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Quarterly Newsletter from National Informatics Centre

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Informatics

NICNET

MEDLARS
Biomedical Information Service from NIC

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EDITOR'S NOTE

Informatics for Health

There is one war which does not seem to have an end in sight --- the war against diseases, against physical afflictions which have time and again threatened the very existence of mankind. Man has won many a hard-fought battle --- chicken pox has been eradicated, tuberculosis is no longer life-threatening, malaria is almost under control --- but the battle rages on. Much headway has been made against cancer --- the old enemy --- but it still is a dreaded ailment. Acquired Immuno Deficiency Syndrome (AIDS) hangs overhead like the sword of Democles ready to come crashing down. Mutated germs of common diseases have acquired resistance against old drugs signalling that past-won battles are to be fought all over again.

Medical science has always lived up to and even surpassed the expectations of billions. Throughout the history of evolution of medical science, technology has played a crucial part. There was a time when patients were physically knocked out senseless to spare them the pain of surgery. Anesthesiology put an end to that. Today medical science has machines which can not only read vital medical parameters, of a patient, but also diagnose, treat and perform precise surgical procedures. Technical innovations have indeed come a long, long way.

And Informatics is the latest offering that technology has to make to the field of medical science. Information is vital in medical science, more so because it is a matter of precious lives. Information gaps in this field could lead to drastic consequences. Informatics takes on the responsibility of ensuring a reliable, fast and relevant flow of information touching every nook and corner of the medical profession.

In a country like India, where patients and doctors are very often located in remote and inaccessible areas, that is by no means an easy task. Undeterred, the National Informatics Centre went ahead with its well chalked-out plan to provide relevant information to medical professionals all over the Country. Today NIC provides access to the inexhaustible medical databases of the Medical Literature Analysis, and Retrieval Systems (MEDLARS), created by the National Library of Medicine (NLM) of National Institutes of Health, Bethesda, USA.

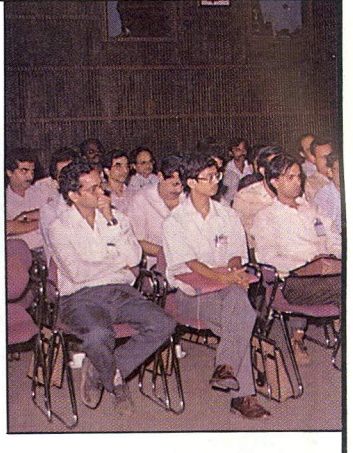
MEDLARS has benefited thousands of medical scientists, researchers, doctors, students and patients alike. The success of this novel project of NIC is evident from the demand of MEDLARS services even in the most remote part of the Country. NICNET has once again played a prominent role in the success of this project.

This issue of ***Informatics***, with its cover story on MEDLARS services of NIC, is dedicated to the *man in the white coat* who has devoted his life to erasing the sufferings of his brethren.

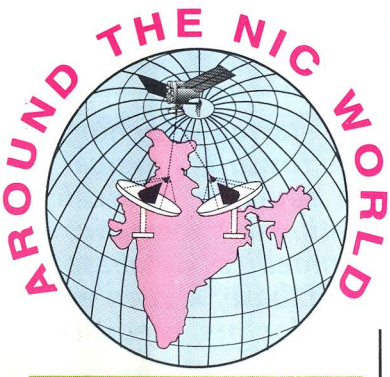
Rubaiyat Ali

PHOTOTALK

Only a step, yet a big leap towards integration of Informatics with all aspects of social living : National Workshop on "IT in Road Transport", organized by the NIC West Bengal State Unit in Calcutta.



(from left) Mr A. Behra, Transport Commissioner, Orissa; Mr R. K. Prasannan, Transport Secretary, Govt. of WB; Mrs Kiran Dhingra, Transport Commissioner cum Secretary,Delhi; Dr(Mrs) J. Chaudhary, SIO, NIC WBSU . (Top) Workshop in progress.



