aqua Culture	275000.00
Sub schedule – Total	734878.00

Contd...

PROJECT EXPENSES (TIFAC Regular Account) (Contd...)

PARTICULARS	Current Year Amount (Rs.)
TePP PROJECTS	
Development of Prototype Hydrogen Oxygen Gas Generator	26100.00
Auto – Distractor	116640.00
Non-Metallic Conducting Grid	9700.00
Development of DCMCBS for 5KA 130/220	125000.00
Prototype of on line time Domain Instrument for Moisture Measurements in Industrial & Agriculture	170000.00
Design & Development of Mechatronic Flyer Frame for Cotton Spinning	10000.00
To Test & Standardise Production of Bio-Control Agent Amblyscious SP, Against Coconut Eriophid Mite.	70000.00
Improving the designs of Air Energised stove	20000.00
Device to lift Chassis of a car	100000.00
Zadd clamping arrangement for pressure Cookers	104000.00
Vanillin from Dry Pine Needles (DPN)	15000.00
To Improve and Popularize wheel Phough & Multi Seed Drill	70000.00
To Test & Formulate Herbal Pesticides for control of Crop Pests	20680.00
To Improve the design of Multipurpose coconut Harvester	101000.00
Improving Mechanical device for dehusking Coconut	17000.00
Weed cutter-cum-Intercultivator of design improvement & Testing	85000.00
Automatic Pump operator	100000.00
Design & Development of Variable reluctance electric servo Actuator	150000.00
Quick & Consistent Coconut Breaker	10000.00
Electronic Tagging of Book like objects	200000.00
Improvement in performance of Gasoline engine by cooling of intake air through Humidification	25000.00
Device to lift the chassis of the vehicle (Hydraulic)	150000.00
Project Related Expenditure	63755.00
Sub Schedule Total	1758875.00
Fly Ash Utilisation Programme	
Agriculture related studies & Applications Trust Area	125000.00
Trust Area : Hydraulic Structure	42628.00
Pilot Scale Demonstration & Techno Economic	800000.00
Evaluation High Volume Flux Bounding Fly Ash Bulding Stowing of Large Volume of Pond as in underground	800000.00
Mines for Confidence Building large Scale Utility pond. Use of Fly Ash for efficient Management of Irrigation water,	1000000.00
Fertilizer N&K in Rice Wheat Product Development & Demonstration of Higher Concentration	1500000.00
Slurring Disposal System for Thermal Power Plant. Mathematical Modeling for the Mix Design on Cement Bonding Fly Ash Bricks	800000.00
Sub schedule Total	5067628.00

Contd...

PROJECT EXPENSES (TIFAC Regular Account) (Contd...)

PARTICULARS	Current Year Amount (Rs.)
Advanced Composite Programme	
Composite Application Laboratory at Department of Chemical Engineering IIT-Kharagpur.	14620000.00
Development of Composites Sky Bus Coaches	2985000.00
Development of Composites Modular Acoustic Enclosure	1428800.00
Development of Composites House Boat	2250000.00
Jute Glass Hybrid Composites for Railways	25000.00
Development of Composite Interiors for Railway Passenger Coaches	2800000.00
Development of Natural Fibre Based composite Door Shutters and Panels	550000.00
Composite Bamboo Laminates & Accessories	16500000.00
Sub schedule Total	41158800.00
MSEB (TIFAC Share)	
MSEB Fly Ash in Agriculture	800812.00
MSEB Fly Ash in Brick Manufacturing	482125.00
Sub schedule Total	1282937.00
Tsunami Devastation in South India, TIFAC Initiatives in Re-Building & Rehabilitation	7208040.00
Sub schedule Total	7208040.00
Project Related Expenditure	1996644.00
Sub schedule Total	1996644.00
Total	90868906.00

Annexure –5

REFUND FROM PROJECTS (TIFAC REGULAR ACCOUNT)

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
(A) Home Grown Technology :		
Chlorpyriphos Upgradation Modernization of manufacturing Method in India	1600000.00	3100000.00
Production of Gallic Acid from Tannic Acid	400000.00	400000.00
Establishing a D - Gun Job Shop	0.00	680280.00
Production of fully standardized Eco Friendly Natural Dyes.	6500000.00	5000000.00
Recycling of Titanium Scrap & Titanium casting	2500000.00	3300000.00
Establishment of Detonation Spray Coating Job Shop for coating of various components.	1100000.00	500000.00
Manufacturing of 3.4, Dichloro Anillise using solvent free separation Technology.	450000.00	250000.00
Pilot Plant for Production of Silicon Iron Casting	10000.00	0.00
Development of Indigenous Capability and Commercialization of Coronary Brachy therapy Catheters	1375000.00	1800000.00
Development & Production of Indigenously Developed Flammable Gas Sensors & Other Monitoring Instruments	800000.00	1100000.00
Manufacture of Wiper Intermittent Module	366000.00	183000.00
Development of Prototype Environment Friendly Cokeless Cupola	0.00	500000.00
Bench scale Plant for CFC free refrigerant HFC-134a	0.00	500000.00
Co Based Chemicals	0.00	500000.00
Pilot Plant for manufacture of insecticide ESFEW VALERATE	0.00	500000.00
Comercialization of Pelletisation Technology for biomass & combustible Waste	1700000.00	50000.00
Project on Vitamin A	0.00	1000000.00
Combating Silt Erosion of Hydro Turbine	203968.00	592000.00
Commercially Attractive Hydrogen Generator Based on reforming of Natural Gas/mathanol in small and Medium capacity range.	710000.00	350000.00
Setting up of Semi-commercial Demonstration Facility for Manufacture of Organic Chemicals by high temperature vapour phase catalylic reaction	1600000.00	790000.00
Manufacturing of Phytase Enzyme on Commercial Bank	900000.00	0.00
Pilot Plant for Production of Omega 3 Fish oil	1000000.00	0.00
Manufacturing Process for Ceramic Crucibles used for Carbon & Sulfur Analysis	836420.00	0.00
Eco-Friendly Lac Dye From Shellac Waste Water Effluent	800000.00	0.00
Pilot Scale Manufacture of Bio-Reactor	1200000.00	0.00
Componentization of Homan Blood towards optimization of Its utilization & Exploitation Bio Medic	100000.00	0.00
Sub Total (A)	24151388.00	21095280.00

Contd...

REFUND FROM PROJECTS (TIFAC REGULAR ACCOUNT) (Contd...)

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
(B) Fly Ash Utilisation Programme		
Demonstration Project for Setting Up of Fly Ash Light Weight Concrete	0.00	50000.00
Setting up of Pilot Plant for large Scale Utilization of Fly Ash for Manufacture of Building Components	100000.00	50000.00
Large Scale Utilization of Fly Ash for Manufacture of Pre-Cast Building Components	100000.00	0.00
Sub Total (B)	200000.00	100000.00
(C) Advanced Composites Programme		
Project Development of FRP Components for Railways	1200000.00	1200000.00
Development of energy effiaxial flow fans	250000.00	475000.00
Development of composites refill cylinder for CNG	1194000.00	200000.00
Development of Pulitruded FRP Profiles	0.00	1327200.00
FRP Main Doors for Passenger & EMU Coaches for Indian Railways	1916000.00	800000.00
Development of Double wall FRP Vessels	0.00	470000.00
Jute Composite Components for Footwear	1205380.00	1205380.00
Development of FRP Sleepers for Railways Girder Bridges Sleepers	0.00	714000.00
Development of Composite Modular Toilet unit for Railway Coaches	668400.00	1336800.00
Development of Composite Artificial Limbs	40000.00	0.00
Jute –coir composite on wood substitute	0.00	384000.00
Composite Technology Centre/IIT Madras, Chennai	0.00	10289.00
Development of Composite Filament Wound Pressure Vessel	1862400.00	1194000.00
Bamboo Composite Laminates & Accessories	3084000.00	0.00
Development of GRPGRID Gratings By Compression Moulding	1124000.00	0.00
Project on Vaccum Forming Press for Composite Fabrication	75000.00	0.00
Development Composites for Orthopedic Application	384000.0	0.00
Sub Total (C)	13003180.00	9316669.00
(D) Tepp Project		
Leakage Protection Device for Generic Kerosene Based Pressure Stove	752.00	0.00
Quick & Consistent Coconut Breaker	2000.00	0.00
Sub Total (D)	2752.00	0.00
(E) TMS Project		
Water & Waste Management in Aqua Culture	77118.00	0.00
Sub Total (e)	77118.00	0.00
Total	37434438.00	30511949.00

Annexure -6

EXPENDITURE OF VISION 2020

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
Establihment & Administrative Expenditure		
Misc Office Expenses	95173.00	121807.00
Consultancy Fee	61370.00	35480.00
Postage & Courier Services	300.00	0.00
Periodical & Magazine Charges	13558.00	7061.00
Printing Charges	99321.00	9600.00
Rent	628437.00	1731567.00
Repair and Maintenance	24363.00	14173.00
Telephone / Internet Charges	174005.00	141145.00
Car Hire Charges/ Conveyance	341873.00	188792.00
Medical Reimbursement	94042.00	58101.00
Salary	1129413.00	2140057.00
Office Equipment	3600.00	161833.00
Computer / Periferials	24700.00	390090.00
Furniture	0.00	36200.00
Leave Travel Concession	145295.00	13410.00
Honorarium	176755.00	177750.00
Tuition Tee	0.00	720.00
Adverisement Expenses	882846.00	0.00
Workshop Expenses/Exhibition	198500.00	0.00
Employee's Contribution CPF	8331.00	0.00
Total	4131882.00	5227786.00

Annexure – 6A

PROJECT EXPENDITURE OF VISION 2020

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
Agriculture Sector		
Agro Services for Rural Development	382400.00	518528.00
Improvement in Milk Quality & Yielding by establishing modern dairy farming at Kolar	0.00	436549.00
Agriculture Project Deoria	250000.00	62400.00
Agriculture Project in Uttaranchal, Chamoli	356600.00	1500000.00
Clean Milk Production	0.00	2478557.00
Pilot Project for Clean Milk Production in Andhra Pradesh	0.00	2051000.00
Production Possibilities of value added fishers products from low cost Inland Fish / shell fish by women fisher of West Bangal	0.00	2600000.00
Systems approach for increasing Agricultural Productivity at Kancheepuram	463588.00	429724. 00
Agriculture Project – Sikkim	424382.00	435541.00
Agriculture Project in Ballia	344989.00	254641.00
Agriculture Project in Bihar	640978.00	272200.00
Technology Transfer to Fihser women of some value added products from low cost sea fish.	0.00	1180000.00
Agro Food Processing on 2TPH Compact Fully Automatic rice mill	0.00	1500000.00
Film on Clean Milk Production	301875.00	0.00
Sub Total	3164812.00	11379140.00
Health Care Equipment		
Technology Dissemination, Commercialization and utilization of Geranium (Pelargonium Graveolens) cultivation through processing and value addition of end products in Uttaranchal at bio-village level.	0.00	2500000.00
Uttaranchal Project : Mobile Hospital and Research Centre in Uttaranchal.	1977702.00	2474701.00
Sub Total	1977702.00	4974701.00
Targeted Programme in Other Important Area		
Production of Bone China Products	600000.00	280000.00
Joint R&D program for sustainable hydrogen economy technologies (RV-TIFAC-HETP) with Rashtreeya Shikshana Samithi Trust (RSST),Bangalore.	7400000.00	1500000.00
Uttaranchal design and development of airship for transportation of passenger & goods in Uttaranchal	0.00	800000.00
Non Destructive testing of zari in silk Fabrics	0.00	1000000.00
A6.6 MW Power Plant & Generated Electricity from processed Muncipal Solid West which is known as refuse derived fuel (RDF) Ph.–II	6808000.00	15900000.00
IT & Telecom Infrastructure creation in Uttaranchal	0.00	3000000.00
TIFAC Nodal Technology Information Centre	100000.00	313950.00

Contd...

PROJECT EXPENDITURE OF VISION 2020 (Contd...)

