A WEB ENABLED NETWORKING OF NATIONAL SEED PROJECT (CROPS)

SHASHI DAHIYA, R.K. CHOWDHURY AND D.S. MATHUR*

Indian Agricultural Statistics Research Institute, New Delhi - 110 012
*National Seed Project, I.A.R.I., New Delhi - 110 012

Information has long been recognized as an essential tool to the success of any programme. It is of common knowledge that information is power, and whosoever has the right to information is able to take informed decisions. The widespread of internet technologies has brought in very important developments in all important sectors of life. It is playing a pivotal role world wide in transfer of information in the sphere of agricultural technology for overall development of this sector and for the people directly or indirectly involved in this sector. Since the National Seed Project is involved in research, seed production and extension of seed technology to remote areas, it needs a system which can be accessed by its contributing centers for exchange of data and results. Simultaneously the system should provide technological know how to the end users i.e., farmers, public and private seed industries interested in Seed Technological Research and Breeder Seed Production. The networking of the project can fulfill the above requirements and can be upgraded as per the need. With these objectives of information transfer to researchers, extension personnel, farmers and seed industry persons without any need of physical contact, a web based information system for National Seed Project (NSP) has been designed and developed.

NSPNET is a web-based application based on three-tier client-server architecture and can be accessed from any computer connected to the internet and having internet explorer as the browser. It functions at three layers-Client Side Interface Layer (CSIL), Server Side Application Layer (SSAL) and Database Layer (DBL) (Fig. 1).

The Client Side Interface Layer has been implemented using HTML and Vb Script. Server Side Application Layer has been implemented using Active Server Pages (ASP). When the page is requested, the static mark up code and the dynamic content produced by the ASP elements in Server Side Application Layer are combined to form the complete response to the request. Database layer has been implemented using Microsoft Access 2000.

To maintain the system security, three user levels viz., the Super User, the Database Administrator (DBA) and the End User have been created. The end user can see the reports but can’t enter/modify the data. The administrator has all the rights to update the present contents of the database or delete irrelevant information from the database. The super user is a person authenticated from each center to enter and update the information for his center after filling in the login form present at the home page.

NSPNET has been designed and developed during March 2002-March 2004. The user interface of NSPNET is menu driven and user friendly. It has home page with menus for accomplishing the tasks of static information retrieval, online data entry/ updation, reports generation and getting

---

**Fig. 1. Three-tier architecture of NSPNET**
help. The data entry and updation on various aspects can be done by the authenticated users in the online forms. NSPNET provides the static and the dynamic information about the working of NSP. The static information is available in the form of HTML pages under the menus- About NSP and Help.

The dynamic information is provided in the form of well structured tabular reports generated from the date available in the database the Reports menu. The reports have been categorized as per the function of BSP, STR, General and Seed Availability.

- **BSP reports** provides center wise and crop wise breeder seed production made by various BSP centers against the GOI and State indents.
- **STR reports** provide the detailed information on experiments conducted during a year by STR centers.
- **General reports** provides the information on other different aspects of NSP, like details of publications, staff profile etc.
- **Seed Availability report** provides the facility of generating a report which find out the stock availability of a particular variety of crop seed at NSP centers and displays a consolidated report enlisting the centers in which a specific seed variety is available showing the quantity available in the stock.

NSPNET provides all relevant information about the organization and working of NSP to its worldwide users. Creation of centralized database, facilitates an efficient data storage than was previously possible. Also with the web based property, the information dissemination has become easier and broader. The users have advantage to interact with the system from anywhere in the world with a computer having a web connection.