

II-G. Technology Information Facilitation Programme

1. PREAMBLE

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

The critical areas of focus during Eleventh Plan under the programmes would be on content development and delivery of nationally available science and technology information and improving the technical competency of persons involved in information handling and delivery.

3. ACHIEVEMENTS

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

3.1 Promotion of Content Development

Preparation of Database on Metallo-pharmaceuticals (Pune)

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 are 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 (Srinagar)

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

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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.

Indian Wood Insect Database - a Database on diversity of indigenous and exotic wood insects/pests in India (Bangalore)

The proposal on Indian Wood Insect Database- a Database on diversity of indigenous and exotic wood insects/pests in India from Institute of Wood Science and Technology, Bangalore aims to make an illustrated database of Indian wood insects, tree species wise by collecting information from all available records and insect specimen collections/museums in different institutions of India and add new information by assessing the current status of diversity of wood

inhabiting insects in indigenous and exotic trees and their timber and timber products. The project is under progress.

Design and Development of on-line database on Mycorrhiza (New Delhi)

The proposal on Design and Development of on-line database on Mycorrhiza from The Energy Resources Institute, New Delhi aims to design and develop a comprehensive on-line database on mycorrhiza-related literature; enable open access to the database, including abstracts and bibliographies, and open-access full-text research articles; directory of mycorrhiza scientists in Asian region; and facilitate retrieval of current research findings and development; promote mycorrhiza research among Indian scientists, agriculturists, students and mycorrhizologists. The project has been successfully completed and details are available at <http://mycorrhizae.org.in>.

The screenshot shows the homepage of the Mycorrhiza Information Bank. At the top, there is a header with the DSIR logo, the text 'Welcome to DSIR-TERI Mycorrhiza Information Bank', and a banner image featuring various mycorrhizal fungi. Below the header, the page is divided into two main sections: 'Abstracts database' and 'Directory of Mycorrhizologists'. The 'Abstracts database' section includes a search box, a dropdown menu for 'Search by', a field for 'Specify Year(s) of Publication, if any', and a 'Search' button. The 'Directory of Mycorrhizologists' section includes a search box, a 'Search Item' dropdown, and checkboxes for 'Mycorrhizologist', 'Organization', 'Category', and 'Subject'. A 'Hit Counter' displays '00003015'. At the bottom, a disclaimer states: 'This project is sponsored by the DSIR, Govt and is a free service offered to the scientific community'. The Windows taskbar at the bottom shows the system clock as 11:45 AM.

<http://mycorrhizae.org.in/>

Development of Decision Support software System for Cereals, Millets, Pulses and Tuber crops & establishment of an Agricultural Digital Information centre (Trivandrum)

The proposal from College of Agriculture, Vellaveni, Trivandrum aims to develop a Decision Support System for identified Cereals and millets namely Wheat, Maize and Sorghum incorporating relevant aspects like Crop Protection System, Fertilizer Recommendation System, Cultivation practices, Water Management System and Implement Selection with visuals, multimedia and other features; to develop a Decision Support System for Pulses namely Soybean, black gram, green gram, red gram incorporating relevant aspects like Crop Protection System, Fertilizer Recommendation System, Cultivation practices, Water Management System and Implement Selection with visuals, multimedia and other features; to develop a Decision Support System for Tuber crops namely tapioca, sweet potato, colocasia incorporating relevant aspects like Crop Protection System, Fertilizer Recommendation System, Cultivation practices, Water Management System and Implement Selection with visuals, multimedia and other features; to extend training of the package to agricultural scientists and agricultural extension workers and to give sufficient copy of the software, and launching a downloadable and sample version of the software in the Internet; and to establish a Agricultural Digital Information centre cum Agri-Kiosk. The project is under progress.

3.2 National Websites/ Servers

Science & Technology Portal (Pune)

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. 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 portal is hosted at <http://www.anusandhan.net> and is updated regularly with information on all branches of Science & Technology.

Spread of Indigenously Developed Textile Technology Research via Internet (Ahmedabad)

The project of The Textile Association (India), Ahmedabad includes 3 activities - two on <http://www.textileinfoonline.com> (TIOL) and one on <http://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 fiber 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 has been successfully completed.

Industrial R&D in India: A Web Portal (Hyderabad)

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, analyze 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 analyzing the industrial R&D trends, and iv) to disseminate

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information through online newsletter. A Web Portal, <http://www.rndindia.info> has been developed. The project is under progress.

Online Directory of Indian Academic & Research Establishments (Bangalore)

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 (Delhi)

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. A web portal, <http://eeii.org.in> has been developed which contain technologies, case studies, policies & information, R&D web links, resources, student thesis, news items, Events, industry literature-abstracts and bibliographies etc. related to Energy. The project has been successfully completed.

Enterprise Performance Improvement through Integrated Management Systems (Delhi)

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 nearing completion.