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
Installation of Ropeways at Uttaranchal	299908.00	107865.00
Preparation of Technology Documents & Monitoring the Performance status & Performance Evaluation of the plants for processing activity of municipal solid wast (MSW) & Generation of Electricity from Processed MSW	600000.00	0.00
Uttaranchal Development of Standard Water Mills	400000.00	0.00
Sub Total	16207908.00	22901815.00
Textile Machinery		
Technology Upgradation in Manufacture of Automatic Cone Winder	0.00	22321500.00
Weft Accumulator	0.00	400000.00
Cotton Contamination Analyzer	0.00	277500.00
Percentage of Add on per meter Indicator and Automatic Controller	0.00	68000.00
Weft Set (Automatic Fabric Straightening System) with data logging facilities	0.00	321154.00
Design & Development of Shuttles weaving machineries and Aancillaries	0.00	2330000.00
Design, Development & Manufacture of Continuous Bleaching Range	0.00	3076793.00
Sub Total	0.00	28794947.00
Road Construction & Transportation Equipment		
Development of Prototype and Pilot Scale Units of Multi Purpose Loader.	0.00	2747000.00
Self Propelled Articulated Crane Model F-15	0.00	2953000.00
Development of Radio Control System	0.00	3100000.00
Kerb Laying Machine	0.00	314000.00
Disaster Management Equipment	0.00	3131000.00
Sub Total	0.00	12245000.00
Upgradation of Engineering College		
TIFAC-CORE in Digital Image Processing	3913000.00	3125000.00
TIFAC-CORE in Advance Computing & Information Processing	0.00	19314369.00
TIFAC-CORE in Net Work Engineering	9500000.00	9183000.00
TIFAC-CORE in Advanced Computing & Information Processing	0.00	4159000.00
Designing Developing & Maintaining Mission REACH Website & Enabling Web Based Services	3235228.00	3599856.00
TIFAC-CORE in Environmental Engineering	0.00	7500000.00
TIFAC-CORE in Diabetic Retinotathy	5193000.00	13140000.00
TIFAC-CORE in Wireless Technologies	0.00	3944000.00
TIFAC-CORE in Industrial Biotechnology	8099000.00	0.00
TIFAC-CORE in Power Transfromer	10500000.00	0.00
TIFAC-CORE in Pharmacogenomics	8000000.00	0.00
TIFAC-CORE in New Drug Delivery	7443000.00	0.00
TIFAC-CORE in Fiber Optics & Optical Communications	4250000.00	0.00
Sub Total	60133228.00	63965225.00
Project Related Expenditure	2187886.00	3388392.00
Sub TotaL	2187886.00	3388392.00
TOTAL	83671536.00	147649220.00

Annexure-7

SHORT TERM DEPOSITS WITH BANKS

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
Short Term Deposits		
TIFAC	162454111.00	197909097.00
Agriculture Sector	1343561.00	1343561.00
Road Construction & Transportation	58165269.00	55612874.00
Textile Machinery	24082210.00	23022597.00
Upgradation of Engineering College	25645174.00	24519846.00
Vision 2020	113784745.00	109756129.00
Total	385475070.00	412164104.00

Annexure – 8

REFUND FROM PROJECT TECHNOLOGY VISION 2020

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
Improved Surface treated Rings	1443000.00	468000.00
Auto Leveller for Card	835343.00	240000.00
Twin Delivery autoleveller draw frame	1924000.00	624000.00
High Speed Comber	4070000.00	1320000.00
Technology Development of Two for One Twister	2465500.00	2465500.00
Development of Rapier Shuttleless Loom (Weaving Machine) 4 Color	154000.00	168000.00
Weft Accumulator	279166.00	176393.00
Weft Set (Automatic Fabric straightening System) with data logging facilities	630036.00	315018.00
Percentage Add on Per meter indicator and automatic controller.	81600.00	40800.00
Cotton Contamination analyzer	177600.00	88800.00
Technology Upgradation in manufacture of automatic cone winder	12532650.00	6266325.00
Design, Development M& Manufacture of Continuous Bleaching Range	0.00	1230717.40
Bitumin Indirect Heating Equipment	782600.00	1175600.00
Kerb laying machine	443000.00	443000.00
Road Miller Machine	1391500.00	2783000.00
Paver Finishers	2402500.00	4805000.00
Self Propelled Articulated Crane Madel F-15	2082000.00	1041000.00
Multi Purpose Loader Model M-1000	1798800.00	899400.00
Production of Bone Chine Products	54440.00	0.00
A 6.6 MW Power Plant & Generated Electricity from Processed Muncipal Solid Waste	2000000.00	0.00
Non Destructive Testing of zari in silk Fabrics	120000.00	0.00
Design & Development of Pilling Tester using Tigital Image Processing Technology	30000.00	0.00
Dye Exhaust Rate Controller	140000.00	0.00
Total	35837735.00	24550553.40

Annexure – 9

EXPENSES PAYABLE

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
Salary Payable	1248119.00	1226152.00
M/s. Sansanwal Travels	43969.00	0.00
M/s. MTNL	73566.00	0.00
M/s. Bansal R. Kumar & Associates	19396.00	19396.00
M/s. S.K. Enterprises	22700.00	19070.00
M/s. UTTAM INFOTECH	9000.00	11025.00
M/s. New Age Tour & Travels	39853.00	43902.00
M/s.R.D.Electricals	25000.00	25000.00
M/s Eden Park Hotel (Qutab Hotel)	0.00	826803.00
M/s. Deepak Travels	18781.00	69154.00
M/s. Kuoni Travels (India) Ltd	0.00	428475.00
M/s Gog's Travel Lines	16895.00	0.00
M/s Rakesh Raj & Associates	19396.00	0.00
M/s Travels Corporation (India) Ltd	664600.00	0.00
Total	2201275.00	2668977.00

Annexure -10

NATIONAL MISSION ON BAMBOO APPLICATION

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
Establishment & Administrative Expenditure		
Office Equipments	0.00	552723.00
Computer peripherals	149515.00	622905.00
Furniture	9350.00	111088.00
Library Books	2660.00	13753.00
Salary	1579260.00	1474382.00
Medical Reimbursement.	61371.00	25447.00
Rent	734913.00	1675168.00
Printing Charges	55698.00	0.00
Misc. off. Expenses	330782.00	238824.00
Conveyance & Car hire Charges.	312360.00	174203.00
Telephone charges	185525.00	198688.00
Repairs & Maintenance	55407.00	60186.00
Periodicals & Magazines	4361.00	10980.00
Postage & Courier Services	452.00	12709.00
Printing of Publications	657129.00	707781.00
Meeting Expenses	508320.00	0.00
Travel Abroad	629054.00	0.00
Travelling Expenses	743812.00	0.00
Employer's Contribution CPF	30259.00	0.00
Honorarium	50000.00	0.00
Leave Salary & Pension Contribution	212170.00	0.00
Leave Travel Concession	126146.00	0.00
Total	6438544.00	5878837.00

Annexure -10 A

NATIONAL MISSION ON BAMBOO APPLICATION

Particulars	Current Year	Previous Year
Project Expenditure		
- Activated Carbon From Bamboo - A feasibility	0.00	4320.00
- Bamboo composite lamination and accessories	0.00	28058.00
- Bamboo properties and end-use matrix an assessment study	0.00	260000.00
- Bamboo shoot processing – A business opportunity report	0.00	131544.00
- Study on technology dossier-cum-manual on packages of practices on bamboo cultivation	0.00	120000.00
- Demonstrate bamboo based composite rooring (TBP)	0.00	30000.00
- Development of application profiles	112500.00	60000.00
- Assessment & projation of potential commercial units based on bamboo gasification & charcoal /activated carbon in three North-Eastern state of Tripura, Mizoram and Arunachal Pradesh	52359.00	500000.00
- Development of bamboo cutter, compaction press, dehumidification of bamboo & activation of bamboo charcoal	1212267.00	1600000.00
- Bamboo characterization for thermo-chemical conversion & feasibility of bamboo based gassification & charcoal making	24437.00	283000.00
- Assessment of promotion of potential commercial unit based on bamboo gasification and charcoal / activated carbon in 3 N-E states of Tripura, Mizoram and Arunachal Pradesh.	600000.00	309599.00
- Bamboo plantation based technology package for soil reclamation, soil stabilization & community level, shoot cultivation & processing at Majuli.	0.00	398174.00
- Prepration of a comprehensive, user-friendly bibliography of WBC-VII related literature and publishing it electronically in CD form and on the web.	2000.00	458317.00
- Demonstration of drum charring unit in five location in India.	347900.00	500000.00
- Demonstration of monopodial bamboo plantation in Arunachal Pradesh.	11500.00	80960.00
- Development & standardized of technology for construction of bamboo sandwich composite material & production & development of techno -commercial project package for entrepreneurial action.	1061000.000	1500000.00
- Development of approach to communication, design & outreach, & a mission identify programme of NMBA.	450000.00	300000.00
- Development & demonstration of structure application involving the use of bamboo & based materials.	184710.00	555199.00
- Development of technology package & training manual for bamboo shot a processing at cluster level for lower capacity and self life & demonstration of the technology & equipment / machinery at 4 locations in N.E.	269904.00	128253.00

Contd...

NATIONAL MISSION ON BAMBOO APPLICATION (Contd...)

Particulars	Current Year	Previous Year
- Development of value added applications in A.P involving use of bamboo & the commercialization of related technology - APTDC.	290000.00	295000.00
- Documentation & appraisal of high end structures in bamboo.	150000.00	150000.00
- Draft national building code (chapter 3B bamboo)	152133.00	48086.00
- Establishment of a bamboo flooring & composites manufacture unit at Guwahati (KFPPL)	1500043.00	14325286.00
- Development and demonstration of structural application involving the use of bamboo and based material (Khammam, A.P.)	13860.00	950000.00
- Development & demonstration of a bamboo based housing at SALOD, Wardna.	851270.00	2005419.00
- Market survey study for assessment of market potential of bamboo flooring & bamboo furniture components.	100000.00	714530.00
- Design & development of prototype of primary processing machineries for bamboo applications.	2061030.00	2845710.00
- Procurement of material for protypeing of sentry boxes in president secretariat.	0.00	57527.00
- Product promoting scheme of bamboo composite.	55332.00	100000.00
- Preparation of promotional & training film on composite materials by M/s Pulse Media Pvt. Ltd.	0.00	554857.00
- Propagation of phyllostachys pubescens in H.P Palampur.	338759.00	441355.00
- Preparation of an Atlas on application of dynamic properties of bamboo for assistive device for physically challenged persons developed by Dr.J.B Banerjee at VKRRS.	0.00	552000.00
- Control of soil & river bank erosion in Majuli through bamboo based vegetative embankment.	0.00	501310.00
- Specie level bamboo resource mapping and assessment in North-East region.(S.o. I, DDN).	0.00	3100000.00
- Preparation of draft standards for flooring tiles made of bamboo composites.	0.00	130000.00
- Study on techno-commercial feasibility report on activated carbon from bamboo.	101338.00	313200.00
- Development & standardization of technology for application of natural colourants on bamboo & bamboo products including creation of technology package and its demonstration & dissemination to potential entrepreneurs..	300000.00	300000.00
- Process technology package for development of anti-fungal & anti-termite treatment of bamboo & establishment of resin systems for bamboo composite & surface finishes.	0.00	150000.00
- Evaluation of the technology package for the commercial production of bamboo boards / laminates – joint investigative analysis with IPIRTI, Bangalore & upscaling to techno-commercial packages.	275000.00	249802.00

Contd...

NATIONAL MISSION ON BAMBOO APPLICATION (Contd...)

