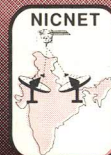


Informatics



1992 Review

The coming of a new year brings new hopes and resolutions. The National Informatics Centre's performance record for 1992 is an indication of things to come in 1993. A year is weighed by the services the Organization is able to offer. Some of the major achievements of the Organization in 1992 include:

- Enhancement of NICNET capacity to handle 800 VSATs. NICNET now has 566 fully operational nodes.
- Setting up of a multimedia-based training facility with 20 low-cost interactive multimedia workstations at NIC Headquarters. These workstations use a PC add-on card, developed in-house by NIC, to provide video control under DOS environment.
- Computerization of Census 1991 data and inauguration of NICNET Census Service.
- Introduction of teletext broadcasting system in Delhi Doordarshan Kendra; installation of Teletext Information Magazines for Indian Airlines, Delhi Railway Station and Lucknow Railway Station.
- Completion of the Madras Port Trust pilot project for the PORTNET-through-NICNET project which envisages the setting up of a computer network encompassing all the major ports of the Country.
- Completion of a DST-sponsored project on "Liquefaction Maps for the Trans-Yamuna Area".
- Signing of a major contract with the US-based Oracle Corporation to obtain state-of-the-art Oracle RDBMS products, and also to become a 'value added reseller' for Oracle products in India.
- Imparting training to about 15,300 participants including Officers and Staff of the Central Government and State Governments; participants sponsored by organizations such as DOP&T, WHO, UNESCO, EPFO, NCERT and under the BTIS and MEDLARS programmes.
- Completion of design of NICNET data highway

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A profile of the Bareilly District Centre

••• and all our regular columns.

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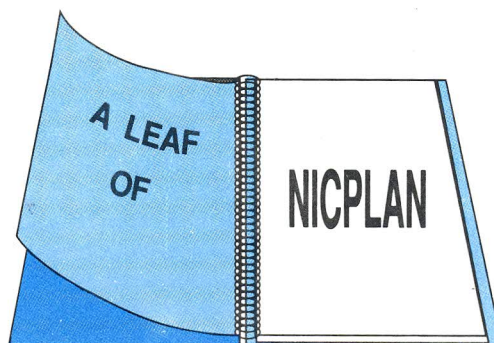
Government Informatics Training Programme

The Eighth Five Year Plan of the National Informatics Centre is a blue print of action for the Organization. Each 'Leaf of NICPLAN' presents an extract from the Plan to provide the Reader with an insight into just how the Organization visualizes the future. In this issue we present the Government Informatics Training (GIT) Programme.

Investments in hardware and software and the creation of databases alone will not bring in a change in work culture in the Government. All crucial officers and staff in each department of the Central Government, State Governments and District Administrations have to be trained adequately. As the number and diversity of training is very large, this can be carried out effectively only if the following three projects are implemented:

- i. Central Government Informatics Training Programme.
- ii. State Government Informatics Training Programme.
- iii. CAI/CAL Research and Service Centre.

Already, NIC is implementing the GIT Programme in the Central Government by training 5,000 officers and staff every year.



During 1990-91, the GIT programme has been enlarged to cover State Governments and District Administrations. For this, all the NIC Regional Centres and State Centres are being mobilized for imparting such training. Training programmes have been designed in such a way that officials at different levels can attend the programmes as per their working requirements.