Developing a user-centered Website on Sugarcane Production Technologies (Coimbatore)

The project from Sugarcane Breeding Institute, Coimbatore aims to analyze the information-needs of the intended users of the website on sugarcane production technologies; to develop web content on sugarcane technologies based on 'needs analysis; and to design and develop an easily navigable, user-friendly cane information

website for the intended audience. The project is in 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 (Satyamangalam)

The objectives of the project of Department of Mechanical Engineering, Bannari Amman Institute of Technology, Satyamangalam, Tamil Nadu are) 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 completed.

3.4 Documentation of Traditional Knowledge and Folk Wisdom

Development of a Portal and Kiosk of Goldsmith's skill towards enhancement of entrepreneurship abilities among unemployed youth (Durgapur)

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 nearing completion.

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

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 has been conducted by involving farmers through farmer participatory approach rather than through individual household survey. The indigenous Traditional Knowledge practices from 16 districts of Tamil Nadu such as *Traditional varieties, crop protection, post harvest methods, seed storage methods farm tools; medicinal plants, ethno veterinary practices, fisheries, etc.* are the outcome of the project. The project has been successfully completed.

Folk Wisdom of West Bengal (Kolkata)

The proposal from CALIBNET Society, Kolkata aims to explore oral traditions, folk rituals and folk wisdom. The special areas of concentration would inter alia include Health practices, human and domestic animals, folk medicine and medicinal plants.

Folk Wisdom of West Bengal” by Calcutta Library Network (CALIBNET), Kolkata. The aim of the project was to explore oral tradition, folk rituals and folk wisdom of West Bengal. The special areas of concentration were inter alia include **Health practices – human and domestic animals- folk medicines and medicinal plants.** The geographic coverage of the project was 13 districts of West Bengal namely 24 Parganas North & South

(Sundarban), Bardhaman, Bankura, Birbhum, Coochbehar, Darjeeling, Jalpaiguri, Midnapur, Murshidabad, Nadia, Purulia and West Dinajpur. Information about 326 medicinal plants, 87 practitioners of traditional folk medicines, 543 diseases with respected medicinal plants required to cure were collected. The details of the folk medicines and medicinal plants include Scientific name, synonym, habitat, location (available), source of information and description. It also gives the local name, description, medicinal used etc. in Hindi, English and Bengali (Local language). The project is completed.

Application of ICTs in Agricultural Extension Services Provision and its Impact on the Tribal Farmers of Arunachal Pradesh State of North-East India (Pasighat)

The proposal from College of Horticulture and Forestry, Central Agricultural University, Pasighat aims to assess the agricultural information needs of tribal farmers; to experiment ICTs in agricultural extension services provision to the tribal farmers; and to assess the impact of ICTs in improved agricultural extension services provision to the tribal farmers. The project (e-Arik) has been awarded the ‘Best e –government project special jury award’ by the Computer Society of India (CSI) – Nihilent e-Governance Awards for the year 2007-08. The project is under progress.

Development of a Multimedia Database of Traditional Knowledge in Andhra Pradesh (Delhi)

The proposal from Institute of Defence Scientists and Technologists, Delhi aims to provide a Web-enabled multimedia Database of Traditional Knowledge Existing in Andhra Pradesh so that it can be made widely available on Internet. The project is under progress.

3.5 Electronic Publishing of Selected Indian S&T Materials

E -publishing of the Journal of Tropical Agriculture (Thrissur)

The proposal from College of Forestry, Kerala Agricultural University, Thrissur aims to publish

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electronically its Journal of Tropical Agriculture. The journals is accessible from <http://www.jtropag.in>

3.6 Virtual Systems

A Virtual information Centre, <http://www.vic-ikp.info> 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. The project has been successfully completed.

3.7 Open Archives Initiative

Establishing MOLTABLE- An Open Access initiative for Molecular Informatics (Pune)

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 nearing completion.

Development of OAI based Institutional Research Repository Services in India (Bangalore)

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 interoperable, 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 nearing completion.

Developing an Institutional Repository of Science and Technology (Kochi)

The objective of the project of Cochin University of Science and Technology, Kochi is to develop an Institutional Repository in Cochin University of Science & Technology. The collection of this digital repository may include preprints and post prints of researchers of the department, technical reports, theses & dissertations, teaching and learning materials. This can also be utilized for e-publishing of the findings by the faculty and research scholars. A web portal: www.dyuthi.cusat.ac.in has been developed on *D-space* open source software which contains PhD thesis, working papers, conference proceedings, pre prints, etc. published in Cochin University of Science & Technology, Kochi. The project has been successfully completed.

3.8 Surveys and R&D Studies

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

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 has been successfully completed and details are available at <http://www.ncbi.org.in/sagris-northeast/>.

SaGrIS for North Eastern India

Search: Sacred Grove name

States:

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This site is developed and maintained by Information Division of the National Chemical Laboratory (NCL), Pune, India.



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

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, tribal 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 nearing completion.

3.9 Education and Training

Web based interactive multimedia training programme on Digitization and Digital libraries (Delhi)

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 nearing completion.