

# Informatics

Current issue : April 2001

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## **Agriculture Informatics "Ushering a New Revolution"**

Information is critical to the social and economic activities that comprise the development process. Development economy has witnessed agricultural (Green, white, yellow, blue and now rainbow), bio-technological, Industrial and Information Technology revolutions. Good Communication System and Information System reinforce commitments to sustainable productivity. The Government of India is giving more thrust on Agriculture, food and Information Technology sectors towards achievement of economic reforms to achieve high growth rate in production in the years to come.

Agricultural Informatics Division of NIC has taken up various initiatives in bringing IT led development which includes Web enabled applications, GIS based applications, Multimedia applications, Database applications and e-Governance and training etc., in the Ministry of Agriculture.

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## **NICNET Services to the Ministry of Agriculture**

A high speed Local Area Network was established in the Ministry of Agriculture spread over various buildings viz. Krishi Bhawan (~500 nodes), Shastri Bhawan (~200 nodes), Krishi Anusandhan Bhawan (~100 nodes) etc. In addition, Agricultural Informatics Division has extended its full support (round the clock operation) to the Ministry of Agriculture at the time of super Cyclone in Orissa and Gujarat Earthquake. Shri Nitish Kumar, the Hon'ble Union Minister of Agriculture has mentioned in his letter ".....With the help of NIC, the information technology base has also been strengthened and a computerized database and software has been developed...". Video Conferencing facilities were used extensively from the krishi bhawan studio to Orissa and Gujarat on continuous basis. (see Page 8 for details on NIC's support during Gujarat Earthquake crisis)



Hon'ble Agriculture Minister taking keen interest in the info kiosk developed by NIC

In order to keep pace with the state-of -the-art technologies, NIC has been conducting various training programmes on IT application on a regular basis from time to time for the user organisations of agriculture sector.

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### **Infrastructural facilities and services provided by NIC to the Ministry of Agriculture**

- ❁ INTRANET/INTERNET
  - ❁ Telecommuting Programme
  - ❁ Video Conferencing
  - ❁ Information Kiosk
  - ❁ In-house Training facilities
  - ❁ Web site design and development
  - ❁ Web enabled applications
  - ❁ Information Bulletin
  - ❁ Intranet applications
  - ❁ Agriculture Portal
  - ❁ NICNET based Public Information and Facilitation Centre
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### **IT plan for Agriculture Sector**

NIC has submitted an IT-Plan for the Agriculture Sector with an objective of establishing “NICNET based Agricultural Informatics and Communication Network (**AGRISNET**)” to facilitate higher and sustainable agriculture productivity and also putting “**Indian Agriculture on-line**” in the Country. Some of the National level Projects sponsored by the Ministry of Agriculture include the following :

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### **Computerisation of Agricultural Census 1995-96 & Input Survey 1996-97**

Recognizing the predominance of the Agriculture Sector in the Indian economy, Department of Agriculture and Cooperation collects and maintains agricultural statistics such as number, area, tenancy, land utilisation, cropping pattern and irrigation particulars of different classes of operational holdings regularly and make it timely accessible to the planners and policy makers for decision making. This project was entrusted to NIC and it made significant headway in almost all the States/UTs except Bihar, where Census is yet to be conducted. The salient features are

- Creation of large database of about 8000 Million Bytes at National Level and 1 GB at state level
  - Processing and tabulation of Agricultural Census and Input Survey database at District/State/ National level
  - Development and implementation of information retrieval system at micro and macro level for decision making at various levels.
  - Selective information will be put on INTERNET/INTRANET for easy access of information to public to ensure transparency in the Government functioning.
  - Training programs on Software implementation will be organized for about 200 officers of State/ UTs and Central Government.
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### **Market Information System for Horticulture**

This project has been taken up by NIC on a turnkey basis. As part of the project, NICNET based

internet/intranet facilities have been established at National Horticulture Board (NHB), Gurgaon. Computing facilities have been created at 33 market centres of the Board located all over the country. NIC has developed and implemented the necessary software for evolving a comprehensive database of the prices and arrivals of fruits and vegetables being received by NHB headquarters from 33 market centres on a daily basis. This information is being used by the Ministry of Agriculture, its related agencies and markets through National Bulletin on fruits and vegetables.

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### **Plant Protection Informatics and Communication Network (PPIN)**

The PPIN envisages to link the Directorate of Plant Protection quarantine and Storage (DPPQS), Faridabad, National Plant Protection Training Institute, Hyderabad, CIMPS (26), LCC (10), Central Pesticides Testing Laboratories (3), and State Pesticides Testing Laboratories (42) and to disseminate information related to plant protection and pesticides. As a part of project, the computerization of the CIB/RC of DPPQS has been taken up by NIC.