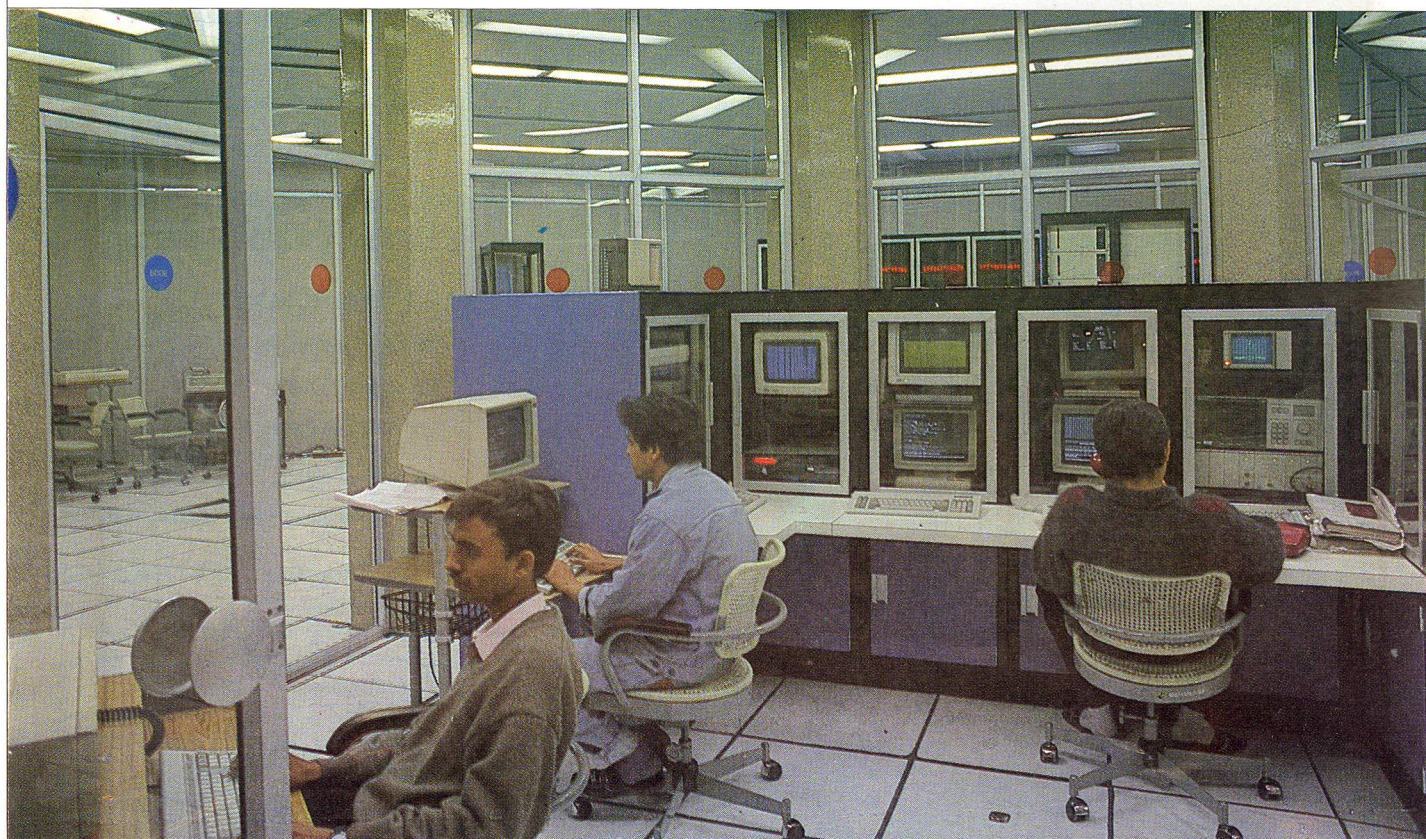
Keeping in view the large requirement

of the Central and State Governments, it is felt that this much of training is not adequate. It is therefore proposed to train about 10,000 officers and staff at different levels from 1991-92 onwards. To do this, a new thrust to the training activities will be given. To meet the additional load of training as projected, it is proposed to acquire training hardware for hands-on training, course material documents, audio visual equipment and computer-aided instruction hardware and software. The GIT Programme in the Centre and the States would call for an investment of Rs 4 crores during the Eighth Five Year Plan.

Computer-aided instructions and computer-aided learning cannot be avoided when mass training has to be combined with quality teaching and research programmes. Such a laboratory would cost a capital of Rs 2 crores. ₹

PHOTOTALK

Inside the underground Master Earth Station (MES) of the National Informatics Centre (NIC), situated in the Central Government Offices Complex at Lodhi Road, New Delhi.