Particulars	Current Year	Previous Year
- UBFDB-Demonstration of Bamboo Plantation Based Technology for soil reclamation Community Level Cultivation.	1124800.00	0.00
- TERI Bamboo Plantation with soil Enrichment & Amendments using fly ash & Mycrorrhizal in Koobra (Chattisgarh)	843144.00	0.00
- TERI Sehor (MP) Tech. Package for Bamboo Plantation with soil enrichment using fly ash & Mycorrhizal bio	896244.00	0.00
- Process of Bamboo Shoot at 8 Locations including 6 location in North-East, 1 in Karnataka & 1 in U.P.	632280.00	0.00
- Supply of Tissue Cultures plants of bambusa Balcooa, Bambusa Nutans & Dendrocalamus.	2141600.00	0.00
- Development of Continuous bamboo slat dryer by Erg.blr.	2600000.00	0.00
- Teri Prepration of a manual on tissue culture.	30000.00	0.00
- Development of NMBA Website on the Basis of already developed content structure & design Interface.	240440.00	0.00
- NEDFI, DBAI Bamboo Stick making unit establishment at Manipur.	1125000.000	0.00
- NEDFI (LVFPPL) Bamboo shoot Processing unit in Jorhat.	3000000.00	0.00
- Study on bamboo production consumption by VMRC, Mumbai	100000.00	0.00
- TERI Bambusetums for superior germplasm of Bamboos.	2722500.00	0.00
- NFPL Bamboo Shoot Processing Unit(1800TPA) by Nagaland Foods (P) Ltd, Nagaland.	2500000.00	0.00
- VEDHA Establishing demonstrative entt. In Mechanised Processing of Bamboo Fur. & Prod. Appl.	715000.00	0.00
- Setting up 3 prefeb/modular units in front locations of armi (Dinjan, Kibithu) by RV-TIFAC.	2454495.00	0.00
- IISC Two gasifire units at mountain division of the Indian Army .	1500000.00	0.00
- Pilot Scale study on activated carbon by M/s Nagalaxmi Industries.	150000.00	0.00
- Testing charges of bamboo products.	147599.00	0.00
- IHBT-Produce 60000 nos. of plant material of phyllostachys pubescens of good quality & provenance.	437000.00	0.00
- Gel coating/Resin Spraying Machine By RV-TIFAC (CDC), Bangalore.	762619.00	0.00
- Support for Coordinated trials for managed bamboo propagation by G.B Pant university.	143400.00	0.00
- 100KWE Demonstrative Gasifire unit at Alonga, Indian Army By IISC- Bangalore.	3600000.00	0.00
- High – End structure at the garden of five senses, New Delhi.	60000.00	0.00
- Supply of 460 sheets to gon by RV-TIFAC for constructing an enaborate site of bamboo Based Structures.	832140.00	0.00
- Development of Bamboo Fiber Production through non-destructive Route by IIT-Delhi.	340000.00	0.00
- Training / Demonstration program for cluster / Community level processing of Bamboo Shoot in different States.	300000.00	0.00
- Project related expenditure	3219629.00	6968377.00
TOTAL	43135232.00	41999883.00

Annexure -11

PROJECT ICOSER

Particulars		Current Year Amount (Rs.)	Previous Year Amount (Rs.)
A)	Balance Brought Forward	10663154.00	10663154.00
B)	Income	0.00	0.00
	Sub total	0.00	0.00
	Refund from Project	0.00	0.00
	Sub total	0.00	0.00
Total A+B		10663154.00	10663154.00
C)	Expenditure:		
i)	Capital Expenditure: Fixed Assets	0.00	0.00
ii)	Revenue Expenditure	0.00	0.00
	Total (i+ii) 'C'	0.00	0.00
	Balance carried forward to next year (A+B-C)	10663154.00	10663154.00

Annexure -12

Grant Indian Myanmar S & T Friendship Library in Yangon

Particulars		Current Year Amount (Rs.)	Previous Year Amount (Rs.)
A)	Balance Brought Forward	959659.00	959659.00
B)	Income	0.00	0.00
	Sub total	0.00	0.00
	Total A+B	959659.00	959659.00
C)	Expenditure :		
i)	Capital Expenditure : Fixed Assets	0.00	0.00
ii)	Revenue Expenditure : Project Expenses	0.00	0.00
	Total (I+ii) 'C'	0.00	0.00
	Balance carried forward to next year (A+B-C)	959659.00	959659.00

Annexure -13

INDIAN COPPER MARKET FOCUS ON RECYCLABLES

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
A) Balance Brought Forward	**225916.00**	**785595.00**
B) Income :		
Interest Earned	0.00	481040.00
Other Income	0.00	0.00
Sub total	0.00	481040.00
Total A+B	225916.00	1266635.00
C) Expenditure :		
i) Capital Expenditure : Fixed Assets	0.00	0.00
ii) Revenue Expenditure :	0.00	0.00
iii) Project Expenditure	0.00	1040719.00
Total (i+ii+iii) 'C'	0.00	1040719.00
Balance carried forward to next year (A+B-C)	225916.00	225916.009

Annexure -14

MSEB – ASH Utilization / Management

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
A) Balance Brought Forward	**0.00**	**0.00**
B) Income :		
Grant in Aid	**3388206.00**	0.00
Interest Earned	0.00	0.00
Other Income	0.00	0.00
Sub total	0.00	0.00
Total A+B	3388206.00	0.00
C) Expenditure :		
i) Capital Expenditure : Fixed Assets	0.00	0.00
ii) Revenue Expenditure :	0.00	0.00
iii) Project Expenditure		
MSEB Fly Ash in Agriculture	798950.00	0.00
MSEB Fly Ash In Brick Manufacture	482125.00	0.00
Total (i+ii+iii) 'C'	1281075.00	0.00
Balance carried forward to next year (A+B-C)	2107131.00	0.00

Annexure -15

FAM Large Scale Stowing of HWP Pond Ash into the underground Mines of SCCL (Manuguru)

Particulars		Current Year Amount (Rs.)	Previous Year Amount (Rs.)
A)	**Balance Brought Forward**	**0.00**	**0.00**
B)	**Income :**		
	Grant in Aid	**5296703.00**	0.00
	Interest Earned	0.00	0.00
	Other Income	0.00	0.00
	Sub total	0.00	0.00
	Total A+B	5296703.00	0.00
C)	Expenditure :		
i)	Capital Expenditure : Fixed Assets	0.00	0.00
ii)	Revenue Expenditure	0.00	0.00
iii)	Project Expenditure	0.00	0.00
	Total (i+ii+iii) 'C'	0.00	0.00
	Balance carried forward to next year (A+B-C)	5296703.00	0.00

Annexure - 16

Earthquake Serving Nature's Fury

Particulars		Current Year Amount (Rs.)	Previous Year Amount (Rs.)
A)	**Balance Brought Forward**	**0.00**	**0.00**
B)	**Income :**		
	Grant in Aid	**1585100.00**	0.00
	Interest Earned	0.00	0.00
	Other Income	0.00	0.00
	Sub total	0.00	0.00
	Total A+B	1585100.00	0.00
C)	Expenditure :		
i)	Capital Expenditure : Fixed Assets	0.00	0.00
ii)	Revenue Expenditure :	0.00	0.00
iii)	Project Expenditure :		
	Production of Film on Earth Quake	105000.00	0.00
	Total (i+ii+iii) 'C'	105000.00	0.00
	Balance carried forward to next year (A+B-C)	1480100.00	0.00

Annexure-17

CORE-Group on Automotive Research (CAR)

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
Establishment & Admninistrative Expenditure	0.00	0.00
Total	0.00	0.00

Annexure-17A

CORE-Group on Automotive Research (CAR)

Particulars	Current Year	Previous Year
Project Expenditure Project Related Expenditure	27923.00	0.00
Total	27923.00	0.00

Annexure - 18

DRDO - PFC

Particulars		Current Year Amount (Rs.)	Previous Year Amount (Rs.)
A)	Balance Brought Forward	0.00	0.00
B)	Income :		
	Grant in Aid	300000.00	0.00
	Interest Earned	0.00	0.00
	Other Income	0.00	0.00
	Sub total	0.00	0.00
	Total A+B	300000.00	0.00
C)	Expenditure :		
i)	Capital Expenditure : Fixed Assets	0.00	0.00
ii)	Revenue Expenditure :	0.00	0.00
iii)	Project Expenditure :	0.00	0.00
	Total (i+ii+iii) 'C'	0.00	0.00
	Balance carried forward to next year (A+B-C)	300000.00	0.00

TECHNOLOGY INFORMATION FORECASTING & ASSESSMENT COUNCIL

Receipts & Payments for the period the year ended 31.3.2005

Particulars		Current Year Amount (Rs.)	Previous Year Amount (Rs.)
I)	OPENING BALANCES		
a)	Cash in hand	7560.00	4137.00
b)	Bank Balances		
i)	In current accounts	0.00	0.00
ii)	In Deposit accounts	412164104.00	454564406.00
iii)	Savings accounts	25114061.00	120020403.00
c)	Advance for franking machine	33250.00	2237.00
II)	GRANTS RECEIVED		
a)	From Government of India- Plan (TIFAC)	120000000.00	91400000.00
b)	From Government-Non Plan	900000.00	1000000.00
c)	From State Government	0.00	0.00
d)	From Government of India-Plan (Vision 2020)	130000000.00	0.00
e)	From Government of India- Bamboo Composite Laminates	33100000.00	0.00
f)	From Government of India-CORE-Group on Automotive Research	55000000.00	.0.00
f)	From other sources (The Indian Copper Market Focus on Recyclable)	0.00	481040.00
g)	Scholourship for women scientist	0.00	1781000.00
III)	INCOME FROM INVESTMENTS		
a)	Earmarked/Endow. Funds	0.00	0.00
b)	Own fund	0.00	0.00
IV)	INTEREST RECEIVED		
a)	On Bank Deposits (TIFAC)	12514309.00	11472605.00
b)	Loans Advances etc. (Staff advances)	10534.00	11720.00
c)	Interest from Vision 2020	8781390.00	13017514.00
V)	Other Income (specify)		
-	Refund from HGT projects (As per annexure-5)	24151388.00	21095280.00
-	Assessment of Innovation Potential Student- Practical Projects.	0.00	0.00
-	Refund from Vision 2020	35837735.00	24550553.40
-	Garbage Processing Techno Transfer Fee	0.00	0.00
-	Asian Indian Workshop	78582.00	0.00
-	Other Income (As per Schedule 18)	445567.00	355414.00
-	Demonstration Project	0.00	50000.00
-	Setting up of Pilot Plant for Large Scale utilisation of Fly Ash for manufacture of Building components	100000.00	50000.00

Contd...

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
Receipts for Advanced Composites Mission		
- Development of Pulltruded FRP profiles	0.00	1327200.00
- Development of energy effiaxial flow fans	250000.00	475000.00
- Development of carbon Fibre composite (External Fixator Rings)	0.00	0.00
- Development of Composites refill Cylinder CNG	1194000.00	200000.00
- Development of FRP Components for Railways	1200000.00	1200000.00
- FRP Main Doors for Passenger & EMU Coaches for Indian Railways	1916000.00	800000.00
- Development of Double wall FRP Vessels	0.00	470000.00
- Jute Composite Components for Footwear	1205380.00	1205380.00
- Development of FRP Sleepers for Railway Girder Bridges Sleepers	0.00	714000.00
- Development of Composite Modular Toilet unit for Railway Coaches	668400.00	1336800.00
- Development of Composite Artificial Limbs	40000.00	0.00
- Jute Composite Components an Alternative to Wood Products	0.00	0.00
- Development composites for orthopedic Applications	0.00	384000.00
- Project CDC Chennai	0.00	10289.00
- Development of Composite Filament Wound Pressure Vessel	1862400.00	1194000.00
- Bamboo Composite Laminates & Accessories	3084000.00	0.00
- Development of GRPGRID Gratings by Compression Moulding	1124000.00	0.00
- Project on Vaccum Froming Press for Composite Fabrication	75000.00	0.00
Development Composites for Orthopedic Application	384000.00	0.00
Receipts for TePP Project		
- Leakage Protection Device for Generic Kerosene Based Pressure Stove	752.00	0.00
- Quick & Consistent Coconut Breaker	2000.00	0.00
Receipts for Techno Market Survey		
Water & Waste Management in Aqua Culture	77118.00	0.00
Receipts for National Mission on Bamboo Applications		
- Grants-in-Aid	86900000.00	0.00
- Income from Sale of Report	74140.00	165450.00
- Charges for Computer Provided at Residence	2400.00	0.00
Receipts for Patent Facilitating Centre		
- Grant	10000000.00	15000000.00
- Patent search charges	226.00	9810.00
- Ekaswa A&B CD Rom	244583.00	239958.00
- Sale of cassettes	0.00	1400.00
- Nominal charges for Dissemination of TIFAC reports	1500.00	3500.00
- Other receipts	0.00	0.00
- Interest (Long Term Advance)	528.00	352.00
- Charges for Computer Provided at residence	3600.00	0.00
VI AMOUNT BORROWED		0.00
VII OTHER RECEIPTS (GIVE DETAILS)		
- Nominal Charges for Dissemination of TIFAC Reports	809498.87	515463.00
- Interest Mobilization Advance	71309.00	37869.00

Contd...