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### **Agricultural Research Information System Network (ARISNET)**

The ARISNET, a close user group of institutions in National Agricultural Research System of India (NARS) on NICNET, links ICAR Institutions (90) and their Regional Research Stations, Central Agricultural University, State Agricultural Universities (29) and their colleges, Krishi Vigyan Kendras (283), Zonal Research Centres (120) and Project implementing centers with the ICAR Headquarters. ARISNET has become an integral part of agricultural research, extension and education process.

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## **Agricultural Extension Information System Network – VISTARNET**

The Research, Education, Extension, and training are considered as four pillars of Sustainable Agriculture. Generation and Transfer of Technology have become very crucial the world over. As a step towards making technology reach the Small Holders (Resource-Poor-Farmers), efforts are being made to establish “**VISTARNET** – NICNET based Agricultural Extension Information System Network,” in India, linking extension functionaries at Central, State, and District level has been taken up. The required funds for implementing VISTARNET will be provided through the National Agricultural Technology Project (NATP). As a part of VISTARNET, Informatics Development for the Directorate of Extension has been taken up by NIC.

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## **Strengthening of Informatics in the offices and field units of The Department of Agriculture and Cooperation (DAC) – DACNET**

The Central sector scheme "DACNET" has been approved by the Department of Agriculture and Co-operation to be implemented by NIC. The project will commence in this financial year. The project proposal envisages establishment of NICNET based INTRANET linking Directorates, Attached offices, Subordinate offices, Autonomous bodies and Public Sector Undertakings and field units of the Department of Agriculture and Cooperation, Ministry of Agriculture. This project includes networking of field offices of DAC, connectivity, procurement of H/W, S/W tools, Application Software Development and training of officials.

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## **Animal Production and Health Information Network (APHNET)**

APHNET envisages building up of reliable databases and network based information systems for all activities of the Animal Husbandry and Dairying Sector at District, State and National level, using NICNET facilities. In view of importance of making technology reach the small holders through IT, the plan also suggests to establish APHNET nodes at about 42,000 veterinary Polyclinics, Hospitals, and dispensaries and veterinary aid centers for strengthening Animal Disease Surveillance & Advisory system in the country. As a part of APHNET, National Project on Rinderpest Eradication (NPRE) which aims at capturing animal disease related information from various State Animal Husbandry Departments has been entrusted to NIC.

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## **MIS support to Food Processing Industries**

To cater to the needs of the Department, NIC has developed various information systems viz. FPO & Licensing Monitoring, Plan Scheme Monitoring, Industrial approvals, processed food products, FPO on-line status, Industrial Entrepreneur's Memoranda query information, Country profile and International Cooperation etc.

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## **Agricultural Marketing Information Network (AGMARKNET)**

NIC has taken up an ambitious project "Agricultural Marketing Information Network (AGMARKNET)" on turnkey basis for the Directorate of Marketing & Inspection(DMI), Department of Agriculture & Cooperation, Ministry of Agriculture. The project aims at improving the prevailing agricultural marketing information system by minimising the gap between generation and dissemination of market information. The major components of AGMARKNET are establishment of Computing Facilities and Networking, Development of Human Resource, Information Transmission, Development of Database and Portal on Market Information. NIC has tied up with Bharat Sanchar Nigam Ltd. (BSNL) to provide internet facilities at the AGMARKNET nodes.





National Workshop on Agmarknet in progress

A one day National Workshop to deliberate on making the project operational , was jointly organised by DMI and NIC on Feb 9, 2001 at NIC headquarters.

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### **Integrated Fertilizer Management Information System (FERMIS)**

The Department of Fertilizers (DOF) in collaboration with National Informatics Centre (NIC) has introduced computer-based methods for decision support with the major objective to evolve an evaluation system which ensures a uniform system of Planning and control mechanism with signalling system to highlight deviations from desired performance indicators by Plants/ organisations for all the public sector fertilizer enterprises. Thus, an Integrated Fertilizer Management Information System (IFMIS) of worth Rs. 1.99 crores has been executed through NIC and various IT based systems developed covering Planning, Movement, Import, Handling-Payment, Project Monitoring, Performance Monitoring & Evaluation aspects to strengthen Fertilizer Informatics for decision support. Information exchange for decision support has been promoted through Fertilizer Informatics Network (FERTNET) extended to Department of Fertilizers and various Fertilizer Companies viz. IFFCO, NFL, MFL, GNFC, FCI and HFCL.