MPT linked with NICNET

MADRAS, Oct: A micro earth station was installed at the Madras Port Trust and hooked up with NICNET on October 10, 1992 as part of the PORTNET project to provide an Electronic Data Interchange System for the Indian maritime industry, reports our correspondent from Madras. The Madras Port is the first major port in the Country, to be linked with NICNET.✍

(For further information on the PORNET project, refer our Projects column.)

Nine Projects to augment Multimedia Efforts

NEW DELHI, November: NIC has announced nine multimedia projects to provide an impetus to its efforts at multimedia technology development. These projects, of 18 months to 2 years duration, are:

Arts and Culture Multimedia Application. Duration: 3 years.

Development and Commercialization of low-cost multimedia add-on Cards, Workstations and Training Material. Duration: 3 years.

Hypernic Development and Application. over NICNET. Duration: 24 months

Multimedia Presentation Software Development and Training. Duration: 24 months

Development and Commercial Distribution of Multimedia CD-ROM for promot-

ing Tourism. Duration: 24 months.

Multimedia Teleconferencing Project. Duration: 24 months.

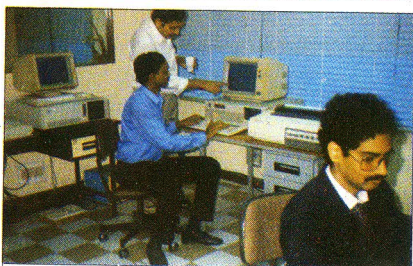
Multimedia Electronic Mail. Duration: 18 months.

Multimedia BISDN over NICNET. Duration: 18 months.

Research on Virtual Reality System --- Conceptualization and Prototype Development of a two-person Co-Cognitive Virtual Reality System. Duration: 24 months.✍

(For further details please contact: The Editor, **INFORMATICS**, National Informatics Centre, CGO Complex, A-Block, Lodhi Road, New Delhi - 110 003. Ph: 4361133-4425)

State Centre gets new Office



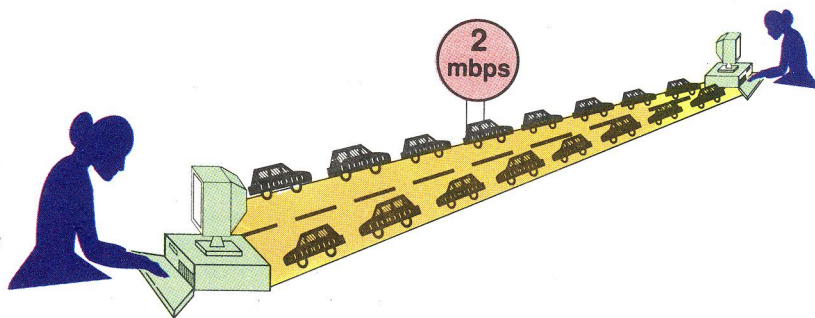
Working in the new office

GUWAHATI, October: Thanks to the State Government, the Assam State Unit of NIC now has a new office right at the heart of the Assam Secretariat, said a report from

our Guwahati Correspondent. The allocation of 2,050 sq ft of space in the Secretariat itself, where even the State Government Departments are being restricted to spaces far beneath their actual requirements, speaks volumes for the State Government's appreciation of NIC services.

The entire site preparation work was carried out by the Central Public Works Department (CPWD), Guwahati, said the report. The office was formally inaugurated in March, 1992, by Dr (Mrs) IK Barhakur, Principal Adviser, Planning Commission, Government of India, added the report.✍

2 mbps Data Highway on the Cards



NEW DELHI, November: The capacity of NIC micro earth stations, connecting the 25 state capitals of the Country with NICNET, is to be enhanced from the present 1.2 kilo bits per second (kbps) to 2 mega bits per second (mbps) by July 1993.

This Rs 15-crore project has been undertaken in view of the growing demands on NICNET, which is handling over 1,50,000 transactions every day. The enhancement, providing the State Capitals with the 2 mbps data highway, will increase the capacity and throughput of the network substantially.

Although industries and commercial organizations will be allowed to use the 2 mbps data highway to access NIC databases, priority will be accorded to exporters.

NIC at CSI '92

MADRAS, Sept: Patent Documentation and Information Services provided by the National Informatics Centre were demonstrated in an exhibition organized on the occasion of the Computer Society of India's (CSI's) annual convention for 1992, said a report from our Madras Correspondent.