FCS LINKED TO NICNET

From our Mizoram Correspondent

Mizoram: The Directorate of Food and Civil Supplies(FCS), Government of Mizoram, has been connected to the NICNET National Network through a dial-up modem line.

The Director of FCS, Government of Mizoram, Mr Rajendra Kumar (IAS) formally inaugurated the link and expressed the view that NICNET will be very useful in monitoring essential food supply to the remote districts of Mizoram.

Exuding confidence over the link-up, he said that given the information flow from the Directorate to the remote districts, the management capability of the department was bound to improve.

HANDBOOK ON DISNIC-PLAN

From our Kerala Correspondent

Kollam: A handbook, prepared by NIC, on the successful completion of DISNIC-PLAN of Kollam District Unit was released by the District Collector, Mr L. Radhakrishnan, at a function organized in the collectorate premises on July 25, 1995.

The handbook contains reports from various sectors such as agriculture, education, irrigation, water supply, forests, industries, etc.

The reports have been prepared Panchayat wise and can be used by the people involved in decentralized planning in the District.

DISNIC WORKSHOP

From our Kerala Correspondent

Allapujha: A workshop on District Level Computerization, organized by the Allapujha District Unit of NIC, was held in Allapujha, Kerala on May 30, 1995.

The District Collector of Allepey, Dr. K.M. Abraham, in his keynote address at the workshop, apprised the participants about ***Practical Problems in the Implementation of Software Packages and its Solutions***. The workshop was found to be highly relevant and timely by the participants. The various stages of software development and implementation at the district level were dealt with in details. The District Collector also drew attention of the participants to the shrinking administrative base and increased workload. Identifying a feasible solution, he said computerization of the work in various departments was the only viable solution.

Workshop in progress

MIS FOR PLAN OUTLAY

From our Arunachal Pradesh Correspondent

Itanagar: The NIC State Unit of Arunachal Pradesh has undertaken a Management Information System (MIS) project for the Planning and Development (P&D) Department of the State Government. The system will include a provision for monitoring various schemes of P&D which are presently under implementation. The MIS will also facilitate the preparation of Annual Plans, Twenty Point Programme reports, and Progress Reports, apart from Payroll.

NICTRAN IMPLEMENTED

From our Bihar Correspondent

Palamau: The NIC District Unit of Palamau has developed a software, NICTRAN, for the Transport Department, Government of Bihar. The software which has already been implemented has almost doubled the revenue earnings of the Transport Department. The software takes care of tax collection, detection of tax defaulters and false permits, issue of demand notices and reminders, and maintenance of cash books.

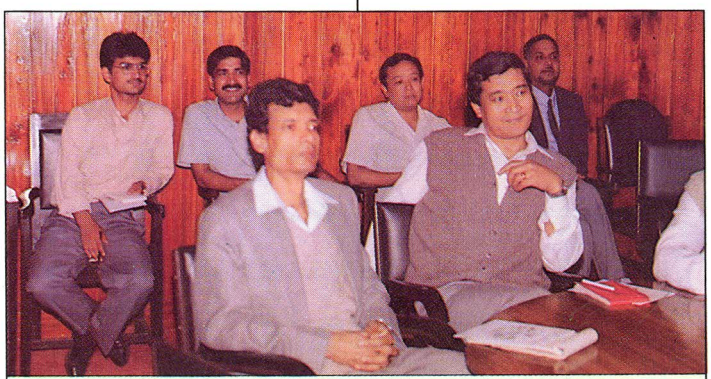
EXTENSION OF GISTNIC SERVICES SOUGHT

From Our Sikkim Correspondent

Gangtok: The NIC SIKKIM State Unit conducted a state level GISTNIC workshop on July 15, 1995 in the Secretariat premises of Sikkim.