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# Around the NIC world

- [NIC's Support during PM's Kerala Visit](#)
  - [Training on Ruralsoft 2000](#)
  - [Tableau on E-Governance](#)
  - [NIC at ELITEX - 2001](#)
  - [Video-Conferencing at Petrotech](#)
  - [Women's Day at NIC](#)
  - [Free Net Browsing at Festival](#)
  - [New Websites on NIC's WEB Servers](#)
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# Products/Services

- [Purbasha Website - Now buy Handicrafts Online](#)
  - [MIS for Revenue Department](#)
  - [On-line Treasuries Information System](#)
  - [Court Cases Monitoring System](#)
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## Purbasha Website - Now buy Handicrafts Online

From our Agartala Correspondent

Rural Bazaar', a prototype for e-commerce in rural areas was conceptualised by the RDIS Division of NIC a few months back (refer Informatics January,2000 issue for details), in order to showcase the products produced by the rural artisans of India. The prototype was demonstrated as an example for State NIC Units to follow and the NIC-Tripura Unit took the lead recently , with the launch of an e-commerce website (<http://purbasha.nic.in>), not only showcasing but also selling online, the beautiful handicrafts made by the local artisans of Tripura.

The Purbasha website has been developed by the NIC Tripura State Unit in collaboration with the Handloom and Handicraft Board, Govt of Tripura for the Directorate of Handloom, Handicrafts and Sericulture. The website aesthetically displays the product range, comprising the colourful and intricately crafted cane and bamboo products as well as the exquisite fabrics made by the silk weavers of the State.

The website provides valuable information on all the products, including a photograph, the product description, the size, the price and the purpose for which it is meant. An in-built calculator even adds up the total price of the various products selected in the shopping cart and displays the amount in Rupees as well as US Dollars.

The launch of Purbasha website is a bold step forward in the right direction towards providing national and international exposure to rural artisans of Tripura and also enhancing their livelihood through additional income.

The website was launched at a special function at Industries and Trade Fair in Agartala recently by Sh.Pabitra Kar, Minister for Industries, Commerce and IT , Government of Tripura.



The Purbasha Website getting launched at Tripura

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## **MIS for Revenue Department**

From our Tiruvanthapuram Correspondent

The Kerala State Unit of NIC has developed several Application software for the computerization of the State Revenue Department. Broadly classified as the Management Information System (MIS) for Revenue Recovery and Land Administration, the highlights of these software are as follows :

### **Revenue Arrears Monitoring System**

This menu driven, user friendly software has been developed using Visual Foxpro in Windows environment and aims mainly at the generation and printing of Government orders for sanctioning the instalment facility for revenue recovery arrears payment to petitioners. The implementation of this software has made the Revenue Department avoid the long delay in the manual scrutiny of petitions.

### **Revenue Recovery System**

The exercise of revenue recovery is undertaken by the Department when public takes loans from the govt and fails to repay the due amount in the stipulated period. The manual process of keeping track of the revenue recovery cases is quite long and cumbersome. Hence, the Revenue Recovery System, developed by NIC has turned out to be very helpful.

The software feeds complete details of the revenue recovery cases into the computers installed in the District Collectorate. It also has the facility to generate Revenue Recovery Notice and print the same on departments' stationary. This system has been implemented in all districts of Kerala.

### Land Records Computerization

Land Records Computerization is a centrally sponsored project that has been implemented in all Talukas of Kerala.

The software for this is a menu driven package which allows for easy creation, updation and retrieval of land records in suitable formats. A highlight is the facility to print Record-of-Rights documents on pre-printed stationary to issue them to the needy land owners without any delay.

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### On-line Treasuries Information System

From our Haryana Correspondent

The Haryana State Unit of NIC has taken a big leap towards e-governance by developing an Online Treasuries Information System (OTIS). OTIS is a workflow application between Banks and Treasuries/Sub-Treasuries, between Sub-Treasuries & District Treasuries, between District Treasuries and Directorates of Treasuries & Accounts. The software ensures the smooth data flow between District treasuries & Accountant General's Office, between Directorate of Treasuries & Accounts and Finance Department for budget purposes. OTIS, developed as a product, includes following modules and tasks :

🔑 **Receipt** : Challan Entry, Verification, Realization, Data Transmission, Verification and Voucher Preparation

🔑 **Payment** : Token Entry, Bill Passing, Cheque Generation, Data Transmission, Payment and Voucher Preparation

OTIS has been developed on Windows 2000 Server, SQL Server 2000 on Server side and Windows 2000 Professional & VB on the client end. Highlighting features of the software include dynamic menus (depending upon the roll of the user), effective security measures , multi-purpose functionality, well-integrated work flow application and online help.