Particulars		Current Year Amount (Rs.)	Previous Year Amount (Rs.)
-	Staff advances adjusted /Recovered	1029006.00	335655.00
-	Security Deposits –Matrix power product (Net)	0.00	22195.00
-	Stale cheque received	3794.06	45266.00
-	Tender Documents for EPABX & Lan Network for TIFAC Building	7000.00	0.00
-	Technology Transfer Fee-Muncipal Solid Waste to Refuse Derived Fuel Project for Grasim	150000.00	0.00
-	HBA : Dr. D.N.Singh	0.00	0.00
-	Seurity Deposite : Kendriya Vidyalaya Sangatan	2000.00	0.00
-	Advance Mobilisation (Civil)	1447173.00	0.00
-	Large Scale Utilization of Fly Ash for Manufacture of precast Building Components	100000.00	0.00
-	Sponsorship Fee from ONGC	197800.00	0.00
-	Office Equipment Received during the year	8500.00	0.00
-	Security Deposit : Qutab Hotel	1840000.00	0.00
-	Security Deposit : Guest House	46500.00	0.00
-	Security Deposit : M/s Mannu Lal & Sons (Electrical Work)	474307.00	0.00
-	Security Deposit : M/s Graphic System Pvt Ltd	89454.00	0.00
-	Security Deposit : M/s Mannu Lal & Sons (Civil/Interior)	324397.00	0.00
-	Security Deposit : M/s Impressions Services Pvt Ltd	30000.00	0.00
-	Sundry Debtor Punjab Technical University	0.00	84614.00
-	MSEB – Ash Utilization / Management	3388206.00	0.00
-	FAM-Large Scale Stowing of HWP Pond Ash Into the Underground Mines of SCCL (Manuguru)	5296703.00	0.00
-	Earthquake serving Nature's Fury	1585100.00	0.00
-	Earnest Money : M/s Geo-Hydromechs (India), Roorkee	30000.00	0.00
-	Earnest Money : M/s Crompton Greaves (EPBAX Work & Lan Work)	15000.00	0.00
-	Earnest Money : M/s Impression Pvt Ltd	20000.00	0.00
-	Earnest Money : M/s HCL Infosystem Ltd	50000.00	0.00
-	Fly Ash Sponsorship for National Seminar-cum-Business Meet	670705.00	0.00
-	DRDO – PFC	300000.00	0.00
-	Sundry Creditors : M/s H.R.Electronics Pvt Ltd	8490.00	0.00
-	Sundry Creditors : M/s Mahashwari Rice Mills Pvt Ltd	1062500.00	0.00
-	GSLIS	27.00	0.00
-	Pm's Relief Fund (TSUNAMI)	18128.00	0.00
-	Supply of Primary Bamboo Processing Machinery (Textile Machinery) Handicraft)	1200000.00	0.00
-	CPF	0.00	1200.00
-	Computer Advance: Sh.S.K.Pandey	0.00	450.00
-	Security Deposits: Lease Accomodation (Ms.Asha Dang)	0.00	18000.00
-	Other Income (Agriculture)	100000.00	0.00
-	Security Deposit Eco-Rel Multitech System (Net)	0.00	83185.00
-	Sale of fixed assets	0.00	8000.00
-	Earnest Money (Manna Lal & Sons)	0.00	500000.00
-	HBA : Dr.D.N.Singh	185180.00	0.00
	Total	989109285.33	766245345.40

PAYMENTS

Particulars			Current Year Amount (Rs.)	Previous Year Amount (Rs.)
1)	**Expenses**			
a)	Establishment Expenses			
	(Corresponding to Schedule 20)	15041254.00		
	Add : Opening Expenses Payable	933531.00		
	Less Expenses Payable	1075684.00	14899101.00	11358607.00
b)	Administrative Expenses			
	(Corresponding to schedule 21)	17305446.00		
	Add:Opening Expenses Payable	1052041.00		
	Add : Loss on sale of Fixed Assets	91319.00	17515046.00	19198045.00
	Less : Payables	933760.00		
	Less : Loss on sale of Fixed Assets	0.00		
	(Previous year figure does not include obsolescence expenses in it.)			
c)	Expenditure on Grants, Subsidies etc. (As per Schedule 22)		90868906.00	75113412.00
2)	Payments made against funds for various projects.			
	- Grant Utilisation-Patent Facilitating Centre	13519780.00		
	- Add : Opening Expenses Payable	157364.00		
	Less: Expenses Payable	77560.00	13599584.00	12364347.00
	- Grant Utilisation- Vision 2020	87803418.00		
	Add : Opening Expenses Payable	231109.00		
	Less : Expenses Payable	94875.00	87939652.00	152645897.00
	- Grant Utilisation- National Mission on Bamboo Applications	49573776.00		
	Add : Opening Expenses Payable	294932.00	49868708.00	47583788.00
	- Grant Utilisation – Schalorship for Women Scientist		2120362.00	361121.00
	- Indian Copper Mark focus on Recyclable		0.00	1040719.00
	- Addition in fixed Assets			
	Office Equipment		1403034.00	325510.00
	Furniture		100380.00	24800.00
	Library Book		25772.00	114318.00
	Computers and Peripherals		291100.00	389255.00
	Refund of Surplus Money/Loans			
	a) Advance paid to staff		655031.00	587382.00
3)	Other Payments (Specify)			
	- Security Deposite Qutab Hotel		0.00	250000.00
	- Security Deposite Matrix Power project		24304.00	0.00
	- Security Deposite MTNL		0.00	9000.00

Contd...

Particulars	Current Year Amount (Rs.)	Previous Year Amount (Rs.)
- Security Deposite Lease Accomodation (Ms.Romi Subhija)	0.00	9500.00
- Security Deposite Kendriya Vidyalaya Sangatan	0.00	2000.00
- Security Deposite S.R.Enterprises	0.00	2700.00
- Security Deposite Tata Teleservices Limited	0.00	16000.00
- Security Deposite System Technology	3860.00	61200.00
- Advance Mobilisation (Civil)	0.00	1447173.00
- Interior Work of TIFAC Building	38348830.00	3847081.00
- Construction of Reception Office – Technology Bhavan (DST)	0.00	974602.00
- Sundry Debtor- Cabinet Sectt.	237961.00	212334.00
- Advance Mobilisation (HVAC)	0.00	986413.00
- Sundry Debtors – STM.	239803.00	1166.00
- Security Deposit :EcoRel Multitech Systems	79245.00	0.00
- Stale Cheque Paid	0.00	0.00
- MSEB-Ash Utilization / Management	1281075.00	0.00
- Earthquake Serving Nature's Fury	105000.00	0.00
- Grant Utilisation – CORE-Group on Automotive Research	27923.00	0.00
- Earnest Money : JVD Buildiers	50000.00	0.00
- CPF	732.00	0.00
- Security Deposit : Guest House (Sarupriya Vihar)	75000.00	0.00
- Sundry Debtor : M/s Subramaniam Natraj & Associates	1435.00	0.00
- Sundry Debtor : Lease Rent	9500.00	0.00
- Advance : M/s HCL Infosystem Ltd	1600000.00	0.00
- Advance : Ashok Hotel	200000.00	0.00
- Interest HBA :Dr.D.N.Singh	170180.00	0.00
CLOSING BALANCE		
Cash in Hand	39518.00	7560.00
Cash at Bank	281816495.33	25114061.40
Short Term Deposits	385475070.00	412164104.00
Franking Machine	36675.00	33250.00
Total	989109285.33	766245345.40

for RAKESH RAJ & ASSOCIATES
CHARTERED ACCOUNTANTS

Sd/-	Sd/-	Sd/-	Sd/-
ASHWANI TANEJA (Partner)	ACCOUNTS OFFICER	REGISTRAR/ HEAD OF PROGRAMME, TIFAC	EXECUTIVE DIRECTOR TIFAC

DATE : 01.12.2005
PLACE: NEW DELHI

AUDITORS' REPORT

The Chairman,
Mission Mode Project on Sugar Production Technology - TIFAC
NEW DELHI - 110 016

We have audited the attached Balance Sheet of MISSION MODE PROJECT ON SUGAR PRODUCTION TECHNOLOGIES, NEW DELHI as at 31st March, 2005 and the Income & Expenditure Account for the year ending on that date and report that date.

These financial statements are the responsibility of the management of the STM. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform 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 the management, as well as evaluating the overall presentations of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

Subject to Audit objection as per Annexure AR-1 and Notes on Account as per Annexure 24 & 25, we report that:-

i) We have obtained all information and explanation which to the best our knowledge and belief, were necessary for the purpose of audit.

ii) In our opinion proper books of account as required by law have been kept by STM.

iii) The Balance Sheet and Income & Expenditure Accounts dealt with by this report are in agreement with the books of account.

iv) In our opinion and to the best of our information and according to the explanations given to us, the said accounts read with the schedules and notes thereto give the information required by Society Registration Act, in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India.

a) In case of Balance Sheet, of the state of affairs of the above named project as at 31st March, 2005.

b) In case of Income & Expenditure Account, of the deficit for the accounting year ending on 31st March, 2005.

for RAKESH RAJ & ASSOCIATES
Chartered Accountants

ASHWANI TANEJA
(Partner)

DATE : 01.12.2005
PLACE : NEW DELHI

Annexure: AR 1 - Audit Objections

1. The income tax liability if any will be provided in the books of account on the basis of actual payment of Income Tax Department. (However TIFAC has been declared as SCIENTIFIC INSTITUTION FOR THE PURPOSE). The recognition has expired on 31.03.2003. Application has been made for renewal but renewal has not been received so far after 31.03.2003.

2. Amount due but not received from beneficiaries of contributions as on 31.03.2005 was Rs.451.4 Lacs, which has not been considered in the books of Accounts. It is the policy of STM to consider refunds from beneficiaries as Income of the year in which it is received back.

3. It is noticed that an Account with a name Earnest Money Deposit with a balance of Rs.38 lakh is highlighted in the books of Accounts but confirmations from various parties against which EMD were received is not made available to us. Hence we are not able to judge the reliability of the above account balance.

Audit queries in respect of Auditor's Report on

Sugar Technology Mission

1. Earnest Money Deposit:- EMD from various Sugar Industries for preparing study reports was received and the same has been deposited into our Bank Account. So far these Industries have not claimed the refund. However a letter to this effect is being written to the concerned Industries for confirmation.

Mission Mode Project on Sugar Production Technology
BALANCE SHEET AS AT 31.03.005

(Amount – Rs.)

CORPUS/CAPITAL FUND AND LIABILITIES	Schedule	Current Year	Previous Year
CORPUS /CAPITAL FUND	1	59353477.43	74332048.43
RESERVES AND SURPLUS	2	-------	-----
EARMARKED/ ENDOWMENT FUNDS	3	-------	-----
SECURED LOANS AND BORROWINGS	4	-------	-----
UNSECURED LOANS AND BORROWINGS	5	-------	-----
DEFERRED CREDIT LIABILITIES	6	-------	-----
CURRENT LIABILITIES AND PROVISIONS	7	48881221.00	44130720.00
TOTAL		108234698.43	118462768.43
ASSETS			
FIXED ASSETS	8	664054.00	844816.00
INVESTMENTS – FROM EARMARKED/ ENDOWMENT FUNDS	9	-------	-----
INVESTMENTS – OTHERS	10	-------	-----
CURRENT ASSETS, LOANS, ADVANCES ETC.	11	107570644.43	11760952.43

MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)			
TOTAL		108234698.43	118462768.43
SIGNIFICANT ACCOUNTING POLICIES			
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	24		
	25		

SUBJECT TO OUR REPORT OF EVEN DATE.

for RAKESH RAJ & ASSOCIATES
Chartered Accountants

Sd/-
ASHWANI TANEJA
(PARTNER)

Sd/-
ACCOUNTS OFFICER

Sd/-
MISSION DIRECTOR

Date : 01.12.2005
Place : New Delhi

Mission Mode Project on Sugar Production Technology
INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD/YEAR ENDED 31.03.2005

(Amount – Rs.)

INCOME	Schedule	Current Year	Previous Year
Income from Sales/ Services	12	0.00	0.00
Grants/Subsidies	13	0.00	0.00
Fees/ Subscriptions	14	0.00	0.00
Income from Investments	15	0.00	0.00
Income from Royalty, Publication etc.	16	3600.00	3600.00
Interest Earned	17	4538893.00	9742479.43
Other Income	18	11495000.00	12360298.00
Increase/(decrease) in stock of Finished goods and works-in-progress	19	0.00	0.00
TOTAL (A)		**16037493.00**	**22106377.43**
EXPENDITURE			
Establishment Expenses	20	2600120.00	2184636.00
Other Administrative Expenses etc.	21	3248982.00	3623148.00
Expenditure on Grants, Subsidies etc.	22	24925000.00	14700000.00
Interest	23	0.00	4653.00
Depreciation (Net Total at the year end)	8	241962.00	155419.00
TOTAL (B)		**31016064.00**	**20667856.00**
Balance being excess of Income over Expenditure (A-B)		(-)14978571.00	1438521.43
Transfer to Special Reserve(Specify each)		0.00	0.00
Transfer to/from General Reserve		0.00	0.00
BALANCE BEING SURPLUS(DEFICIT) CARRIED TO CORPUS/CAPITAL FUND	24	(-)14978571.00	1438521.43
SIGNIFICANT ACCOUNTING POLICIES CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25		

SUBJECT TO OUR REPORT OF EVEN DATE.

for **RAKESH RAJ & ASSOCIATES**
Chartered Accountants

Sd/-
ASHWANI TANEJA
(PARTNER)

Sd/-
ACCOUNTS OFFICER

Sd/-
MISSION DIRECTOR

Date : 01.12.2005
Place : New Delhi

Mission Mode Project on Sugar Production Technology
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2005

(Amount – Rs.)