NIC receives data from the International Patent Documentation Centre (IN-PADOC), Vienna, to provide information on patent documents published from over 54 countries. Visitors to the NIC stall at the exhibition were given demonstrations on how NIC disseminates monthly patent data received from the International Patent Documentation Centre through NIC information services :

À Bibliographic Information Service (BIS),
À Selective Dissemination Service (SDI),
À Full Text Specification Service (FTSS).✍

Workshops

➤ On GISTNIC, organized by NIC Western Regional Centre, Pune on November 21, 1992. GIST databases were explained with simultaneous on-line demonstration. Discussions with potential Users also held.

➤ On Computerization of Technical Education Department, organized by NIC Varanasi District Unit in June, 1992, to involve the Technical Education Staff in the computerization effort in the Department. Views of the participants were solicited for incorporation in the system.✍

Putting a Computer Tab on Natural Resources

For practical planning and sound plan management, the primary requisite is extensive and reliable information on a variety of indicators. These basically include information on the socio-economy, demography, economic services and natural resources, at village-level resolution. The National Informatics Centre, through its DISNIC-PLAN project being implemented throughout the Country, has been engaged in collection and processing of information on the first three indicators. The identification of a Remote Sensing Applications Centre for Resource Evaluation and Geo-Engineering (RSACREG) in the Aligarh Muslim University marked NIC's first step towards the development of a system to provide information on natural resources. We present a profile of the Aligarh Project.

The need for decision-support technology at the micro-level took on new meaning with the Seventh Five Year Plan laying overwhelming emphasis on micro-level planning. It was soon realized that preparation of a micro-level plan, either for a village or a cluster of villages, would require the support of a comprehensive socio-economic-cum-natural resources database. Sectoral data on natural resource endowments in the fields of geology, geomorphology, landuse/landcover, water resources, soil resources, waste land, fisheries, forestry etc., at village-level resolution, became essential for application in development planning and the decision-making process.

The emergence of the Geographic Information System of National Informatics Centre (GISNIC), and the establishment of NICNET facilities at the district level paved the way for the development of an information system on natural resources.

The RSACREG at Aligarh was to undertake the pilot project *Natural Resources Informatics and Land Sys-*

tem Studies; the experience gathered from which would be applied in implementing similar projects all over the Country.

To achieve the Goal

The Natural Resources Informatics Project, under the District Information System

programme of the National Informatics Centre (NIC), envisages the development of information systems/databases on natural resources. This will be done using NICNET facilities, and with the active involvement of various Central and State Government agencies such as the National Remote Sensing Agency (NRSA), State Remote Sensing Applications Centres,

District. The secondary data available in reports, charts, maps etc. was then processed for storage in the system at the NIC District Centre, Aligarh. The posting of this data in the file structure revealed large gaps in the available information on land system at Aligarh. In order to fill these gaps, primary data was generated using both the time and cost-effective techniques of remote sensing and through the more conventional ground surveys supported by laboratory analysis of the samples.

Milestones Crossed

Achievements of this pilot project in Aligarh include:

- Data collection and generation. The data was then processed and stored in various natural resources files systematically.
- Integration of natural resources information onto Terrain Mapping Units (TMUs), for the Aligarh District.
- Propagation and dissemination of research and development work in the field of Natural Resources Informatics.

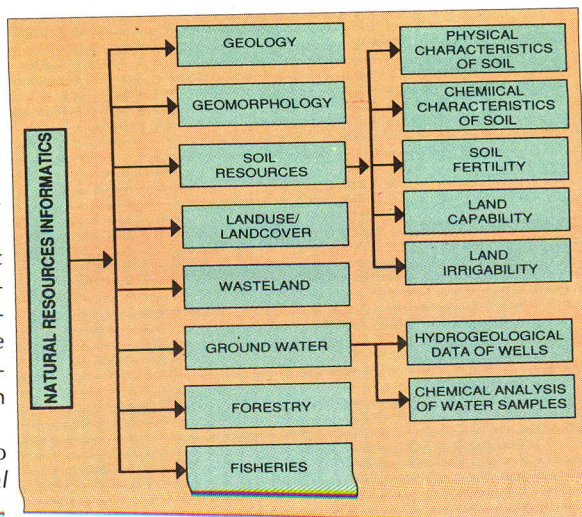
work in the field of Natural Resources Informatics.

