

II - G. TECHNOLOGY INFORMATION FACILITATION PROGRAMME

1 INTRODUCTION

Technology Information and Facilitation Programme (TIFFP) has the broad objective of generating endogenous capacities for the development and utilization of digital information resources to facilitate accelerated S&T research. It endeavors to ensure that Information and Communication Technologies (ICT) are fruitfully used in all the sectors of development and facilitate collaborative research among industries and institutions. The scheme is being implemented as a co-operative and collaborative venture and built around the existing infrastructure, wherever possible. The strategy concentrates in facilitation of Indian content on S&T, avoid duplication of efforts, allow minimum overlapping and maximum utilization of existing facilities.

2 OBJECTIVES

The specific objectives of the programme are designed to:

- Develop appropriate endogenous information capacities to support R&D activities
- Support the production of local content and to promote capturing of indigenous knowledge base
- Promote information and knowledge networking at local, regional and national levels to facilitate flow and sharing of information resources
- Support education, training and R&D in digital content development and utilization

- Promote national and international cooperation in related areas

3 ACHIEVEMENTS

The specific achievements of the programme during the period of report are:

3.1 Promotion of content development

India has a huge population of domain experts most of whom are also proficient in English Language and therefore they can cater to international demands. The full potential of content development is yet to manifest in India. The activities/ projects thus taken up during the period of report are the following:

Computerized botanical database on wild ornamental plants of Himalaya

The project of Dr Y.S.Parmar University of Horticulture & Forestry, Solan, Himachal Pradesh is aimed at preparing a database on wild ornamental plants of Himalayas. Important floral/medicinal resources will be documented. The database would also help to assess the national wealth in the form of natural resources by knowing the exact position of plants having economic uses. The project is under progress.

Development of Multimedia database on integrated Pest Management Techniques

The objective of the project of Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur is to develop multimedia software for Integrated Pest Management (IPM) of major oilseed and pulse crops and to develop a database on IPM techniques related to major oilseed and pulse crops of Central India. The software will act as a research and extension tool to provide ready information on available IPM

techniques to farmers. The multimedia feature of the software will assist in quick and easy identification of major pests of crops during the growing/off season. It would also help in adopting result oriented and sustainable IPM techniques and in thus increasing the total crop production of the region and improving the economic status of the farmers.

Development of digital image database of Bishnupur terracotta art and sculpture and Traditional design of Potchitra, Baluchori & Madhubani

Under the project, the CALIBNET, Jadavpur University, Kolkata will develop a database of available literature and photographic images on Bishnupur terracotta art and sculpture and traditional design of Potchitra, Baluchori & Madhubani and would be hosted on Internet. This database will not only offer a database on Terracotta and Temple architecture but provide a pictorial view of the present state of this invaluable evidence of our heritage.

Digital Content Development for Human Resources Development of Rubber Industry

The objective of the project of Indian Rubber Manufacturers Research Association, Thane is to develop a video learning course on basic rubber technology to promote human resource development for technologists and supervisors working in rubber industry. The courseware would be particularly useful for upgrading the skills of lower segments of rubber industry technicians and supervisors.

Preparation of Database on Metallo-pharmaceuticals

The project of Research & Development of Information Products (CSIR Unit) URDIP, Pune focuses on research that bridges the areas of inorganic chemistry and medicine. The user-friendly database would be designed

to search via metal name that can provide list of all medical conditions where the metals is used for treatment with the complete metal profile covering details like modern metallo-complex medicines and traditional uses of the metal in the form of bhasmas, various stages in preparation, medicinal properties, dosage, and in-vitro, in- vivo, clinical trials and toxicity studies of metals.

Training Programmes on Content Development and Management

SHPT School of Library Science, SNDT Women's University, Mumbai has been awarded this project to develop and offer training programmes in content management. The core curricula for content management would include content preparation, content organization and content delivery. The University would develop the course curricula, implement two pilot programmes, and use the feedback to revise and refine the course curricula. The project commenced on May 15, 2005 and duration of the project is one year. The course curricula for 8 credits (4 months part-time) to provide conceptual and practical inputs in the area of content development and management have been developed. The first course commenced on September 21, 2005 with 16 participants.

3.2 National Websites/ Servers

Development of a Coastal Hazards portal

Specific subject information portals have become the need of the day, because of the proliferation of a number of website and internet access to many subjects. General public runs into panic when disasters take place. It is essential that they need to be better informed from general knowledge point of view and also how to face the situation in case of eventuality. It is also essential to know where the right information would be

available on the aspects of concern and who the responsible authorities in the disciplines are. Cyclones strike the east coast of India very often. Tsunami is another event that has taken place in recent past and costed us many lives and wealth. Both these hazards originate in the seas and it is essential to develop a portal on this aspect to educate the public and have one point access to the web information. The project of National Institute of Oceanography, Dona Paula, Goa covers both these hazards and a web portal (<http://www.coastalhazards.info>) is being developed.