SCHEDULE 1 – CORPUS/CAPITAL FUND :	Current Year		Previous Year	
Balance at the beginning of the year		74332048.43		72893527.00
Add : Contributions toward Corpus/Capital Fund	NIL		NIL	
Add/(Deduct) : Balance of net income/expenditure transferred from the Income and Expenditure Account	(-)14978571.00	(-)14978571.00	1438521.43	1438521.43
BALANCE AS THE YEAR –END		59353477.43		74332048.43

SCHEDULE 2 – RESERVE AND SURPLUS :	Current Year		Previous Year	
1. Capital Reserve :				
As per last Account				
Addition during the year				
Less : Deductions during the year				
2. Revaluation Reserves :				
As per last Account				
Addition during the year	------NIL-------	-------NIL-----	------NIL-------	---------NIL----
Less : Deductions during the year				
3. Special Reserve :				
As per last Account				
Addition during the year				
Less : Deductions during the year				
4. General Reserve :				
As per last Account				
Addition during the year				
Less : Deductions during the year				
TOTAL				

Mission Mode Project on Sugar Production Technology
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2005

(Amount – Rs.)

SCHEDULE 3- EARMARKED/ENDOWMENT FUNDS	FUND-WISE BREAK UP				TOTALS	
	Fund WW	Fund XX	Fund YY	Fund ZZ	Current Year	Previous Year
a) Opening balance of the funds						
b) Additions to the Funds:						
i. Donations /grants						
ii. Income from investments made on account of funds		----------NIL----------				
iii. Other additions (specify nature)						
TOTAL (a+b)						
c) Utilization /Expenditure towards objectives of funds						
i. Capital Expenditure						
- Fixed Assets						
- Others						
Total						
ii. Revenue Expenditure		---------- NIL ----------				
- Salaries, Wages and allowance etc.						
- Rent						
- Other Administrative expenses						
Total (c)						
NET BALANCE AS AT THE YEAR END (a+b-c)						

Mission Mode Project on Sugar Production Technology
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2005

(Amount –Rs.)

SCHEDULE 4 – SECURED LOANS AND BORROWINGS:	Current Year		Previous Year	
1. Central Government				
2. State Government (Specify)				
3. Financial Institutions				
a) Term Loans				
b) Interest accrued and due				
4. Banks:				
a) Term Loans				
- Interest accrued and due	----- NIL -----	----- NIL -----	------ NIL -----	----- NIL -----
b) Other Loans (specify)				
- Interest accrued and due				
5. Other Institutions and Agencies				
6. Debentures and Bonds				
7. Others (Specify)				
TOTAL				
Note : Amounts due within one year				

Mission Mode Project on Sugar Production Technology
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2005

(Amount –Rs.)

SCHEDULE 5 – UNSECURED LOANS AND BORROWINGS:	Current Year		Previous Year	
1. Central Government 2. State Government (Specify) 3. Financial Institutions 4. Banks: a) Term Loans b) Other Loans (specify) 5. Other Institutions and Agencies 6. Debentures and Bonds 7. Fixed Deposits 8. Others (Specify)	-------- NIL -----	----- NIL -----	----- NIL -----	------ NIL ------
TOTAL				
Note : Amounts due within one year				

SCHEDULE 6 – DEFERRED CREDIT LIABILITIES:	Current Year	Previous Year
a) Acceptances secured by hypothecation of Capital equipment and other assets b) Others	------- NIL -----	------- NIL -----
TOTAL		
Note : Amounts due within one year		

Mission Mode Project on Sugar Production Technology
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2005

(Amount –Rs.)

SCHEDULE 7 – CURRENT LIABILITIES AND PROVISIONS	Current Year		Previous Year	
A. **CURRENT LIABILITIES**				
1. Acceptances		0.00		0.00
2. Sundry Creditors:				
a) Implementation Prog.-Fiji Sugar Industries		4564931.00		0.00
b) Others (Prime Minister's Relief Fund)		3968.00		0.00
3. Advances Received (TIFAC)		40240969.00		40001166.00
4. Interest accrued but not due on:				
a) Secured Loans/borrowings		0.00		0.00
b) Unsecured Loans /borrowings		0.00		0.00
5. Statutory Liabilities:				
a) Over dues		0.00		0.00
b) Others		0.00		0.00
6. Other current Liabilities				
- Earnest Money – (As per Annexure – C)		3800000.00		3800000.00
- Security Deposit – M/s. Matrix Power		0.00		0.00
- Stale cheques		2530.00		2530.00
- Expenses Payable (Annexure –D)		268823.00		327024.00
TOTAL (A)		48881221.00		**44130720.00**
B. PROVISIONS				
1. For Taxation		0.00		0.00
2. Gratuity		0.00		0.00
3. Superannuation /Pension		0.00		0.00
4. Accumulated Leave Encashment		0.00		0.00
5. Trade Warranties/Claims		0.00		0.00
6. Others (Specify)		0.00		0.00
TOTAL (B)		**0.00**		**0.00**
TOTAL (A+B)		48881221.00		**44130720.00**

Sugar Technology Mission

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2005

(Amount –Rs.)

SCHEDULE 8 – FIXED ASSETS DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	Cost /valuation As at beginning of the year	Additions during the year	Deductions during the year	Cost/valuation at the year end	As at the beginning of the year	On Additions during the year	On Deductions for the year	Total up to the year end	As at the Current year end	As at the Previous year end
A. FIXED ASSETS										
1. LAND										
a) Freehold										
b) Leasehold										
2. BUILDINGS:										
a) On Freehold Land										
b) On Leasehold Land										
c) Ownership Flats/Premises										
d) Superstructures on Land not belonging to the entity										
3. PLANT MACHINERY & EQUIPMENT	99414	0	(……)	99414	60092	5898	…….	65990	33424	39322
4. VEHICLES	1408403	0	(…..)	1408403	709978	174606	…….	884584	523819	698425
5. FURNITURE, FIXTURES	149802	94200	(…..)	244002	107857	53427	-----	161284	82718	41945
6. OFFICE EQUIPMENT			(…..)							
7. COMPUTER /PERIPHERALS	134774	0	(…..)	134774	102650	8031	…..	110681	24093	32124
8. ELECTRIC INSTALLATIONS	……		(…..)		……		…….			
9. LIBRARY BOOKS	……		(…..)		……		…..			
10 TUBEWELLS & W.SUPPLY										
11 OTHER FIXED ASSETS										
TOTAL OF CURRENT YEAR	1792393	94200	(……)	1886593	980577	241962	……	1222539	664054	811816
PREVIOUS YEAR	1771577	20820	(……)	1792393	825158	155419	……	980577	811816	
B. CAPITAL WORK IN PROGRESS	-----		-----	-----	-----	…..	-----	….	-----	811816
TOTAL	1792393	94200	(……)	1886593	980577	241962	……	1222539	664054	

(note to be given as to Cost of assets on hire purchase basis included above)

Sugar Technology Mission
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2005

(Amount –Rs.)

SCHEDULE 9– INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS	Current Year	Previous Year
1. In Government Securities 2. Other approved Securities 3. Shares 4. Debentures and Bonds 5. Subsidiaries and Joint Ventures 6. Others (to be specified)	----------NIL----------	----------NIL----------
TOTAL		

SCHEDULE 10 – INVESTMENTS - OTHERS	Current Year	Previous Year
1. In Government Securities 2. Other approved Securities 3. Shares 4. Debentures and Bonds 5. Subsidiaries and Joint Ventures 6. Others (to be specified)	----------NIL----------	----------NIL----------
TOTAL		

Mission Mode Project on sugar production Technology
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2005

(Amount –Rs.)

SCHEDULE 11 – CURRENT ASSETS, LOANS, ADVANCES ETC.	Current Year		Previous Year	
A. **CURRENT ASSETS**				
1. Inventories:				
a) Stores and Spares				
b) Loose Tools				
c) Stock-in-trade			-------NIL-----	-------NIL-------
Finished Goods				
Work-in-progress				
Raw Materials				
2. Sundry Debtors:				
a) Debts Outstanding for a period exceeding six Months				0.00
3. Cash balances in hand (including cheques/drafts and imprest		2169.00		63.00
4. Bank Balances:				
a) With Scheduled Banks:				
- On Current Accounts	0.00		0.00	
- On Deposit Accounts (Short Term Deposit)	50000000.43		730278.43	
- On Savings Accounts	12034367.00		4835960.00	
- On Flexi Account	45514983.00		112067026.00	
	----------	107549350.43	----------	117633264.43
b) With non-Scheduled Banks:				
- On Current Accounts				
- On Deposit Accounts				
- On Savings Accounts				
5. Post Office-Savings Accounts				
TOTAL (A)		**107551519.43**		**117633327.43**

Mission Mode Project on sugar production Technology
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2005

(Amount –Rs.)

	Current Year		Previous Year	
SCHEDULE 11 – CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd)				
B. **LOANS , ADVANCES AND OTHER ASSETS**				
1. Loans:				
a) Staff				
b) Other Entities engaged in activities/objectives similar to that of the Entity		6000.00		4500.00
c) Other (specify)				
2. Advances and other amounts recoverable in cash or in kind or for value to be received				
a) On Capital Account		----NIL----		------NIL ------
b) Prepayments				
c) Others (Security with MTNL)				
d) TDS (On Consultancy)		13125.00		13125.00
3. Income Accrued:				
a) On Investments from Earmarked/Endowment Funds				
b) On Investments – Others				
c) On Loans and Advances				
d) Others				
(include income due unrealised –Rs….)				
4. Claims Receivabl				
TOTAL (B)		**19125.00**		**17625.00**
TOTAL (A+B)		**107570644.43**		**117650952.43**

Mission Mode Project on sugar production Technology

SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31.03.2005

(Amount –Rs.)

SCHEDULE 12– INCOME FROM SALES /SERVICES	Current Year	Previous Year
1. Income from Sales a) Sale of finished Goods b) Sale of Raw Material c) Sale of Scraps	---------NIL----------	---------NIL----------
2. Income from Services a) Labour and Processing Charges b) Professional/Consultancy Services c) Agency Commissions and Brokerage d) Maintenance Services (Equipment/Property) e) Others (Specify)	--------NIL----------	----------NIL--------
TOTAL		

SCHEDULE 13– GRANTS/SUBSIDIES (Irrevocable Grants & Subsidies Received)	Current Year	Previous Year
1. Central Government 2. State Government(s) 3. Government Agencies 4. Institutions/Welfare Bodies 5. International Organisations 6. Others (Specify)	.....NIL.....	.....NIL.....
TOTAL	.....NIL.....	.....NIL...

Mission Mode Project on sugar production Technology

SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31.03.2005

(Amount –Rs.)

SCHEDULE 14– FEES/SUBSCRIPTIONS	Current Year	Previous Year
1. Entrance Fees 2. Annual Fees/Subscriptions 3. Seminar/Program Fees 4. Consultancy Fees 5. Others (Specify)	----------NIL----------	----------NIL----------
TOTAL		
Note - Accounting Policies towards each item are to be disclosed		

SCHEDULE 15– INCOME FROM INVESTMENTS (Income on Invest. From Earmarked/Endowment Funds transferred to Funds)	Investment from Earmarked Fund		Investment - Others	
	Current Year	Previous Year	Current Year	Previous Year
1. Interest a) On Govt. Securities b) Other Bonds/Debentures 2. Dividends: a) On Shares b) On Mutual Fund Securities 3. Rents 4. Others (Specify)	-------NIL-------	-------NIL------	-------NIL-----	-------NIL------
TOTAL				
TRANSFERRED TO EARMARKED/ENDOWMENT FUNDS				

Sugar Technology Mission

SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31.03.2005

(Amount –Rs.)

SCHEDULE 16– INCOME FROM ROYALTY, PUBLICATION ETC.	Current Year	Previous Year
1. Income from Royalty		
2. Income from Publications		
3. Others (Specify) (Other receipts)	3600.00	3600.00
TOTAL	3600.00	3600.00

SCHEDULE 17– INTEREST EARNED	Current Year	Previous Year
1. On Term Deposits:		
a) With Scheduled Banks	0.00	496828.43
b) With Non-Scheduled Banks	0.00	.....
c) With Institutions	0.00	.....
d) Others – Flexi Account	4247957.00	7534292.00
2. On Savings Accounts:		
a) With Scheduled Banks	290188.00	113075.00
b) With Non-Scheduled Banks	0.00	.....
c) Post Office Savings Accounts	0.00	.....
d) Others	0.00	
3. On Loans:		
a) Employees/Staff	748.00	484.00
b) Others		
4. Interest from Debtors and Other Receivables (Interest on Refund from projects)	0.00	1597800.00
TOTAL	4538893.00	9742479.43

Note - Tax deducted at source to be indicated

Sugar Technology Mission
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31.03.2005

(Amount –Rs.)