The occasion was presided over by the Chief Secretary of Sikkim, Mr K.A. Varadan and was attended by a number of State Government functionaries from various departments. Experts from Hyderabad Regional Centre of the National Informatics Centre demonstrated the services and information available on Tourism, Education, Rural Technology, Traditional Schemes, incorporated in the GISTNIC database. Mr Vardan stressed upon the need to update the data on Sikkim, from time to time. It was proposed at the workshop that GISTNIC services may be extended to public places such as Community Centres and Tourist Information Centres, for easy access.

A similar workshop presided over by Mr Jay Kumar, DC, of the North District was also conducted in Mangan on July 14, 1995.



Proceedings at the GISTNIC workshop in Sikkim

After health, everything else

Priorities keep on changing and so do attitudes. In the recent past, we have started attaching much importance to health and the underlying implications of being careless towards physical well-being. The gradual change in perception towards health has seen a spurt in medical research and its relevant applications. With this in the backdrop, the National Informatics Centre has yet again risen to the occasion by providing instant access to biomedical database through an arrangement with the National Library of Medicine, USA. The database, known as MEDLARS, would go a long way in meeting the information requirements of doctors, medical researchers and students alike.

The concentrated efforts of NIC has seen the advent of Medical Literature Analysis and Retrieval Systems (MEDLARS) in India. Designed and developed by the National Library of Medicine, USA, MEDLARS, comprising of 40 different databases, is the most extensively used Biomedical Information System in the world. The information provided by this system extends to published and unpublished literature in most areas of medicine.

About MEDLARS

An unmatched repository of biomedical information, the Indian MEDLARS Centre at NIC headquarters is the 17th such international centre that provides bibliographic information services to medical professionals, health administrators and para-medical staff. The information is gleaned from over 40 databases available under MEDLARS.

One of the most important databases of MEDLARS is **MEDLINE**, which covers articles from over 3,700 journals from 70 countries in the field of general medicine, including nursing, dentistry and preclinical sciences.

The MEDLARS database has vast resources of biomedical information, both bibliographic (citation plus abstract) and full text, relevant to the fields of medicine, pharmacology and biotechnology.

Partially supported by the Indian Council of Medical Research (ICMR), the facility created by NIC at its Bibliographic Informatics Division can be accessed through NICNET. Biomedical journals can be located in any library in the Country from the Catalogue of Biomedical Periodicals. To help users locate their required journals, a database of the holdings of over 150 biomedical libraries has been created. This Catalogue can be searched interactively from any NICNET node.

Non-bibliographic information is available from GENEBANK (gene sequence databank), EMBL (DNA sequence databank), and other sequence databases under MEDLARS.

Information can also be obtained from a wide variety of CDROM databases in the fields of medicine, health and biological sciences. Full text of articles is provided from ADONIS document delivery system on CDROM which contains articles from over 600 core biomedical journals.

ADONIS gives the pages as they appear in the journal, including all halftones and graphics. The CDROM database at NIC headquarters comprises of MEDLINE data from 1986 onwards.

Access to MEDLARS

The services offered by the Indian Medlars Centre at NIC can be accessed by institutions and individuals alike. The services may be accessed in the following ways:

* *By a direct connection to NICNET using VSAT or a dial-up connection from NIC State or District Centres through a modem and telephone line, users can have unlimited access to MEDLARS.*
* *By sending search requests to the Indian Medlars Centre through fax, postal mail or electronic mail from Regional, State or District centres of NIC. Results of search requests are mailed back to the user within 24-hours.*
* *By personally going over to the NIC centres where NIC officials provide service instantaneously.*

Training

The National Informatics Centre provides free training to doctors, librarians and other staff of the user organizations for efficient Medlars searching. Various tailor-made courses have been devised by the Indian Medlars Centre at NIC to impart training. These are:

USER AWARENESS PROGRAMMES : A number of such programmes are conducted every year in

SERVICES OFFERED BY INDIAN MEDLARS CENTRE

- **Online access to MEDLINE and AIDS databases.**
- **Full text of selected journal articles.**
- **Information from databases accessible via Internet.**
- **Information from other NLM databases.**
- **Interactive access to CDROM databases.**
- **Online search of Catalogue of Biomedical Periodicals.**
- **Assistance in setting up MEDLARS search facilities.**
- **User Awareness Programmes.**
- **End-user training**

medical colleges and hospitals throughout the Country.