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## Court Cases Monitoring System

From our Port Blair Correspondent

NIC, A&N UT Unit has designed and developed “Court Cases Monitoring System” to monitor the cases pending in different courts of various departments of A&N Administration. The software has been successfully implemented in the Directorate of Education, Labour Department, District Commissioners Office, Directorate of Panchayat, Personnel Section of Secretariat and Law Department. For a small population of about 4 lakhs in A&N Islands, there is a CAT, High Court Bench and a District Court. Consequently, for every small petition, a court case is filed and thus all departments have a number of cases to be fought.

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# Projects

- [PAO - 2000 \(Pay and Accounting Software\)](#)
  - [GIS Based Watershed Management](#)
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## PAO - 2000 (Pay and Accounting Software)

From our Local Correspondent

NIC has been providing software support for the computerization of various levels of accounting units of the Central Government Accounting sector, namely Pay and Accounts Offices (PAOs), Chief Controller of Accounts (CCAs) and Office of Controller General of Accounts (CGA) for the last 20 years. As the role of Information Technology has evolved from the level of support role to strategic role, NIC has been working with Office of CGA to implement high quality information system solutions that support payment and accounting functions and the business decisions of the PAOs. The result is PAO-2000 a software whose comprehensive design has been worked out keeping in mind, all the important functions of the PAOs . The Software covers the five important functions namely,

### **Pre Check, Budget, Masters, GPF, Pension and Compilation**

The Software which has been developed in Visual Basic 6.0 as front end tool and MS-SQL Server 7.0 as back end RDBMS, provides interfaces with Payroll and Contact (ORA) packages.

### **Product Features**

#### ● **Functional Coverage**

1.The PAO-2000 software is at the lowest level of Accounting and it provides information to higher levels of accounting systems for future processing.



2. The Software covers all the major Accounting functions i.e. Pre check, Compilation, GPF and Budget.

3.The Software is a preparatory stride for ECS and EFT in Accounts Sector at the fundamental accounting level.

### **🌐 Information Integration**

1.It captures the accounts data from the original source i.e. the bill to improve the quality of data used for compilation and consolidation of accounts.

2. Interface of the GPF Accounts with Pre-check and Compilation.

### **🌐 Operational Efficiency**

1. The operational efficiency of the accounting processes will be improved due to proper validations, speed, user friendly front-end, security features.

2. Provision for incorporation of bills,vouchers, challans, scrolls and schedules.

3. Access to the software for authorized users.

4. Predefined access rights to the users of the forms and reports of the application.

5.Client/Server application with Multi-user facility.

6.Backup option through software.

### **Other Features**

1. Generation of Monthly Consolidated Accounts data in the electronic format for incorporation at the Principal Accounts Offices in the CONTACT Software database.

2.Generation of various managerial reports for expenditure analysis like Expenditure Control Register, Receipt vs Expenditure comparison, Date Wise Monthly Statement(DMS).

3. Generation of cheques for payment on pre-printed stationery issued from RBI.

For further information , write to\_  
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From our Madhya Pradesh Correspondent

Ministry of rural development, GOI has identified Malshirus watershed (5225 ha) in Purandar Taluka, Pune as a pilot project in the state of Maharashtra for GIS-Based watershed management. NIC MP has been entrusted to develop it. The study has been carried out in two phases.

The first phase consisted of feasibility study for identification of certain area-specific problems and delineation on SOI toposheets as per the guidelines of MORD, as well as preparation of base maps at watershed & cadastral level having all major topological features, soil survey details, present land use etc. In the second phase of the study, GIS techniques were used for creation of spatial database on contours, drainage, ridge boundary, roads, habitations etc. from SOI topographical maps; land capability, soil texture etc. from watershed maps; and soil survey details along with khasra boundaries from cadastral maps besides attribute databases. Since cadastral maps are on different scales, they are geo-referenced. Rules are framed to arrive at certain suitable solutions to each of the area specific problems identified for the watershed.

The pilot study showed the importance of GIS tools in watershed management. It facilitated integrated analysis, area calculations and generation of action plan maps for location-specific problems involving certain soil and water conservation measures. A similar type of study was also successfully carried out earlier for Pillikarar watershed (4027 ha) in Sehore district (Madhya Pradesh). This project was identified and sponsored by Ministry of Agriculture, Government of India. The GIS Div. at NIC M.P. State Unit also completed development of GIS-based Facility Planning System on pilot basis for two blocks namely Sanchi & Bina falling under Raisen and Sagar districts respectively.