The interim performance report of the pilot project was submitted to the Rajiv Gandhi National Drinking Water Technology Mission Directorate, Ministry of Rural Development, with the objective of replicating the exercise in other districts.

The work done by the Aligarh Project was demonstrated in the technical exhibition of the National Symposium on Remote Sensing for Sustainable Development organized by the Remote Sensing Application Centre at Lucknow in November, 1992.

That the Aligarh Project has opened up new avenues of development is well-illustrated by what Dr AN Singh of the IRRI, Manila chose to write in the comment book at our exhibition stall:

The Aligarh Project is "A good effort towards utilization of natural resources and socio-economic data. However, it must be replicated in other areas; and with better interactions with similar organization, data availability will be ensured."

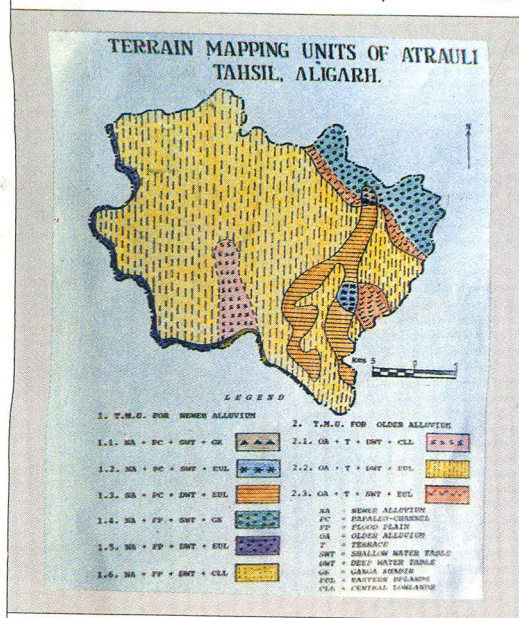


Geological Survey of India (GSI), FSI and SOI. Research institutions involved in resources evaluation at the grass-root level would also participate in the project.

In the Aligarh Project, as it is known today, this primary objective was split up into a set of more specific objectives which included:

- ◆ data collation on various natural resources files from different data-generating agencies;
- ◆ identification of information gaps in natural resources files, and primary data generation for the district of Aligarh through cost and time-effective techniques of remote sensing applications. Ground Truthing for certain selected key areas;
- ◆ application of Terrain Mapping Unit (TMU) concept for data capture, and TMU data generation employing photo-interpretation and digital interpretation techniques.

To achieve these objectives a multi-disciplinary team was engaged by RASCREG, Aligarh Muslim University, Aligarh. A computer compatible format was generated for natural resources information of the



"QUOTABLE QUOTES"

We have the convenience of computers these days. You can have billions and billions of records, if you wish, just on a small disc. Now, this being the convenience which is available, it will be a pity if we do not take advantage of all this ...

The Prime Minister, Mr Narasimha Rao, in his inaugural address at the Chief Ministers' Conference held during October 4 to October 5, 1991.

May be in the next census, to be held in 2001, this time (for compilation of census data) would be further reduced by processing the data at block level on NIC Block Computer Centres. The NICNET release of PCA data may then be inaugurated in two months rather than two years in the present case.

--- Mr Pranab Mukherjee, Deputy Chairman, Planning Commission, in his inaugural address on the release of the Primary Census Abstract (PCA) and inauguration of NICNET Census Services.

The computerization of the census data on such a big scale has been a major innovation of the 1991 Census, and is a significant step towards timely and easy accessibility of data.

--- Mr MM Jacob, the then Minister of State for Home Affairs, in his presidential address at the release of the Population Census Abstract, 1991, on January 14, 1992..

EDI is not a theoretical proposition, but a practical compulsion... If we are not able to introduce EDI in time, we may face the eventuality of being pushed back in our export efforts.