These programmes are intended to familiarize medical professionals with the use and relevance of Information Technology in biomedical research and health care.

On-line Searching of Bibliographic Databases - In this course expertise is imparted to the users for searching the Medline and AIDS databases using BRS/SEARCH, a bibliographic retrieval software package.

On-line Searching of Bibliographic Databases: This course teaches the techniques for searching CDROM databases and familiarizes the users with contents of different databases the centre subscribes to.

Customized Courses : These courses are organized at user-sites, on demand, and are especially tailored to suit user requirements. NIC has now developed its expertise in offering tailor-made courses for its users, whenever a new service is launched by it.

Other Services

Various other services supporting the Indian Medlars Centre at NIC are now available over NICNET.

Some of these are:

❒ E-Mail services to all research and educational institutes in the country under the RENNIC scheme of NIC. All ICMR institutes in the country have been provided NICNET connectivity for E-Mail and access to MEDLARS.

Value Added Services from Indian Medlars Centre

Content Page: **The content pages of interest drawn from over 600 core biomedical journals, included in the ADONIS database, are made available on a monthly basis.**

***Disease Package*: In case of epidemics, such as Plague and Malaria, exhaustive information is compiled from different sources and disseminated over NICNET for free distribution to doctors and voluntary organizations in the affected areas.**

***Drug Package*: Information about pharmacokinetics, contradications, adverse effects of pharmadynamics are supplied on demand.**

***Patient Care Package*: Top priority is accorded to information needs for patient care which is compiled and provided in the shortest possible time.**

❒ By virtue of its linkage to Sprintnet and Internet, NICNET now facilitates access to over 200 networks in about 150 counties around the globe.

❒ With the setting up of the Centre for World Wide Web (C-WEB) at NIC Headquarters, it is now possible to connect to Web servers throughout the world including Biomedical Web servers.

❒ Under the TELEMEDICINE programme, now in the pilot stage, doctors in remote districts can instantaneously consult specialists in major hospitals for patient care.

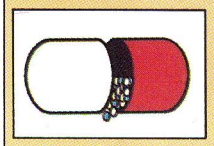
All of the above MEDLARS services offered by NIC can be accessed at very nominal charges. Services from the AIDS databases are offered free of cost. ✍

For further information please contact:

MEDLARS Division, NIC, A-block,
CGO Complex, Lodhi Road,
New Delhi 110 033.

Ph: 4362359 *FAX: 91-11-4362389*
NICMAIL: ICMR&MEDLARS
Email(uunet) *nicnet!medlar0! root*

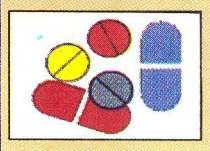
Important Bibliographic Databases



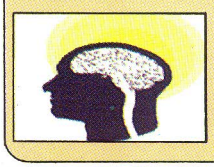
Biological Abstracts
Biological citations and abstarcts of current research in the field of life sciences, biomedicine, and medicine.

Cancer CD
It comprises of references to, abstracts of, and commentaries on world literature in cancer and related subjects from Elsevier Science Publishers, Year Book Medical Publishers and NLM's CANCERLIT file.

CCINFO Series B2
It provides international occupational health and safety documents. Areas covered include chemicals and chemistry, environment, pesticides, pharmaceuticals and toxicology.



TOXLINE
It contains references to published material and research in the areas of adverse drug reaction, air pollution, carcinogenesis due to chemicals, drug toxicity, food contamintion, occupational hazards, pesticides and herbicides, water treatment, toxilogical analysis, etc.



Psyclit
It provides summaries of the international literature in psychology and related fields compiled from the Psycinfo database.