Science & Technology Portal

The portal developed by CSIR Unit of Research and Development of Information Products, Pune is a single show case window on Indian Science & Technology. The Prototype portal hosted at www.anusandhan.net and is updated regularly with information on all branches of Science & Technology. Basically it covers information on public and private S&T infrastructure, expertise and facilities available with these institutions, associated educational, government and private organizations and their activities. The top categories include: Agriculture, Archaeology, Astronomy, Atomic Energy, Aviation & Aeronautics, and Biotechnology etc. Portal provides option for online homepage creation to its users, gives a single point access to information about S&T events, and provides facility of Newsletter subscription. A search engine has been provided which helps user to search desired information based on a keyword.

Portal on Indian Tea and strengthening of electronic networking system

This project of United Planter's Association of South India (UPASI) Tea Research Foundation, Coimbatore aims at i) establishing database on tea production and

weather conditions in the tea growing regions of southern India ii) creating a new information base on organic tea, vermiculture, health effects of tea, product diversification, bibliography of tea tasting, latest information on pesticides residues in tea, etc and iii) updating the existing website with more information on different aspect of tea cultivation and manufacturing. The regional centre of UPASI will establish online connection with the Tea Research Institute and Planters and with the Tea Board for the exchange of scientific data/ notes/ reports/ information. The information is disseminated in the website <http://upasitearesearch.org>.

Spread of Indigenously Developed Textile Technology Research via Internet

The project of The Textile Association (India), Ahmedabad includes 3 activities - two on www.textileinfoonline.com (TIOL) and one on www.textileassociationindia.org (TAI). On TIOL, the effort is to put up a new and comprehensive approach to predict with good accuracy the tenacity of cotton yarns from fibre properties. This sophisticated prediction methodology will be given in toto in a user-friendly manner for mill application. The Spinning Technology solutions will be completed, and similar solution systems will be put up for Weaving, Knitting, and Chemical Processing (bleaching, dyeing, and printing, finishing of textiles). On the organizational web site, a bimonthly journal will be made available in an easy-to-retrieve format. The Journal of the Textile Association – JTA - is a bimonthly devoted to original technical and management papers of direct utility to textile practitioners.

3.3 Indian Digital Library of Theses and R&D Publications

Design and Development of Database and Web-Portal of Indian Theses Covering Technology and Management aspects related to Manufacturing.

The objectives of the project of Department of Mechanical Engineering, Bannari Amman Institute of Technology, Sathyamangalam, Tamil Nadu are i) to develop a web-based information platform for improving the quality of higher education in the field of Manufacturing Technology and Management in India ii) to promote research in various other areas in the fields of Manufacturing Technology and Management by provision of ready access to information and iii) to review the practices for dissemination of scholarly information, which have developed in the last decade (1995 to 2005).

3.4 Documentation of traditional knowledge and Folk Wisdom

Documentation of community knowledge, traditional knowledge and oral traditions in 8 districts in the State of Karnataka with special reference to agriculture and rural practices, Manipal

The objectives of the project of Centre for Rural Studies, Manipal are i) to survey, collect and document community knowledge and traditional knowledge which are very relevant but not widely known ii) to survey and document oral traditions which have an impact on science and technology and iii) to study the simplicity and cost effectiveness of these indigenous practices. While documenting the knowledge systems, focus is being given to agrarian, indigenous knowledge, knowledge pertaining to animal husbandry, seed protection, storage, post harvest technologies, other rural practices which are relevant to rural livelihood.

Isolation & Documentation of Indigenous Knowledge & Conservation of Traditional Practices in 5 Districts in Tamilnadu

The project of Arulmigu Kalasalingam College of Pharmacy, Krishnankoil, Tamilnadu aims to isolate and record the local knowledge systems, including local species, communities, or ecosystems, the quantity and type of products obtained, the management systems employed in Theni, Virudhunagar, Sivagangai, Dindigul and Madurai Districts in Tamilnadu. The project also aims to determine how farmers, foragers, and other local men in these districts conceive of biodiversity, conservation, sustainability and the cultural basis of their views and to provide information to various agencies, and educational institutions on the indigenous traditional knowledge and oral traditions to promote the application of local knowledge to modern resource management.

Design and Development of Database on Folk Knowledge

The objective of the project of Dr. Babasaheb Ambedkar, Marathwada University, Aurangabad is to survey existence of folk knowledge in rural area of Maharashtra and to analyze and consolidate the data thus collected and then to develop a database using CDS/ISIS. This pilot study will cover 12 villages, two from each division of Maharashtra. The villages will be selected on the basis of representing different cultures, traditions, customs, life style and economic development. The anthropologists can see total man through culture-change, relics and beliefs. The bibliographic database will be designed and developed to incorporate the data collected with reference to the audio/video tape recoding of talk.