SCHEDULE 18-OTHER INCOME.	Current Year	Previous Year
1. Profit on Sale/disposal of Assets		
a) Owned assets		
b) Assets acquired out of grants, or received free of cost		
2. Export Incentives realized		
3. Fees for Miscellaneous Services	2,00,000.00	1,00,000.00
4. Miscellaneous Income (Refund from projects principal amount) (As per Annexure – A)	11295000.00	12260298.00
TOTAL	11495000.00	12360298.00

SCHEDULE 19– INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS & WORK IN PROGRESS	Current Year	Previous Year
a). Closing stock - Finished Goods - Work-in-progress b) Less: Opening Stock - Finished Goods - Work -in -progress	------NIL-------	--------NIL----------
NET INCREASE/(DECREASE) [a-b]		

SCHEDULE 20–ESTABLISHMENT EXPENSES		Current Year	Previous Year
a) Salaries and Wages		2193268.00	1996617.00
b) Allowances and Bonus		8599.00	9101.00
c) Contribution to Provident Fund		100017.00	91600.00
d) Contribution to Other Fund (specify)		0.00	0.00
e) Staff Welfare Expenses		0.00	0.00
f) Expenses on Employees' Retirement and Terminal Benefits		0.00	0.00
g) Others (Specify)	(i) Honararium	15500.00	9750.00
	(ii) Medical Reimbursement	101683.00	68788.00
	(iii) LTC	181053.00	8780.00
TOTAL		2600120.00	2184636.00

Mission Mode Project on sugar production Technology

SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31.03.2005

(Amount –Rs.)

	Current Year	Previous Year
SCHEDULE 21-ADMINISTRATIVE EXPENSES ETC.		
a) Purchases	-----	-----
b) Labour and processing expenses	-----	-----
c) Cartage and Carriage Inwards	-----	-----
d) Electricity and power	-----	-----
e) Water charges	-----	-----
f) Insurance	-----	-----
g) Repairs and maintenance	18948.00	23998.00
h) Excise Duty	-------	.....
i) Rent, Rates and Taxes	607246.00	1474626.00
j) Vehicles Running and Maintenance	228277.00	168852.00
k) Postage, Telephone and Communication Charges	169292.00	179527.00
l) Printing and Stationary	197275.00	190336.00
m) Travelling and Conveyance Expenses	1082959.00	1224687.00
n) Expenses on Seminary/Workshops/Meeting	43756.00	104959.00
o) Subscription Expenses/Periodical & Magzines	29841.00	39898.00
p) Expenses on Fees	0.00	6372.00
q) Auditors Remuneration	12122.00	12122.00
r) Hospitality Expenses	--------	
s) Professional Charges	--------	.....
t) Provision for Bad and Doubtful Debts/Advances	--------	.....
u) Irrecoverable Balances Written-off	--------	.....
v) Bank Charges	100.00	.....
w) Freight and Forwarding /Expenses	--------	.....
x) Distribution Expenses	--------	.....
y) Advertisement and Publicity	764353.00	.....
z) Others (Specify) 1. Misc. Office Expenses	55908.00	170856.00
2. Project Expenses	34430.00	19440.00
3.Consultancy Expenses	0.00	4500.00
4. Patent	4475.00	2975.00
TOTAL	**3248982.00**	**3623148.00**

Mission Mode Project on sugar production Technology
SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31.03.2005

(Amount –Rs.)

	Current Year	Previous Year
SCHEDULE 22-EXPENDITURE ON GRANTS, SUBSIDIES PROJECT EXPENDITURE		
a) Grants given to Institutions/Organisations		
b) Subsidies given to Institutions/Organisations		
c) Others (As per Annexure-B) (Project expenditure of sugar mills.)	24925000.00	14700000.00
d) Honorarium for Consultancy Work (given to staff of TIFAC)		
TOTAL	24925000.00	14700000.00
Note – Name of the Entities, their Activities along with the amount of Grants/Subsidies are to be disclosed.		

	Current Year	Previous Year
SCHEDULE 23– INTEREST		
a) On Fixed Loans		
b) On Other Loans (including Bank Charges	0.00	4653.00
c) Others (Specify)		
TOTAL	0.00	4653.00

Mission Mode Project on sugar production Technology
SCHEDULES FORMING PART OF ACCOUNTS FOR THE PERIOD ENDED 31.03.2005

SCHEDULE – 24

ACCOUNTING POLICIES AND NOTES TO THE ACCOUNTS FOR THE YEAR ENDING 31ST MARCH, 2005	
A) ACCOUNTING POLICIES	
1	The Mission had adopted Mercantile System of Accounting.
2	Fixed Assets are shown at cost less depreciation
3	Prior period and extra ordinary items and changes in accounting policies having material impact on the financial affairs of the Mission are disclosed.
4	Depreciation has been calculated as per Income Tax Act, 1961
5	Amounts released under various projects are accounted as expenditure for the year in which the same are released, irrespective of the fact that the amounts so released may not have been fully utilised towards the projects during the accounting year.
6	The repayment of grant / assistance towards Sugar Technology Mission Project by the beneficiaries or contributions made by them towards development of technology as per conditions stated in agreements with them, are accounted for on receipt basis.
7	All disbursements for projects are treated as expenditure and assets created, if any, out of the said disbursements to the project, are not accounted for as assets in the books.
8	Contingent liabilities in respect of on-going Projects / Studies etc. are neither provided nor determined.
B) NOTES TO THE ACCOUNTS	
1	Depreciation amount Rs.155419.00 has been provided during the financial year 2004-2005.
2	The income tax liability if any will be provided in the books of account on the basis of actual payment of Income tax Department. (However TIFAC has been declared on SCIENTIFIC INSTITUTION FOR THE PURPOSE).
3	Amount due from beneficiaries of contributions as on 31.03.2005 was Rs. 451.4 lacs, it has not been considered in the books of Accounts, out of which Rs.168 lacs is overdue as on 31.03.2005.

4	Necessary Provision has been made for the following Expenses	
	Salary	181363.00
	Audit Fees	12122.00
	Telephone Expenses	4364.00
	Car Hire Charges	50078.00
	Travelling Expenses	3328.00
5	Previous year figures has been regrouped wherever necessary to make them comparable with current figures.	

for RAKESH RAJ **& ASSOCIATES**
Chartered Accountants

Sd/-
ASHWANI TANEJA
(PARTNER)

Sd/-
ACCOUNTS OFFICER

Sd/-
MISSION DIRECTOR

Date : 01.12.2005
Place : New Delhi

Mission Mode Project on sugar production Technology
SCHEDULES FORMING PART OF ACCOUNTS FOR THE PERIOD ENDED 31.03.2005

SCHEDULE 25 – CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS (Illustrative)

1. CONTINGENT LIABILITIES

1.1. Claims against the Entity not acknowledged as debts – Rs. ___NIL____ (Previous year Rs. ____NIL____)

1.2. In respect of

- Bank guarantees given by/on behalf of the Entity – Rs. ___NIL___ (Previous year Rs. ___NIL___)
- Letters of Credit opened by Bank on behalf of the Entity – Rs. ___NIL___ (Previous year Rs. ___NIL_)
- Bills discounted with banks Rs. ____NIL____ (Previous year Rs. ____NIL____)

1.3. Disputed demands in respect of :

Income-tax Rs. ____NIL___ (Previous year Rs. ____NIL____)
Sales-tax Rs. _____NIL___ (Previous year Rs. ____NIL_____)
Municipal Taxes Rs. ___NIL_____ (Previous year Rs. ____NIL_____)

1.4. In respect of claims from parties for non-execution of orders, but contested y the Entity – Rs. __NIL_(Previous year Rs. ___NIL__)

2. CAPITAL COMMITMENTS

Estimated value of contracts remaining to be executed on capital account and not provided for (net of advances) Rs. ____NIL___ (Previous year Rs. ____NIL_____)

3. LEASE OBLIGATIONS

Future obligations for rentals under finance lease arrangements for plant and machinery amount to Rs. _NIL(Previous year Rs. NIL)

4. CURRENT ASSETS, LOANS AND ADVANCES

In the opinion of the Management, the current assets, loans and advances have a value on realization in the ordinary course of business, equal at least to the aggregate amount shown in the Balance Sheet.

5. TAXATION

In view of there being no taxable income under Income-tax Act 1961, no provision for Income Tax has been considered necessary.

Mission Mode Project on sugar production Technology
SCHEDULES FORMING PART OF ACCOUNTS FOR THE PERIOD ENDED 31.03.2005

SCHEDULE 25 – CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS (Illustrative) – Contd.

(Amount-Rs.)

6. FOREIGN CURRENCY TRANSACTIONS

	Current Year	Previous Year
6.1. Value of Imports Calculated on C.I.F. Basis:		
- Purchase of finished Goods	N.A.	N.A.
- Raw Materials & Components (Including in transit)	N.A.	N.A.
- Capital Goods	N.A.	N.A.
- Stores, Spares and Consumables	N.A.	N.A.
6.2. Expenditure in foreign currency:		
a) Travel	N.A.	N.A.
b) Remittances and Interest payment to Financial Institutions/ Banks in Foreign Currency	N.A.	N.A.
c) Other expenditure:		
- Commission on Sale	N.A.	N.A.
- Legal and Professional Expenses	N.A.	N.A.
- Miscellaneous Expenses	N.A.	N.A.
6.3. Earnings:		
Value of Exports on FO basis	N.A.	N.A.
6.4. Remuneration to auditors:		
As Auditors		
- Taxation matters		
- For Management services		
- For certification	12122.00	12122.00
Others		

7. Corresponding figures for the previous year have been regrouped/rearranged, wherever necessary.

8. Schedules 1 to 25 are annexed to and form an integral part of the Balance Sheet as at 31.03.2005 and the Income and Expenditure Account for the year ended on that date.

Annexure-A
REFUND FROM PROJECTS (PRINCIPAL AMOUNT)

Particulars	CURRENT YEAR As on 31.03.2005
Monitoring & Control System for Pan Boiling (M/s Ramgarh Chini Mills)	500000.00
ERP System (M/s Godawari Sugar)	2520000.00
Juice Extractor system installed at Dhampur sugar Mills	3300000.00
M/s Kothari Sugar and Chemical Ltd.	4975000.00
	11295000.00

Annexure-B
Project Expenditure

Particulars	CURRENT YEAR As on 31.03.2005
TDA Project Manufacture of Ethyle Lacate from Molasses (M/s Godavari Sugar Mills)	20800000.00
TDA Ethanol from Secondary Juice(M/s Vaidyanath SSK Ltd)	2000000.00
TDA Distillery Effluent Treatement System (M/s Ugar Sugar Ltd)	1100000.00
TDA Project-Development of cost effective fibrizer hammar tips for sugar mills (RRL Bhopal)	1025000.00
	24925000.00

Annexure-C
SECURITIES/EARNEST MONEY RECEIVED

Particulars	Current Year As on 31.03.2005
M/s Upper Doaba Sugar Mills, Shanti	100000.00
M/s Sakthi Sugar , TN.	100000.00
M/s Pratappur Sugar	100000.00
M/s RBNS Sugar Mills	100000.00
M/s L.H. Sugar	100000.00
M/s Riga Sugar	100000.00
M/s Jind Coop-Sugar	100000.00
M/s Vishnu Sugar	100000.00
M/s DSM Sugar	100000.00
M/s Velsad SKUML	100000.00
M/s Budhewal Coop.	100000.00
M/s Palwal Coop.	100000.00
M/s Godavari Sugar	100000.00
M/s Padamshri Dr. Vithalrao Vikho Patil SSK	100000.00
M/s Mawana Sugar	100000.00
M/s EID Parry, Pugalur	100000.00
M/s Bishwasrao Naik SSK	100000.00
M/s Terna SSK Limited	100000.00
M/s Shakumbari Sugars Ltd.,	100000.00
M/s Shri Talabu Taluka SKM	100000.00
M/s Bileshwarkhand Udyog Ltd.	100000.00
M/s Varalakshmi Sugar	100000.00
M/s Sanjivani SSK Ltd.	100000.00
M/s Rahui S.S.K. Ltd	100000.00
M/s Ashok SSK Ltd.	100000.00
M/s Simbhaoli Sugar	300000.00
M/s Jagadamba SSK	100000.00
M/s Rana Sugar Ltd.	100000.00
M/s Dharani Sugar Ltd.,	100000.00
M/s Bharat Sugar Ltd.	100000.00
M/s Triveni Engg.	200000.00
M/s Uttam Sugars Ltd.	100000.00
M/s Chamundeswari	200000.00
M/s Mansurpur sugar Mills	100000.00
Total	**38,00,000.00**

Annexure-D
Expenses Payable

PREVIOUS YEAR As on 31.03.2005	Particulars	CURRENT YEAR As on 31.03.2005
165250.00	Salary	181363.00
120087.00	M/s Eden Park Hotel	0.00
12629.00	M/s Vishnu hospitality services	50078.00
16936.00	MTNL	4364.00
12122.00	M/s Bansal R. Kumar & Associates	0.00
0.00	M/s Rakesh Raj & Associates	12122.00
0.00	M/s Kuani Travels	3328.00
0.00	M/s Symphony Travel (P) Ltd.	13702.00
0.00	M/s Tata Teleservices Ltd.	3866.00
327024.00		268823.00

Annexure -E
Implementation Programme-Fiji Sugar Industries

PREVIOUS YEAR As on 31.03.2005	Particulars	CURRENT YEAR As on 31.03.2005
0.00	Grant Received	9739111.00
0.00	Expenditure	5174180.00
0.00	Balance Amount	4564931.00

Mission Mode Project on Sugar Production Technology
RECEIPTS AND PAYMENTS FOR THE PERIOD/YEAR ENDED 31.03.2005

(Amount –Rs.)