Computerization in Motor Vehicles Department

From our Kerala Correspondent

The NIC Kerala State Unit has successfully designed, developed and implemented a computer-based Information System for Licensing and Motor Vehicles Registration of the Motor Vehicles Department, Government of Kerala.

The Information System was inaugurated by the Transport Minister of Kerala, Mr. R Balakrishna Pillai.

NIC Kerala State Unit is also in the process of extending its services by covering the computerization of two other major functions of the Motor Vehicles Department: Vehicle Tax Collection and Permit Management.

Presently, the software developed by NIC has only been implemented in four districts of Kerala, but rigorous efforts are on both by the NIC Kerala State Unit and Government of Kerala to expedite implementation in all the districts of Kerala.

The software developed by NIC Kerala State Unit is being considered for implementation in Manipur also.

Water Billing System inaugurated

From our Kerala Correspondent

The NIC Kerala State Unit has added yet another feather to its cap by successfully undertaking the implementation of a Computerized Water Billing System for the Kerala Water Authority.

The System was inaugurated by the Irrigation and Water Resources Minister of Kerala, Mr. T.M. Jacob in August this year.

In his inaugural address, Mr. Jacob stressed upon the need for effective computerization and requested all employees to co-operate and co-ordinate in the computerization of water billing and collection. He informed that about 1.2 lakh consumers will be benefited by the computerization. The Minister also informed that the system will be replicated and implemented in the other sub-divisions of Trivandrum, Cochin and Kozhicode.

The software has been designed, developed and implemented by the NIC Kerala State Unit. It has been developed in ORACLE RDBMS 6.0 and works under SCO UNIX Platform, on a 486-based system.

Kerala's Irrigation Minister inaugurating the computerized system

Computerization of the General Stamp Office

From our Maharastra Correspondent

In yet another of its computerization drive, NIC has successfully computerized the General Stamp Office in Bombay. The Chief Minister of Maharashtra, Mr. Manohar Joshi inaugurated the newly computerized General Stamp Office and the use of franking machines in August this year.

Given the increase in revenue collection, the strain on existing manpower had increased by leaps and bounds. It was in this backdrop that automation of work at the General Stamp Office, Bombay, was in the offing.

Keeping this in mind, computerization of the General Stamp Office was undertaken. After conducting an initial study on the feasibility of the project, NIC developed the necessary software that could integrate the working of stores, general sales and Amnesty Schemes.

The working of the sales counter has also been computerized. So far, 14 computers and 10 terminals have been installed for the purpose. For the dispersal of required services to customers, the General Stamp Office has, at present, 22 counters for sale of 13 different kinds of stamps.

The computerization of the General Stamp Office, apart from rendering quick service to the tax payer, will also help in the following:

- Creation of a database for planning future course of action.
- Developing a system for updating the database from time to time.
- Saving of man-hours required for tracing out discrepancies.
- Expediting retrieval and disposal of reference.
- Dispensing with a large number of registers required to be maintained daily.
- Correct accounting

Effective computerization by NIC has rendered it possible for the General Stamp Office to do away with tedious accounting procedures and other ledger related work.

Computerized services being offered at the General Stamp Office

Statistical Handbook of Mizoram Computerized

From our Mizoram Correspondent

The NIC Mizoram State Unit has successfully completed the Computerization of the Statistical Handbook of Mizoram. The project was undertaken by NIC for the Directorate of Economics and Statistics Department of the Government of Mizoram. NIC has developed and implemented an appropriate software for the purpose.

The Handbook consists of 135 tables and a total 280 pages. The printed copies of the Handbook were formally handed over to the Directorate of Economics and Statistics, Government of Mizoram, after which it was published by the Directorate. More than 4,000 copies have already been printed by the Directorate and distributed to the offices concerned.

Remote, yet exemplary

From our Arunachal Correspondent

The NIC State Unit of Arunachal Pradesh, operating from the easternmost part of the Country, has been engaged in a number of useful projects both for Central and State Government departments.