--- Mr MNK Menon, Member, Regional Committee, Federation of Indian Export Organizations (Southern Region) at a National Workshop on 'EDI for international trade' organized by FIEO and the All India Shippers Council.

ACCOLADES



TREASURY COMPUTERIZATION IN HIMACHAL PRADESH

A job well done, wins appreciation. And the quality of work done by the National Informatics Centre is judged, to a large extent, by the level of satisfaction of the User. What the Chief Secretary of Himachal Pradesh, Mr MS Mukherjee

has to say on the implementation of DISNIC-Treasury in the State speaks volumes for the extent of effectiveness of the Project. Accolades brings to you an extract of the Chief Secretary's foreword to the "Report on DISNIC-Treasury" published by the NIC Himachal Pradesh State Unit.

Expenditure and Receipts of the State Government are either transacted through, or accounted for, by the Treasuries in all the districts of Himachal Pradesh. The number and volume of transactions are so huge that it is an obvious area for development of an efficient Computerized Information System, so that timely information is made available to the decision makers for monitoring purposes and for taking policy decisions. For the last one-and-a-half years, the H.P. State Unit of the National Informatics Centre (NIC) and the Department of Treasuries and Accounts of the State Government have been working in close collaboration in developing a computer software for financial transactions at the Treasuries, running it on trial basis and making modifications where necessary. This effort has culminated in

DISNIC-TREASURY, a comprehensive computer-based Management Information System on Financial Transactions of the State Government, which has been implemented in all the District Treasuries of Himachal Pradesh. To my knowledge, this is the first time such a comprehensive computer package, which goes well beyond compilation of figures to generation of reports and management information for its Users, has been developed and implemented in any State of India...

The State Government is proud of the DISNIC-TREASURY system and I place on record my thanks to all those who have put in so much effort in its development and its acceptability and implementation, and my appreciation for the computer software developed by the NIC Himachal Pradesh State Unit.

Editor's Note ...

Our Readers will be happy to know that the response to the first two issues of INFORMATICS has been quite overwhelming. Thanks to our Readers, our Correspondents in all the State Capitals and others who are associated with the Organization, the flow of contributions has been regular enough and is also showing every sign of picking up further in the future.

In this third issue of INFORMATICS, the first of the New Year, I take the opportunity to thank all concerned.

Wishing you a very happy new year.

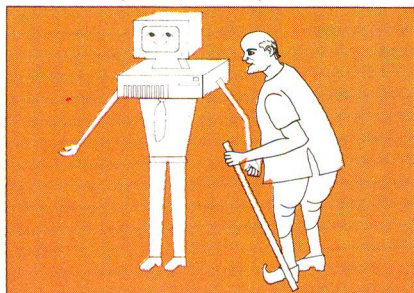
Rubaiyat Ali

HELPING HAND FOR THE OLD

The Madras District Centre of the NIC has developed an Old Age Pension (OAP) Monitoring System which has computerized the process of disbursement of old age pensions sent through money orders. This facility was inaugurated by the Revenue Minister, Mr SD Somasundaram on September 18, 1992, and the first money order printed by the computer handed over to the Chief Postmaster General, Mr T Parthasarathy.

The computerized OAP system developed at the Madras District Unit manages the following activities:

- Printing of the money orders, thereby ensuring timely disbursement. Delay incurred in manually writing out the money orders has been eliminated.
- Generation of lists/schedules to claim bills.
- Maintenance of database of pensioners.
- Monitoring disposal of money orders.
- Providing analytical reports.



U.P. TAKES RAPID STRIDES

National Informatics Centre's Reservation Availability Position Information Display (RAPID), is a facility which provides information on the reservation status of trains to the general public. It first became operational at the New Delhi Railway Reservation Centre in 1988. RAPID was gradually installed at other locations in Delhi. The installation of RAPID at the Lucknow Reservation Centre, UP, marked the beginning of the effort to make this facility available all over the Country.

The configuration of the Lucknow RAPID system takes into account all the trains arriving at, and leaving from Lucknow Station, and classifies them into five groups according to their routes. The reservation status of various trains on a route is displayed on one particular monitor according to the grouping of the route.

