II - G. TECHNOLOGY INFORMATION FACILITATION PROGRAMME

1.   INTRODUCTION

Technology Information and Facilitation Programme (TIFP) 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 listed below:

3.1   Promotion of Content Development

Computerized Botanical Database on Wild Ornamental Plants of Himalayas

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.

Multimedia Database of Available Pest Management Technologies of Major Oilseeds and Pulse Crops of Central India

The objective of the project of Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur is to develop multimedia database of available Pest Management Technologies of major oilseeds and pulse crops of Central India. The software will act as a research and extension tool to provide ready information on available pest management technologies 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 pest management technologies and in thus increasing the total crop production of the region and improving the economic status of the farmers. The project is under progress.

Development of Digital Image Database of Bishnupur Terracotta Art and Sculpture and Traditional Design of Potchitra, Baluchori & Madhubani

Under the project, the CALIBNET Society, 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 also provide a pictorial view of the present state of this invaluable evidence of our heritage. The project is under progress.

Preparation of Database on Metallo-pharmaceuticals

The project of CSIR Unit of Research and Development of Information Products (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. The project is nearing completion.

Floral Potential of J&K State: Survey and Documentation

The proposal from Department of Library and Information Sciences, The University of Kashmir, Srinagar, J&K aims i) to survey flora of the state having medicinal, aromatic and economic values from both secondary and primary sources, ii) to create digital products/objects embedded with rich information content of indigenous knowledge and linkage for national and international content, iii) to host the database on the server for the use of entrepreneurs, researchers, etc. and iv) to populate data on continual basis from the state. The project is under progress.

3.2 National Websites/Servers

Development of a Coastal Hazards Portal

Specific subject information portals have become the need of the day, because of 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 has been developed. The project is under progress.

Science & Technology Portal

The portal developed by CSIR Unit of Research and Development of Information Products (URDIP), Pune is a single show case window on Indian Science & Technology. The Prototype portal hosted at http://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. The project is under progress.

Portal on Indian Tea and Strengthening of Electronic Networking System

The project of United Planter's Association of South India (UPASI) Tea Research Foundation, Coimbatore aims i) to establish database on tea production and weather conditions in the tea growing regions of southern India ii) to create 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) to update the existing website with more information on different aspect of tea cultivation and manufacturing. The regional centre of UPASI established 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. The project has been successfully completed.

Spread of Indigenously Developed Textile Technology Research via Internet

The project of The Textile Association (India), Ahmedabad includes 3 activities - two on http://www.textileinfoonline.com (TIOL) and one on http://www.textileassociation india.org (TAl). 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. The project is under progress.

Industrial R&D in India: A Web Portal

The project from Administrative Staff College of India (ASCI), Hyderabad aims to create a Web Portal for Industrial R&D in India. The objectives of the project are i) to capture, analyse and disseminate news, views and also statistical information on industrial R&D units in India; ii) to elicit opinions through interviews of the opinion makers on the topic and highlight the issues; iii) to write features analysing the industrial R&D trends, and iv) to disseminate information through online newsletter. The project is under progress.

Online Directory of Indian Academic & Research Establishments

The project from National Aerospace Laboratories (NAL), Bangalore aims to develop and provide fast, reliable and free access to a Directory of Academic and R&D set-ups in India especially in the area of Science and Technology. The project is under progress.

Energy Information Support Services for the Indian Industry

The project of The Energy & Resource Institute (TERI), New Delhi aims at providing information support services to Indian

industries by disseminating energy information with special focus on energy efficiency in industries. The project is under progress.

Enterprise Performance Improvement through Integrated Management Systems

The project of the Consultancy Development Centre (CDC), New Delhi aims to establish a web portal on Enterprise Performance Improvement through Integrated Management Systems to guide the users and stakeholders to enhance productivity and profitability. The project is under progress.

3.3 Indian Digital Library of Theses and R&D Publications

Design and Development of Database and Web-Portal of Indian Theses in the field of Manufacturing Technology & Management

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). The project is under progress.

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

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. The project is under progress.

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. The project is under progress.

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. The project is nearing completion.

Documentation and Preservation of Agricultural Traditional Knowledge by using Modern Electronic Media through Farmer Participatory Approach

The project of Department of Agricultural 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. The project is under progress.

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 herba-

rium of all the Ethno veterinary herbal medicines and poisonous plants for future reference and preparation of herbal veterinary pharmocopia. The project is under progress.

Development of a Portal and Kiosk of Goldsmith's Skill Towards Enhancement of Entrepreneurship Abilities Among Unemployed Youth

The proposal from National Institute of Technology, Durgapur aims to develop a Portal and Kiosk of Goldsmith's skill towards enhancement of entrepreneurship abilities among unemployed youth.