This State Unit of NIC has successfully completed a number of projects in the recent past. Prominent among them have been the computerization of the Billing System for the Department of Telecom, Itanagar. The total number of telephone connections in this sparsely populated State being presently limited to about 7,000, are monitored by the only District Manager, stationed at Itanagar. All the bimonthly phone bills are generated centrally at Itanagar, using the computerized billing system developed by NIC.

Another project which the NIC Arunachal Pradesh State Unit has completed recently is the Computerization of the Joint Entrance Examination (JEE) Merit list for the Directorate of Public Instruction (DPI), Arunachal Pradesh. A number of seats are reserved for Arunachal Pradesh in different educational institutions all over the Country. Candidates are selected through the common Joint Entrance Examination for various courses in diploma engineering, B.E./ B.Tech and MBBS/BDS, against the quota of seats available to the State.

In view of the sensitive nature of the work, it speaks volume of the confidence National Informatics Centre enjoys in this part of the Country.

Project envisages drought-proof Palamau

From our Bihar Correspondent

The Palamau District Unit of NIC in south Bihar has undertaken a Drought Relief Monitoring Project for the Government of Bihar. The project, which is partially implemented, envisages a drought-proof Palamau, which otherwise has a long history of being prone to droughts.

The Government of Bihar has prepared a comprehensive programme which envisages steps such as conservation of land, minor irrigation, afforestation, etc. To keep up the pace of various drought-prone area development programmes and enhance their effectiveness, the Government requires a constant flow of information from such areas.

Because of the adverse geographical conditions prevailing in Palamu, the NIC Palamau District Centre has been entrusted with the responsibility of providing timely information to the concerned authorities. The project will facilitate the creation of various databases.

Usually, whenever natural calamities such as droughts occur, utter chaos prevails. Consequently, it becomes a tedious task to collect factual information because information pours in from all sources ranging from individuals to local bodies. The new computerized system developed by NIC will try to administer this information by classifying, categorizing, and organizing them into useful reports and finally synthesizing the relevant information. Classification of such information is of immense help to the administration for taking corrective measures at the spur of the moment.

Partial implementation of the project has shown encouraging results. The project facilitates the monitoring of irrigation facilities. Monitoring of both physical and financial progress of different check dams has already been accomplished through this project.

The computerized system manages databases and monitors man-days created and to be executed by different offices, block members, technical and other heads for the construction and widening of roads, construction of tanks, deepening of wells, minor irrigation works and soil conservation measures in the event of droughts.

The computerized system also monitors a very important public utility service of provision of safe and pure drinking water.

The data relating to *villages in need of water*, supplied by the package, is very useful for the civic authorities. Based on the data feedback, it is possible for the Administration to put special emphasis in activities which could yield the best results for the worst-affected areas. Data is collected every week from the Panchayat to monitor the existing and operational wells, tube wells and other sources of water. Thereafter, the data is compiled and the progress made with respect to population is worked out to present a clear picture before the policy makers.

Last but not the least, the project will also review the availability of Public Distribution System (PDS) outlets to ensure that essential commodities are made available to the vulnerable sections of the society in the event of a drought. Data on total allotment, total deposit of sugar, rice, wheat and oil is collected and updated at a weekly basis.

This project will go a long way in erasing the pangs of this drought-prone district of Bihar.

Udaipur: *For the Sky is the Limit*

From our Rajasthan Correspondent

Much of the scenic beauty and cultural heritage of medieval India can be found interwoven in perfection in the sprawling hills of the Aravali range in the Udaipur District of Southern Rajasthan.