For further information , write to [sio@mp.nic.in](mailto:sio@mp.nic.in)

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# In the Limelight

## Gujarat Earthquake Crisis - NIC Lends a Helping Hand

- Video Conferencing Support
- Natural Disaster Management Control Room
- PIB and Web Services Support
- NIC Gujarat Unit

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## Gujarat Earthquake Crisis - NIC Lends a Helping Hand

From our various correspondents

The Republic Day of India on 26th January, 2001 began like any other National holiday, with people gearing up to watch the Republic Day Parade and ceremonies. But very soon, the day turned out to be one of the worst nightmares in the history of the Country as the western State of Gujarat got rocked by the worst ever earthquake, measuring 6.9 on the Richter scale. The loss was unprecedented, as thousands died and lakhs of others were rendered injured and homeless. One of the worst affected areas was the District of Bhuj, where not even a single building stood erect after the massive devastation.

Following the crisis, various Government agencies and organizations sprang into immediate action and contributed towards relief and rehabilitation measures. Not to be left behind, NIC personnel in Gujarat and in the Headquarters at Delhi worked relentlessly to provide the much needed communication support to the relief operations.

Here's a glimpse of NIC's contribution towards dealing with the calamity....

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## Video Conferencing Support

NIC Gujarat State Unit, with the help of the Officials from NIC Headquarters, set up video-conferencing facility from Bhuj and Gandhinagar using portable SCPC VSATs on 29th January, 2001. With the facility in place, it was possible to have a video conference with Bhuj and Gandhinagar from any of the NIC Video-conferencing studios operational in twenty- six cities of India.



NIC's Video-conferencing facility in Bhuj

This communication facility helped the Gujarat State Government and the Government of India tremendously by ensuring better co-ordination of the massive relief work being undertaken in the quake-hit areas. All National and International agencies and organizations associated and engaged in relief operations who needed to have a video-conference with control room at Gandhinagar and Bhuj were openly invited to use the facility.



NIC Bhuj working in a tent despite all odds

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### **Natural Disaster Management Control Room**

The Natural Disaster Management Division, Ministry of Agriculture, Government of India is the nodal agency for monitoring the relief and rescue activities at the National level in the wake of a natural disaster. The NHMIS division of NIC provides valuable informatics support to this Division. In the past, NIC has rendered its services to the NDM division for the cause of Super Cyclone in Orissa and also for the major drought in May, 2000.

On receiving the news about the Gujarat earthquake, the NHMIS Division of NIC wasted no time and immediately reported to NDM Division for duty, without even a formal request. With the help of the NDM Control room officials, a special section on the website (<http://ndmindia.nic.in>) was promptly developed on 27th January, 2001 which carried detailed information about the extent of damage and the relief operations in place. The site also carried important advice from the Indian Metreological Department (along with important maps and pictures) about the future warnings related to after-shocks of the killer quake, as well as the contact details for various agencies engaged in relief measures.

From 27th of January till 1st March, 2001, the NHMIS Division of NIC provided round-the-clock services to the NDM Control Rooms.

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## PIB and Web Services Support

Immediately following the earthquake , a special emergency feature was included in the Press Information Bureau's (PIB) website, to cover the same. As PIB happens to be the official nodal agency to disseminate govt information to the print and electronic media, people relied heavily on the PIB website (<http://pib.nic.in>) to get latest and up-to-date information about the earthquake crisis. The NIC PIB team worked hard to ensure that the website was updated with the news items and press releases as well as other important information. NIC also hosted the official website of the Govt of India on the Gujarat Earhquake crisis on its webserver (<http://gujarat-earthquake.nic.in>). The website had detailed information about all aspects of the crisis related to relief and rescue and it was duly publicised on the NIC's Home Page for more and more people to know about it. The site was prepared and launched by NIC-PIB Unit at the instance of the Prime Minister's Office.

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## NIC Gujarat Unit

Finally, the NIC Gujarat State Unit as well as NIC Bhuj District Unit, who were at the helm of the affairs worked overtime to ensure their maximum contribution to the rescue and relief operations. Since most of the buildings in the Bhuj town had collapsed, the NIC Centre set up its equipment in the open space for a few days before they were given a tent to move in. Apart from organizing important video-conferencing sessions, the NIC Bhuj Unit developed important software packages on Death and Injury compensation which proved very useful to the District Authorities.

***NIC proved once again that at the time of any such national crisis, it is always one step ahead of others in providing its contribution and support to the Nation.***

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