The objectives of the project are i) to develop an archive of specialized diminishing rural skills of gold smiths in text, video, audio and animation format, ii) to create a database of cosmetic jewelries for transferring the knowledge of design of such jewelries to unemployed youth, iii) to create a portal for helping the Gold smith Industry, and iv) to train the unemployed youth and engineering students by using the archive and collection of large cosmetic jewelries at local centre as well as in technical Institutes.

A Portal in Bengali and English language will be created by using the archive, database of digitized 3D view of cosmetic jewelries and collection of cosmetic jewelries for global as well as local use. The project is under progress.

Folk Wisdom of West Bengal

The proposal from CALIBNET Society, Kolkata aims to explore oral traditions, folk rituals ad folk wisom. The special areas of concentration would inter alia include Health pratices, human and docmestic animals, folk medicine and medicinal plants. The project is under progress.

3.5 Virtual Systems

VIC Resources for Wider Access to Reliable and Affordable STM Information

A Virtual information Centre, http://www.vic-ikp.info, has been established at ICICI Knowledge Park (ICICIKP), 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). The project is under progress.

3.6 Open Archives Initiative

Development of OAI based Institutional Research Repository Services in India

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 OAI-compliant repositories, and (iii) provide solution and support for legacy non-OAI compliant repositories to become OAI compliant. The project is under progress.

Establishing MOLTABLE- An Open Access Initiative for Molecular Informatics

The proposal from National Chemical Laboratory (NCL), Pune aims to establish a web portal entitled MOLTABLE as an open access initiative to facilitate access to molecular data along with computed data. The project is under progress.

3.7 Surveys and R&D Studies

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

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. The project is nearing completion.

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. The project is nearing completion.

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), Department 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. The project is under progress.

Archiving Ethnomedicinal Knowledge and Local Health Care Systems (LHCS) through Modern Electronic Gadgets: An Explorative Study

The project of Department of Human Development, Home Science College and Research Institute, Tamilnadu Agricultural University, Madurai aims i) to list the existing ethno medicinal practices (medicinal plants) and Local Health Care Systems followed by the remote villagers, tribals and nomads, ii) to enumerate and document the practices with the help of modern electronic gadgets, iii) to explore the scientific rationale behind the documented practices, iv) to assess and compare with the modern scientific technique with the help of public private partnership, and v) to preserve the practices through multimedia based protocol for the benefit of scientific community, industrialists and others. The project is under progress.

3.8   Education and Training

Digital Content Development for Human Resources Development of Rubber Industry

The objective of the project of Indian Rubber Manufacturers Research Association (IRMRA), 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. The project is successfully completed.

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 project has been successfully completed.

Web Based Interactive Multimedia Training Programme on Digitization and Digital Libraries

IGNOU, New Delhi has been awarded the project to develop a Web based interactive multimedia training programme on Digitization and Digital libraries. The focus of the project is i) to provide facilities for learning the process of digitization, developing digital libraries and knowledge repositories using open source software like Greenstone Digital Library, Dspace ii) to facilitate self learning through multimedia courseware, and iii) to stimulate learning through online interaction with experts and peer groups. The project is under progress.

Workshop on Building Digital Libraries using DSpace

A workshop on Building Digital Libararies using Dspace was organized by The Energy and Resource Institute (TERI), New Delhi during October 31-Novemer 3, 2006 at TERI, New Delhi. DSIR supported and participated in the workshop.

International Workshop on Greenstone Digital Library Software

A 6-day high-end training programme on Digital Libraries using the Open Source Software Greenstone was organized by Indian Institute of Management (IIM), Kozhikode during November 27-Decemebr 2, 2006 at IIM, Kozhikode. DSIR supported and participated in the workshop.

3.9   Others Achievements

Info Vision 2006 – The Knowledge Summit

InfoVision 2006 – The Knowledge Summit was organized by the International School of Information Management, University of Mysore, Mysore in collaboration with Confederation of Indian Industry, Bangalore during September 28-29, 2006 at Bangalore. DSIR supported and participated in the summit.

Second International Conference on Digital Libraries

Second International Conference on Digital Libraries was organized by The Energy and Resource Institute (TERI), New Delhi during December 5-8 at TERI, New Delhi. DSIR supported and participated in the conference.

Workshop for Catalysing the work of National Knowledge Commission

The workshop for catalysing the work of National Knowledge Commission was organised by Administrative Staff College of India (ASCI), Hyderabad during August 18-19, 2006 at Hyderabad. DSIR supported and participated in the workshop.