The reservation status is maintained in the VAX computer of the Northern Rail-

way Reservation Computer Centre in Delhi. The reservation availability data of the trains is transferred to the personal computer located at the Lucknow Reservation Centre, at regular intervals. This data is

used by the software developed by the National Informatics Centre, New Delhi, to create screens for telecasting. These screens or pages are further grouped into a magazine and with the help of an inserter card, sent for public display in the teletext format.

COLOUR CODES

GREEN	Seats/Berths available
YELLOW	Reservation Against Cancellation (RAC)
VIOLET	Waiting List
RED	Not Available
BLACK	Train not available on that day
BLINK	Few seats available (Applicable with green)

The reservation status of a train for the next 28 days is displayed in two pages. The displayed status is broken down into a class format (1st AC, Chair Car etc.) for convenience of Users. Various colours and display modes are used to indicate the reservation position on different dates.

On August 11, 1992, the system was further upgraded by the addition of a facility which enables confirmation of waiting list tickets.

A RANGE OF SOFTWARE PRODUCTS FROM NIC (WR)

The Western Regional Centre of the National Informatics Centre (NIC-WR) has come out with a range of software products designed as training tools.

NICTUT

NICTUT is a tutor on computer networks, with special emphasis on NICNET. NICTUT coaches the User on the fundamentals of computer networks, network topologies, applications of NICNET, Radix communication software, NICMAIL package and the NCS subsystem. Pictorial illustrations given by this package, especially the illustrations on satellite communications, communication subnets and configuration of NICNET; help the User to understand the concepts easily. NICTUT simulates the working of NICMAIL and Radix, and makes the User feel as if he is working on the actual system. The software can be run on a PC/AT 386 with SCO XENIX operating system with CGI 1.0.

THE TUTORs

DOS Tutor: This tutor teaches all major features and commands of DOS. The DOS Tutor is for Users who are totally unfamiliar with the Disk Operating System.

Computer Fundamentals Tutor: This is a CBT package developed under SCO XENIX/CGI 1.0. It provides an introductory tutorial on computer fundamentals, with graphical illustrations. The tutor has various modules, each with a quiz session.

FoxBASE+ Tutor: A CBT tutor developed under SCO XENIX, it coaches the User in the basics of FoxBASE+ database management system. This tutor can also be invoked from ad100 terminals.

AUTNIC

It is a quiz-oriented authoring system developed under SCO XENIX/RDBMS ORACLE 6.0. It has been developed to enable a course participant or student to administer self tests or learn through quizzes. A User of AUTNIC may belong to one of the following three levels:

The Author: creates new courses or modifies the existing courses.

The Student: participates in the courses.

The Administrator: controls the course database.

The Author can attach help-text with the question, which can be called up by the Student if he requires more information. The author can also set up a series of lessons within a topic. Up to a hundred topics are permitted. There can be a hundred lessons in each topic. Each lesson can contain about 1000 questions. To use the system in the student mode, a topic within a subject is selected. The User can select a lesson within a topic. Once the lesson is selected, a quiz is presented with a choice of two, three or five sessions. The questions for each session are compiled dynamically during run time, in a random fashion. All user sessions are saved. The administrative module keeps track of the performance of each student at each session.

Bareilly: An Example in Rural Computerization

The world at large has acknowledged the relevance of computers in the context of modern urban set-ups. But when it comes to a rural, agrarian setting, with the economy lagging far behind those of its urban, industry-based counterparts, the place of computers in such an environment, has been a matter of much debate. Bareilly in Uttar Pradesh, situated midway between Delhi and Lucknow, is a district which falls in the latter category. Problems are further compounded by infertile land and inadequate irrigation facilities.

As in all other districts of the Country, a District Informatics Centre (DIC) of the National Informatics Centre (NIC) functions in Bareilly also.