RECEIPTS	CURRENT YEAR	PREVIOUS YEAR	PAYMENTS	CURRENT YEAR	PREVIOUS YEAR
I. Opening Balance			I. Expenses		
a) Cash in hand	63.00	279.00	a) Establishment Expenses (corresponding to Schedule 20) less Expenses payable	2418757.00	1796950.00
b) Bank Balances			b) Administrative Expenses (corresponding to Sechdule 21) less Expenses payable	2921719.00	3354381.00
i) In current accounts			c) TDS deducted & deposit on expense		329429.00
ii) In deposit accounts	730278.43	111424080.0			
iii) Savings accounts	4835960.00	4068030.00			
iv) Flexi accounts	112067026.00	0.00			
II. Grants Received			II. Payments made against funds for various Projects_____		
a) From Government of India		.....			
b) From State Government			(Name of the fund or project should be		
c) From other sources (Implimentation Programme-Fiji Sugar Industries) (Grants for capita & revenue exp. To be shown separately).	9739111.00	0.00	shown along with the particulars of paymentrs made for each project) (As per Annexure-C) (As per Annexure E)	24925000.00 5174180.00	14700000.00
d) Amount received from TIFAC	0.00	1166.00	III Investments and deposits made		
III. Income on Investments From_____			a) Out of Earmarked /Endowment funds		
			b) Out of Own Funds (Investments-Others)		.....
					.....
a) Earmarked /Endow, Funds.			IV Expenditure on Fixed Assets & Capital Work in Progress_____		
b) Own Funds (Oth. Investment			a) Purchase of Fixed Assets	94200.00	20820.00
			b) Expenditure on Capital Work-n-progress		
IV Interest Received					
a) On Bank deposits	290188.00	609903.43			
b) Loans, Advances etc.	748.00	484.00			

V) Other Income (Specify)			V) Refund of surplus money/Loans		
					.....
- Refunds from projects	11295000.00	12260298.00	a) To the Government of India		.....
- Interest of refunds from projects.		1597800.00	b) To the State Government		.....
			c) To other providers of funds		
- Earnest Money received (As per Annexure)		.....	d) Advance Paid to staff	10000.00	10000.00
- Consultancy	0.00	0.00			
- Interest Accrued on Flexi Bond	4247957.00	7534292.00	VI Finance Charges (Interest)	0.00	4653.00
			VII Other Payments (Specify)	-------	.....
- Fees for Misc. Services	200000.00	100000.00	(Payment to sundry creditors TIFAC)		
			TDS	-------	.....
VI. Amount Borrowed			Payment of Security deposit	0.00	2110.00
			Expenses payable of 2003-04 paid	327024.00	153762.00
VII. Any other receipts (give Details)			VIII Closing Balance		
- Earnest Money	0.00	400000.00	a) Cash in hand	2169.00	63.00
- Staff loan recovery	8500.00	5500.00	b) Bank Balance		
- Other receipts	-----	.....			
- Security with MTNL	-----	.....	i) In current accounts	NIL	NIL
- Security Deposit - Matrix Power Products	------	.....	ii) In deposit accounts (Short term Deposited)	50000000.43	730278.43
- Miscellaneous Income	3600.00	3600.00	iii) Savings accounts	12034367.00	4835960.00
- Prime Minister's Relief Fund	3968.00		Flexi Deposit	45514983.00	112067026.0
TOTAL	143422399.43	138005432.43	TOTAL	143422399.43	138005432.43

for RAKESH RAJ & ASSOCIATES
Chartered Accountants

Sd/-
ASHWANI TANEJA
(PARTNER)

Sd/-
ACCOUNTS OFFICER

Sd/-
MISSION DIRECTOR

Date : 01.12.2005
Place : New Delhi

Auditor's Report

The Members,
Governing Body
Fly Ash Consultancy Project – TIFAC,
New Delhi – 110 016

We have audited the attached Balance Sheet of FLY ASH CONSULTANCY PROJECT– TIFAC, NEW DELHI as on 31st March 2005 and also the attached Income & Expenditure Accounts for the year ended on that date.

These financial statements are the responsibility of the management of the Fly Ash Consultancy Projects - TIFAC. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform 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 the management, as well as evaluating the overall presentations of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

Subject to Notes on Account as per Schedule – 9

1) We have obtained all the information and explanation which to the best of our knowledge and belief were necessary for the purposes of our Audit.
2) In our opinion proper books of account as required by law have been kept by Fly Ash Consultancy Project – TIFAC.
3) The Balance Sheet and Income and Expenditure Accounts Dealt with by this report are in agreement with the books of account.
4) In our opinion and to the best of our information and according to the explanations given to us, the said accounts read with the schedules and notes thereto give the information required by Society Registration Act, in the manner so required and given a true and fair view.
   (a) In case of Balance Sheet, of the state of affairs of the Fly Ash Consultancy Project – TIFAC as at 31st March, 2005
   (b) In case of Income & Expenditure Account, of the excess of income over expenditure for the accounting year ended on that date.

For **Rakesh Raj & Associates**
Chartered Accountants

Ashwani Taneja
(Partner)

Date : 01.12.2005
Place : New Delhi

FLY ASH CONSULTANCY PROJECT TIFAC (DST)
BALANCE SHEET AS ON 31.03.2005

(Amount –Rs)

	Schedule	CURRENT YEAR	PREVIOUS YEAR
LIABILITIES			
Corpus/Capital Fund	1	2109105.50	2286590.00
Sundry Project Expenses Payable	2	125976.00	82123.00
Professional & Infrastructure Development & Institutional Charges		823568.00	0.00
Total		**3058649.50**	**2368713.00**
ASSETS			
Short Term Deposit	3	1788254.00	1676928.00
Union Bank of India		1196958.00	689366.00
Cash in hand		8116.00	2419.00
Computers/Periferials		61096.00	0.00
Office Equipment		4225.50	0.00
Total		**3058649.50**	**2368713.00**
Significant Accounting Policies & Notes to the Accounts	9		

As per our report of even date
For **RAKESH RAJ & ASSOCIATES**
CHARTERED ACCOUNTANTS

-Sd-
ASHWANI TANEJA
(PARTNER)

-Sd-
ACCOUNTS OFFICER
TIFAC

-Sd-
ADVISOR
FLY ASH UTILISATION PROGRAMME, TIFAC

Date : 01.12.2005
Place : New Delhi

FLY ASH CONSULTANCY PROJECT TIFAC (DST)
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31.03.2005

(Amount - Rs)

INCOME	Schedule	CURRENT YEAR	PREVIOUS YEAR
Consultancy Charges	4	3393798.00	2015206.00
Interest from Bank (Savings)	5	41729.00	26549.00
Interest from Bank (Short Term Deposit)	6	116145.00	79449.00
Other Income (Traveling Reimbursement) Heavy Water Plant Manuguru (Minefield)		0.00	29089.00
INCOME TOTAL		**3551672.00**	**2150293.00**
EXPENDITURE			
Project Expenses	7	2886409.00	2689210.00
Sundry Project Expenses		120466.00	82123.00
Overhead/Project Management		7800.00	0.00
Depreciation		92113.50	0.00
EXPENDITURE TOTAL		**3106788.50**	**2771333.00**
Excess of Income over Expenditure		**444883.50**	
Excess of Expenditure over Income			**(-) 621040.00**

Balance being Surplus transferred to Corpus/Capital Fund 444883.50
Balance being Deficit transferred to Corpus/Capital Fund (-) 621040.00

As per our report of even date
For **RAKESH RAJ & ASSOCIATES**
CHARTERED ACCOUNTANTS

-Sd-	-Sd-	-Sd-
ASHWANI TANEJA	**ACCOUNTS OFFICER**	**ADVISOR**
(PARTNER)	**TIFAC**	**FLY ASH UTILISATION PROGRAMME, TIFAC**

Date : 01.12.2005
Place : New Delhi

FLY ASH CONSULTANCY PROJECT TIFAC (DST)

Schedule Froming Part of Balance Sheet As At 31.03.2005

(Amount –Rs)

SCHEDULE 1 – CORPUS/CAPITAL FUND	Current Year	Previous Year
Balance at the Beginning of the year	2286590.00	2907630.00
Add : Contributions towards Corpus/Capital Fund	0.00	0.00
Add/(Deduct) : Balance of net income/expenditure transferred from the Income & Expenditure Account	444883.50	(621040.00)
Less : Excess Expenditure over Income	0.00	0.00
Less : Professional & Infrastructure Development & Institutional Charges and Service Tax (deducted from Capital)	622368.00	0.00
Total	**2109105.50**	**2286590.00**

SCHEDULE 2 - SUNDRY PROJECT EXPENSES PAYABLE	Current Year	Previous Year
Ammonia Dozing of Fly Ash From HWB Mumbai	114956.00	11613.00
Perspective R & D Plan for Fly Ash	0.00	29000.00
Preparation & Publication of Manuals/Guidelines/ Documents for user Fly Ash	0.00	36000.00
M/s Bansal R.Kumar and Associates	5510.00	5510.00
M/s Rakesh Raj & Associates	5510.00	0.00
Total	**125976.00**	**82123.00**

Schedule 3 - SHORT TERM DEPOSIT	Current Year	Previous Year
Perspective R&D Plan for Fly Ash	**900589.00**	839101.00
Ammonia Dozing of Fly Ash HWB, Mumbai.	**337619.00**	314662.00
Preparation & Publication of Mannuals/Guidelines Documents for user Fly Ash.	**328151.00**	313710.00
Consultancy Assignment UPRVUNL	**112527.00**	104887.00
Consultancy Assignment Road Construction	**109368.00**	104568.00
TOTAL	**1788254.00**	**1676928.00**

SCHEDULE 4 - CONSULTANCY CHARGES	Current Year	Previous Year
Perspective R&D Plan for Fly Ash	0.00	0.00
Ammonia Dozing of Fly Ash HWB, Mumbai	612591.00	0.00
Preparation & Publication of Manuals/Guidelines Documents for user Fly Ash	430000.00	0.00
Training Programme of Clay Fly Ash Bricks Manufacturing (Faridabad)	0.00	0.00
Consultancy Assignment UPRVUNL	0.00	299475.00
Heavy Water Plant, Manuguru (Minefield)	0.00	170000.00
Consultancy Assignment Thermal Power Plant at Parichha, UP	284610.00	474375.00
Consultancy Assignment on Dry Fly Ash Transportation & Disposal System at BSES	309599.00	409859.00
Evaluation of Ammonia Dozed Fly Ash for Agriculture Applications	131125.00	96000.00
Heavy Water Board – Mumbai (Agriculture)	0.00	320000.00
Training Programme of Clay Fly AshBricks Manufacturing (NTPC) (UNCHAHAR)	0.00	91800.00
Separate Collection of Bottom Ash optimisation of slurry disposal systems & Agriculture Application of Pond Ash.	0.00	153697.00
Training Programme of Clay Fly Ash Brick Manufacturing (Bathinda, Ropar, Hoashurpur)	324000.00	0.00
Consultancy Assignment IPGNCO Workshop & film Shooting of IPGNCO	719400.00	0.00
Consultancy Assignment Engineering Design for the Liner System Including Leaches Collection for Paricha	282473.00	0.00
Consultancy Assignment Training Programme for Clay Fly Ash Brick Manufacture (Nagupr)	300000.00	0.00
Total	3393798.00	2015206.00