Documentation and Preservation of Agricultural Traditional Knowledge by using

Modern Electronic Media through Farmer Participatory Approach

The project of Department of Agril. Extension and Rural Sociology, Tamil Nadu Agricultural University, Madurai aims to identify and document the traditional/indigenous technical knowledge for agriculture, horticulture, animal husbandry and allied enterprises from different farming situations like wet, garden, dry and coastal eco systems. The study would be conducted by involving farmers through farmer participatory approach rather than through individual household survey.

Scouting for grass-root level innovations, compilation and dissemination of information in local languages across India

A project of SRISTI, Ahmedabad was initiated for establishing a Knowledge Network using local language electronic database of Honey Bee network's green grassroots innovations. The project has been completed. In the completed project, the database of outstanding practices in traditional knowledge and grassroots innovations and medicinal plants in multimedia and multi-language was developed. The database contains 4500 practices (1500 are having multimedia inflation) of traditional knowledge and grass root innovations in English, Hindi, Gujarati and Tamil. The database of 250 medicinal plants in four languages was also developed. This database is the first of its kind in the world.

3.5 Virtual Systems

A Virtual information Centre has been established at ICICI Knowledge Park (ICCIKP), Hyderabad to provide fast and reliable access to information among industry, academia and public research institutions in the area of S &T. The centre is expected to

function as a data access and switching centre for facilitating collaborative research and participate in resource building for the purpose. After the successful establishment of the centre, DSIR has awarded a second project to ICICI Knowledge Park, Turkapalley, and Hyderabad for augmenting resources of Virtual Information Centre (VIC).

3.6 Open Archives initiative: An alternative to Scholarly Communication

The project on "Development of OAI-Based Institutional Research Repository Services in India" was awarded to National Centre for Science Information (NCSI), Indian Institute of Science, Bangalore. The broad objective of the project is to facilitate improved access, visibility and impact of Indian science research output through establishment of a network of inter-operable, open access digital research repositories and related services in the country. The project aims to (i) provide technical support to R&D organizations and universities in the country to set up their open access institutional research repositories (ii) establish a national cross-repository search service by aggregating content from distributed OA₁-compliant repositories and (iii) provide solution and support for legacy non-OA₁ compliant repositories to become OA₁ compliant.

3.7 Other Achievements

Feasibility Study on the Self-Sustainability of Information Support Facilities in and around Industrial Clusters of SMEs, Hyderabad

The objective of the project of National Institute of Small Industry Extension Training, Hyderabad is to propose a suitable information support system for SMEs and to prepare a framework for a self-sustaining

system in and around SMEs, which can largely meet their information requirements.

Impact of Technology on Quality of Service Deliveries in Technical and Management Libraries in Karnataka, Manipal

The objective of the study by TA Pai Management Institute, Manipal is to investigate the nature and status of technology aided services and their impact on quality of service deliveries in technical and management libraries in Karnataka. It investigates the impact of technology on quality of services along five dimensions of services quality.

Web GIS based Digital Atlas of the Sacred Groves of the North East India: Pilot study with Sacred Groves of Arunachal Pradesh

The joint project of North-Eastern Regional Institute Science & Technology (NERIST), Dept of Forestry, Nirjuli, Itanagar, Arunachal Pradesh and National Chemical Laboratory (NCL), Pune is for the development of information infrastructure and prototype of Web GIS based digital atlas of the sacred groves of North East India with specific reference to over 150 sacred groves of the state of Arunachal Pradesh. The exercise would help in evolving strategies for conservation and protection of these unique heritage ecosystems. When implemented

fully, it would strengthen and support the biodiversity conservation programs within North East and elsewhere in the country where similar types of ecosystems exist.

Studies on Traditional Folk Herbal Veterinary Medicines and Poisonous plants of Rajasthan

This project of Department of Botany, College of Science, M L Sukhadia University, Udaipur aims i) to develop a database on Ethno veterinary herbal drugs and poisonous plants ii) to create awareness among tribals and rural people of the state for their conservation and iii) Preparation of herbarium of all the Ethno veterinary herbal medicines and poisonous plants for future reference and preparation of herbal veterinary pharmacopodia.

Info Vision 2005 - Information Industry - Academia Summit, September 15-16, 2005, Bangalore

Info vision 2005 has been envisioned to be a summit for interfacing the academia with the industry on content development activities. Info Vision 2005 was a Summit crafted to help build a community that truly converge all the stake holders and a brand for the information profession that is unified and distinct and not dominated by any one of the domains. DSIR supported this seminar.