Catering to Rural Economy

National Informatics Centre's answer to the unique problems of rural computerization efforts is the Computerization of Rural Information System Project (CRISP), a project especially designed to meet the needs of rural administrative systems. With the introduction of CRISP in Bareilly, it fell to the lot of the DIO and DIA to help maintain the computer system provided at the District Rural Development Agency (DRDA), Bareilly, and to supervise the implementation of the CRISP software. With CRISP, the computer system is used to :

- ♦ provide an easy method of generating various reports prescribed by the State and the Centre;
- ♦ create basic records of work and beneficiaries, under various rural development programmes;
- ♦ collect information on villages for planning purposes; and cover programmes under:
 - a. Integrated Rural Development, b. National Rural Employment, c. Rural Landless Employment Guarantee, and d. Rural Drinking Water Supply.

Land Records Management

The economy of Bareilly being agriculture-based, proper maintenance of land records is accorded high priority. The Land Records Management Information System, developed by the Bareilly District Unit of NIC, is a response to this important need of the District Administration. It helps the District Administration to maintain and update land records properly and accu-

rately; retrieve land records information in the desired format for decision making at the village, pargana, tehsil and district levels; evolve ownership records (*patta*) of the land ; develop crop-based land records; and streamline credit facilities through any co-operative bank. The system is assisting in decision-making by generating reports on *Khasra*, *Khatauni* and cropping pattern of land.

Public Grievance Monitoring

The introduction of the *Ahmednagar pattern* of administration in the district of Bareilly called for a large improvement in the system of disposal of pending complaints and redressal of grievances of the public. A study of the Public Grievances Cell in the Bareilly Collectorate revealed some inherent drawbacks . The Bareilly Collectorate receives numerous letters, references and complaints everyday; either asking for direct action, or to be forwarded to some other department. On an average, the *Janta Kacheri* and the Public Grievance Cell together receive 150 to 200 complaints every month. It was found that though complaints were received and duly registered, there was no systematic organization or monitoring.

The introduction of the computerized Public Grievances Monitoring System, has done away with the disadvantages of the manual system to a large extent.

SALIENT FEATURES OF THE GRIEVANCE MONITORING SYSTEM

- i. generation of up-to-date, accurate and quick reports and responses;
- ii. enhanced flexibility which enables the System to accept various combination of queries (complaint) from the User and generate appropriate responses; and
- iii. generation of reminders for officers/sections concerned.

A cut in the average delay-time of disposal by 50 per cent and an effective rise in the disposal rate are the indicators of success of the Public Grievances Monitoring System.

Pension Monitoring

The ever-widening influence of computers on all walks of life is demonstrated by the computerized management information system of pensions, implemented in Bareilly. There are nearly 10,000 aged persons, 5,000 widows, 2,000 physically handicapped individuals and 128 freedom fighters who are beneficiaries of the vari-

ous pension schemes under the State and Central Governments. Because of the large volume of data that had to be handled, a manual system of distribution resulted in delays. The utilization of NIC services and the consequent introduction of computers has enabled the authorities to distribute the pensions on time. In the new system, everybody has been asked to open his/her account in a bank or post office. These account numbers are then fed into the computer which generates the requisite reports to be sent to the respective banks or post offices so that the amount against each account number can be disbursed without delay. Elimination of the repetitive process of manually preparing the payment reports for every term increases the efficiency of the whole system and makes it practically fool-proof.

A Symbiotic Relationship

It was a case of "why not use it at home?". The District Administration decided to have NIC develop an Information System for personnel management of the Establishment Section of the District Collectorate. The outcome was the Personnel Management Information System which is used to monitor the general information of the employees. Being highly flexible, the System is able to accept various combinations of queries and generate reports which suit the requirements of the User. The System maintains the records of nearly 175 Class III employees of the Bareilly Collectorate, and is being used for deciding promotion, efficiency bar, increments, pay fixation etc. of these employees.

The National Informatics Centre is a service-oriented organization. The immediate implication is that its very performance and the efficiency of this performance depends on the response of the Users. At the district level, it is the District Administration's active support and participation which sustains the Organization. The District Informatics Officer and the District Informatics Assistant of Bareilly both acknowledge that the work done so far has been possible only due to the keen interest and active co-operation of the District Administration.

The extensive use of computers in Bareilly is proof enough of its relevance in a relatively rural environment. The effect of computerization has not been restricted to office automation alone; it has reached far beyond. And that, is only the beginning.