SCHEDULE 5 – INTEREST FROM BANK (SAVINGS)	Current Year	Previous Year
Perspective R&D Plan for Fly Ash	6127.00	5329.00
Ammonia Dozing of Fly Ash HWB, Mumbai	3128.00	2330.00
Preparation & Publication of Manuals/Guidelines Documents for user Fly Ash	3009.00	2211.00
Training Programme of Clay Fly Ash Bricks Manufacturing (Faridabad)	1347.00	549.00
Consultancy Assignment DVB	2625.00	1827.00
Consultancy Assignment UPRVUNL	1809.00	3230.00
Consultancy Assignment Road Construction	4028.00	1011.00
Heavy Water Plant, Manuguru (Minefield)	3019.00	2221.00
Consultancy Assignment Thermal Power Plant at Parichha, UP	3356.00	2558.00
Consultancy Assignment on Dry Fly Ash Transportation & Disposal System at BSES	3008.00	2210.00
Evaluation of Ammonia Dozed Fly Ash for Agriculture Applications	2117.00	518.00
Heavy Water Board – Mumbai (Agriculture)	2524.00	1726.00
Separate Collection of Bottom Ash optimisation of slurry disposal systems & Agriculture Application of Pond Ash.	1627.00	829.00
Consultancy Assignment Training Programme of Clay Fly Ash Brick Manufacturing (NTPC) (UNCHAHAR)	801.00	0.00
Consultancy Assignment Training Programme of Clay Fly Ash Brick Manufacturing (Bathinda, Rupar & Hosharpur)	801.00	0.00
Consultancy Assignment IPGNCO Workshop & Film Shooting of IPGNCO	801.00	0.00
Consultancy Assignment Engineering Design for the Liner System including Leaches collection for Paricha	801.00	0.00
Consultancy Assignment Training Programme for Clay Fly Ash Brick Manufacturing (Nagpur)	801.00	0.00
Total	**41729.00**	**26549.00**

SCHEDULE 6 – INTEREST FROM BANK (SHORT TERM DEPOSIT)	Current Year	Previous Year
Perspective R&D Plan for Fly Ash	61488.00	39417.00
Consultancy Assignment DVB	0.00	1575.00
Heavy Water Plant, Manuguru	0.00	630.00
Ammonia Dozing of Fly Ash from HWB, Mumbai	22957.00	14662.00
Preparation & Publicatoin of Manual/Guidelines/Documents for user Fly Ash	18055.00	13710.00
Consultancy Assignment UPRVUNL	7640.00	4887.00
Consultancy Assignment Road Construction	6005.00	4568.00
TOTAL	**116145.00**	**79449.00**

SCHEDULE 7 – PROJECT EXPENSES	Current Year	Previous Year
Perspective R&D Plan for Fly Ash	363725.00	316097.00
Ammonia Dozing of Fly Ash HWB, Mumbai.	182450.00	393055.00
Preparation & Publication of Mannuals/Guidelines Documents for user Fly Ash.	221531.00	811080.00
Training Programme of Clay Fly Ash Bricks Manufacturing (Faridabad)	0.00	7097.00
Consultancy Assignment DVB	51069.00	216000.00
Consultancy Assignment UPRVUNL	128678.00	221518.00
Heavy Water Plant, Manuguru (Minefield)	211.00	10076.00
Consultancy Assignment Thermal Power Plant at Parichha U.P	423192.00	273800.00
Consultancy Assignment on Dry Fly Ash Transportation & Disposal System at BSES	341407.00	176487.00
Evaluation of Ammonia Dozed Fly Ash for Agriculture Application.	96000.00	64000.00
Heavy Water Board, Mumbai (Agriculture)	0.00	200000.00
Consultancy Assignment Road Construction	22092.00	0.00
Training Programme of Clay Fly Ash Brick Manufacture (NTPC) (UNCHAHAR)	3081.00	0.00
Separate Collection of Bottom Ash Optimistion of Slurry Disposal System & Agriculture Application.	35261.00	0.00
Training Programme of Clay Fly Ash Birck Manufacturing (Bathinda, Purar & Hoshurpur)	75000.00	0.00
IPGNCO Workshop Film Shooting of IPGNCO	80000.00	0.00
Engineering Design for the Liner System Including Leaches Collection for Paricha	150000.00	0.00
Training Programme for Clay Fly Ash Brick Manufacturing (Nagpur)	371310.00	0.00
Perspective R&D Plan for Fly Ash RCC	341402.00	0.00
TOTAL	**2886409.00**	**2689210.00**

FLY ASH CONSULTANCY PROJECT, TIFAC (DST)

Schedules Forming Part of Balance Sheet As At 31.03.2005

(Amount – Rs)

	GROSS BLOCK				DEPRECIATION				NET BLOCK	
SCHEDULE 8-FIXED ASSETS OF DESCRIPTION	Cost / valuation As at beginning of the year	Additions during the year	Deductions during the year	Cost / valuation at the year end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total upto the year end	As at the current year end	As at the precious year end
A. FIXED ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. a) Freehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b) Leasehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2. BUILDING	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
a) On Freehold Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b) On Leasehold Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
c) Ownership Flats/Premises	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d) Superstructures on Land not belonging to the entity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. PLANT MACHINERY & EQUIPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4. VEHICLES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. FURNITURE & FIXTURES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. OFFICE EQUIPMENT	0.00	4695.00	0.00	4695.00	0.00	469.50	0.00	469.50	4225.50	0.00
7. COMPUTER/PERIPHERALS	0.00	152740.00	0.00	152740.00	0.00	91644.00	0.00	91644.00	61096.00	0.00
8. ELECTRIC INSTALLATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LIBRARY BOOKS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10. TUBEWELL & W.SUPPLY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11. OTHER FIXED ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OF CURRENT YEAR	0.00	157435.00	0.00	157435.00	0.00	92113.50	0.00	92113.50	65321.50	0.00
PREVIOUS YEAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
B. CAPITAL WORK IN PROGRESS										
Cost of Assets on hire purchase basis included above										

Fly Ash Consultancy Project - TIFAC
Schedules Forming Part of Accounts fro the Period Ended 31.03.2005

Schedule 9

	Accounting Policies and Notes to the Accounts for the Year Ending 31.03.2005
A)	Accounting Policies
1.	Fly Ash Consultancy Project had adopted Mercantile System of Accounting.
2.	Amounts released under various Project are accounting as expenditure for the year in which the same are released, irrespective of the fact that the amounts so released may not have been fully utilized towards the projects during the accounting year.
3.	Unspent amount of grant received during the year for specific purposes is earmarked and carried forward to next year to the utilized for the said purposes.
B)	Notes to the Accounts
1.	Necessary Provision has been made for the following Expenses
	Audit Fee (for 2 years) Rs. 11020/-
	Sundry Project Expenses Payable Rs. 114956/-
	Rs.622368/- on account of Professional & Infrastructure Development & Institutional Charges & Service Tax has been transferred from Capital Fund and is shown separately.
2.	Total interest received from Bank during the year comes out to be Rs.157874/-. It is apportioned between Consultancy Fee received during the year.
3.	Depreciation amount Rs. 92113.50 has been provided during the financial year 2004-2005.

As per our report of even date
For **RAKESH RAJ & ASSOCIATES**
CHARTERED ACCOUNTANTS

-Sd-	**-Sd-**	**-Sd-**
ASHWANI TANEJA	**ACCOUNTS OFFICER**	**ADVISOR**
(PARTNER)	**TIFAC**	**FLY ASH UTILISATION PROGRAMME, TIFAC**

Date : 01.12.2005
Place : New Delhi

Auditor's Report

The Trustees,
TIFAC C.P. Fund Trust,
New Delhi-110016.

We have audited the attached Statement of Affair of TIFAC C.P. Fund Trust as on 31st March, 2005 with the books of accounts maintained at New Delhi. The compliance of the provision of Provident Fund and Miscellaneous Provision Account has also been examined.

On the basis of such examination of the books of accounts, we state that subject to comments given as per notes on account as per point no.1.

1. The Statement of Affairs dealt with by this report are in agreement with the books of accounts of the Trust.

2. In our opinion and to the best of our information and according to explanation given to us, the said accounts gives a true and fair view.

a) In the case of Statement of Affairs, the state of the affairs of the Trust as at 31st March 2005.

For Rakesh Raj & Associates
Chartered Accountants

Sd/-
Ashwani Taneja
(Partners)

Date : 01.12.2005
Place : New Delhi

Contributory Provident Fund -TIFAC

Statement of Affairs as on 31st March, 2005

(Amount Rs.)

Previous Year as on 31.03.2004	Particulars		Current Year As on 31.03.2005	Previous Year as on 31.03.2004	Particulars	Current Year As on 31.03.2005
	Interest Accrued			132611.54	**Balance with UBI**	3204144.54
4515275.70	Last Balance	5466374.70			Deposit	
1044578.00	Add: Received during the year	579075.00		520330.00	Special deposit with RBI	520330.00
	Accrued during the year			14333759.00	Short Term deposit with UBI	14833017.00
5559853.70		6045449.70			**Loan/Advance to staff members**	
93479.00	Less: Paid during the year	441.00	6045008.70			
5466374.70	**Employees Contribution**			19695.00	Sh. Anil Kumar Rai	31571.00
				8490.00	Mrs. Kavita Tyagi	0.00
7116195.84	Last Balance	7323341.84		84000.00	Sh. Arghya Sardar	86150.00
2637952.00	Add: Received during the year	3108574.00		35000.00	Sh. Atul Millal	35000.00
9754147.84				33000.00	Mrs. Sreedevi N	9000.00
2430806.00	Less: Paid during the year	974858.00	9457057.84	6000.00	Mrs. Sangeeta Talwar	
7323341.84	**TIFAC Contribution**			22000.00	Sh. M. Thamraiselvan	5200.00
2548465.00	Last Balance	2823889.00		7120.00	Sh. Suresh Somanchi	30400.00
627945.00	Add : Received during the year	741917.00	3565806.00	47600.00	Mrs. Mala Sarpal	23600.00
3176410.00				36000.00	Mrs. Promila Khilnani	19200.00
352521.00	Less: Paid during the year			12000.00	Ms. Mini K.K.	6000.00
				84000.00	Sh. Yashwant Dev Panwar	36000.00
				85000.00	Ms. Geeta	49000.00
				25000.00	Sh. Mahipal Singh Rawat	13000.00
				30000.00	Dr. Gautam Goswami	18000.00
				35000.00	Dr. T. Chakradhar	23360.00
				25000.00	Mrs. Mercy James	16900.00
				0.00	Sh. Ravi Dutt	12600.00
				32000.00	Sh. Samson George	8000.00
					Sh. A. Parida	72000.00
					Dr. P.K. Anil Kumar	8000.00
					Sh. Shambhu Kumar	7400.00
15613605.54	**Total**		**19067872.54**	**15613605.54**	**Total**	**19067872.54**

For RAKESH RAJ & ASSOCIATES
Chartered Accountants
Sd/-
Ashwani Taneja
(Partner)

Date : 01.12.2005
Place : New Delhi

Sd/-
Chairman

Sd/-
Trustee

Contributory Provident Fund – TIFAC
Trial Balance as on 31st March, 2005

(Amount Rs.)

S.No.	Particulars	L.F.	Debit Amount	Credit Amount
01.	Employee's Subscription	68		9457057.84
02.	TIFAC's Contribution	69		3565806.00
03.	Short term Deposit A/c	70	14833017.00	
04.	Special deposit with RBI A/c	71	520330.00	
05.	Interest A/c	72		6045008.70
06.	Adv. Sh. Anil Kumar Rai	73	31571.00	
07.	Adv. Sh. Arghya Sardar	75	86150.00	
08.	Adv. Sh. Atyk Mittal	77	35000.00	
09.	Adv. Sh. Suresh Somanchi	78	30400.00	
10.	Adv. Sh. M. Themaraiselvan	79	5200.00	
11.	Adv. Mrs. Mala Sarpal	80	23600.00	
12.	Adv. Mrs. Promila Khilnani	81	19200.00	
13.	Adv. Ms. Mini K.K.	82	6000.00	
14.	Adv. Sh.Yashwant Dev Panwar	83	36000.00	
15.	Adv. Ms. Geeta	84	49000.00	
16.	Adv. Sh. Mahipal singh Rawat	85	13000.00	
17.	Adv. Dr. Gautam Goswami	86	18000.00	
18.	Adv. Dr. T Chakradhar	87	23360.00	
19.	Adv. Mrs. Mercy James	88	16900.00	
20.	Adv. Sh. Ravi Dutt	89	12600.00	
21.	Adv. Mrs. Sreedevi N	90	9000.00	
22.	Adv. Sh. Samson George	91	8000.00	
23.	Adv. Sh. A. Parida	92	72000.00	
24.	Adv. Dr. P.K. Anil Kumar	93	8000.00	
25.	Adv. Sh. Shambhu Kumar	94	7400.00	
26.	Cash at Bank		3204144.54	
	Total		19067872.54	19067872.54

For **RAKESH RAJ & ASSOCIATES**

Chartered Accountants

Sd/	**Sd/-**	**Sd/-**
Ashwani Taneja	**Chairman**	**Trustee**
Partner	**Trustee**	

Date : 01.12.2005

Place: New Delhi