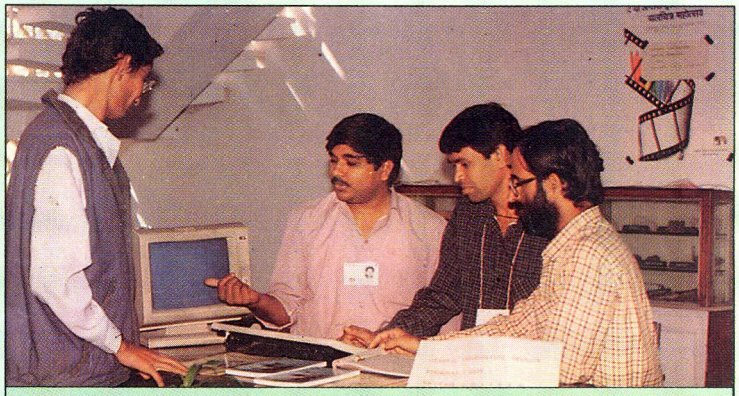
Founded in the year 1559 A.D. by Maharana Udai Singh, Udaipur has had the distinction of being the capital city of the state of Mewar, once ruled by the great Maharana Pratap and Maharana Raj Singh. Universally known as the city of lakes, Udaipur nestles amidst hills and royal palaces, presenting a breathtaking contrast to the neighbouring desert districts of Rajasthan. Predominantly tribal, Udaipur district offers a rich field of study to students of Anthropology the world over. Tourists from both within and outside the Country flock to this virgin district to enjoy the tribal culture and calm repose of nature.

The NIC Udaipur District Centre has been instrumental in successfully propagating and integrating a culture of informatics with the working of the District Administration.

Village Database

Ever since the opening of this Centre in 1988, many projects have been accomplished successfully. To begin with, at the grass root level, a village database relating to different sectors, such as agriculture, health, education, land utilization, cropping pattern and natural resources has been created by the NIC Udaipur Centre. Presently this database is in high demand in the Udaipur district since it incorporates all types of information from 3,300 villages in the District.

Also at the village level, a computerized information system dealing with the details of agricultural, and commercial or residential land has been developed for the convenience of farmers.



NIC officials demonstrating the GIST facility at Information Centre, Udaipur

State Initiated Projects

The NIC Udaipur Unit has developed and implemented various computerization projects. The State Insurance Premium Master Index has been computerised and the annual bills are being processed at Udaipur Centre.

Personal Information System: A Personal Information System (PIS) which has a complete history of all the administrative work initiated in the various districts, has been developed for easy reference by all the District Collectors in the State. This system has also been implemented in Udaipur. PIS maintains up-to-date information on all the revenue officials and their work. These records play a very important role in an employee's service career.

Teacher Recruitment System: A suitable software has also been developed for the Teacher Recruitment System in the District. This package requires only basic inputs of the merit list in the form of data. On the basis of this minimal input a hard copy is generated so that data entry is error free.

Since Udaipur is a divisional headquarters, all documents relating to the pension office have been put on computers. Consequently, a large number of pensioners are benefited due to the continued support of NIC to the Pension Office. Besides computerizing the Pension Office, the Udaipur Centre has also computerized the preparation of monthly salary bills and various deduction schedules. In addition , the software can also generate the acquittance roll, etc. The records of more than 1,500 employees have been included.

To provide a current list of important officials, key men and important departments, an extensive software has been put to use, which can be accessed from any private or public department.

Centre Initiated Projects

The NIC unit of Udaipur has completed a project report under the **Total Literacy Campaign.** The project report deals with monthly progress from village to the district level. After analysing the feedback, a detailed report is generated by the unit and sent to the block officers for smooth monitoring of the project.

Besides all this, the NIC unit of Udaipur has also been actively imparting regular training sessions to the various administrative staff.

In all, a rather embryonic start has paved the way for a promising future, and the NIC Udaipur District Unit, while scaling new heights, has also been instrumental in the propagation of culture of informatics in this desert-ridden state of Rajasthan.

Appreciation certificate being awarded by Mr. Sallaudin Ahmed, Divisional Commissioner, Udaipur, to Mr K.L. Jawaria, DIO, Udaipur