AGMARKNET: An E-Governance Portal Connecting the Farmers to Their Markets

“It is advantageous to have a network down to the mandi level to begin with. This can be progressively extended to villages and household level in due course of time.”

Sharad Joshi, Former Chairman, High Level Task Force on Agriculture (2000), Government of India

The Directorate of Marketing and Inspection (DMI), part of the Ministry of Agriculture and the Government of India, sanctioned the Agricultural Marketing Information Network (AGMARKNET) project to be implemented by National Informatics Centre (NIC). Launched in March 2000, it aims to link all important agricultural produce markets spread across the subcontinent with the State Agricultural Marketing Boards and Directorates for effective information exchange.

A step towards globalisation of Indian agriculture, the NIC-based, e-governance portal AGMARKNET facilitates generation and transmission of prices, commodity arrival information from agricultural produce markets, and Web-based dissemination to producers, consumers, traders, and policy makers transparently and quickly.

AGMARKNET aims at improving the decision-making capability of the farmers and strengthening their bargaining power.
The Project aims at empowering the farming community with market information. For maximizing the benefits it needs to be integrated with other ICT initiatives targeting the upliftment of rural India. The project is part of National e-Government action plan of Government of India.”

P. K. Suri, National Project Manager, AGMARKNET

Situation

India has an expanding population of one billion to feed and over 70 percent of its national workforce is directly or indirectly dependent on agriculture. The agricultural sector has been successful over the past four decades, in keeping pace with the rising demand for food. Agricultural marketing is an area for the “second generation” of green revolution problems. Indian marketing is undergoing a significant metamorphosis because of economic liberalization and globalization.

Infrastructure development is the critical factor for determining the success of a market-oriented strategy and macro-economic policies in developing countries.

Market information is an important aspect of agricultural marketing. The importance of sound agricultural marketing policies for ensuring fair returns to the farmers cannot be overemphasized. Therefore, it has become necessary on the part of the regulatory agencies to ensure remunerative prices to farmers for the sale of their produce, to boost up their efforts for increasing and sustaining the agricultural production.

Almost all states and union territories are providing market information in one form or the other for the benefits of market users like producers, traders, and consumers. However, the information is collected and disseminated by use of conventional methods causing inordinate delay in communicating to different groups and this, in turn, adversely affects their economic interest.

Therefore, the existence and dissemination of complete and accurate marketing information is the key to achieve both operational and pricing efficiency in the marketing system.

Investment in networking about 7,000 wholesale agricultural markets in the country will facilitate globalization of Indian agriculture.

To fully utilize the new emerging trade opportunities for the benefit of farming community, the Department of Agriculture and Cooperation, in the Ministry of Agriculture sanctioned an Information, Communication and Technology (ICT) based central sector scheme, Agricultural Marketing Information Network (AGMARKNET), Commenting on the need for an online market place, Sharad Joshi, Former Chairman, High Level Task Force on Agriculture (2000), Government of India said, “It is advantageous to have a network down to the mandi level to begin with. This can be progressively extended to villages and household level in due course of time.”

The project is being executed with the technical support of National Informatics Centre (NIC). The scheme has made rapid
“The AGMARKNET venture is a heartening initiative from the much criticized slow-to-react government, especially on the issue of easing the infrastructural constraints on agriculture.”

Ashish Kotammkar

“Website to help farmers bargain better”, Times of India, 2002

10 strides. To begin with, 810 nodes (735 agricultural markets and 75 state marketing boards/directorate of marketing and inspection [DMI] offices) were linked through NIC’s attached office to DMI during 2000–2002. During the tenth five-year plan (2002–2007), 2,000 additional markets are being networked. As a part of the expansion plan, 537 more markets were networked during 2003–2004.

To strengthen interface with farmers and other beneficiaries, AGMARKNET portal has been evolved. Over 600 markets regularly report price-related data being disseminated through the portal. The portal also serves as a single window for accessing Web sites of various organizations. It also provides weekly trend analysis, linkage to online commodity exchange of India, Food and Agriculture Organization (FAO), Indian Farmers Fertilizer Cooperative Limited (IFFCO) Web site, and so forth.

The development of the AGMARKNET portal and the state-level portal, and undertaking market-led extension activities are important components of this scheme.

AGMARKNET ensures dissemination of data through the network to any distance for the benefit of citizens, farmers, traders, and consumers.

The improved communication system will enable producers to learn about probable markets in which their produce can be disposed more profitably. Also the modernization of the market information system will lead to efficiency in markets and increased participation of the farmers.

Various DMI offices spread across the country prepare the state-level trend analysis monthly bulletins using the central database. The price trend reports are published on the AGMARKNET portal. “AGMARKNET is a classic example of a collaborative framework between Government organizations viz. DMI, NIC and State Marketing Boards / Directorates which has leveraged the potential of ICT for evolving a National Database on market-wise daily commodity arrivals and prices,” says P. K. Suri, National Project Director, AGMARKNET.

Knowledge Portal

The AGMARKNET portal is constantly enriched with agricultural marketing-related information. Efforts are on to reach out to the farmers in their regional languages. As of now, the portal is disseminating information in two regional languages: Hindi and Punjabi.

The portal also caters to the diversified needs of these stakeholders by providing the following agricultural marketing-related information as a single window Web service over the Internet:

Price and Arrivals

The portal provides access to commodity-wise, variety-wise daily prices and arrivals
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M Moni, Deputy Director General, National Informatics Centre

information of various wholesale markets. Future prices from national multicommodity exchanges are reflected online. Also linkages are established with Web sites of the FAO and Asia & Pacific Coconut Community (APCC) to access international commodity price trends.

Commodities and Varieties
A commodity base, comprising of more than 300 commodities and about 2,000 varieties has been evolved. The commodities are being categorized into various groups: cereals, pulses, oil seeds, fruits, vegetables, spices, fiber crops, beverages, forest products, drugs and narcotics, dry fruits, flowers, forest products, livestock/poultry, and so forth to facilitate easy retrieval of market information.

Grading and Standardization
To promote the importance of quality among the farming community, the portal emphasizes on standardization and grading aspects of the agricultural products. The information is provided in the form of documents/specifications prescribed by the act/rules of DMI and other agencies. It also links to the Codex International food standards, guidelines, and related texts such as the codes of practice under the joint FAO/World Health Organization (WHO) Food Standards Programme.

Market Atlas
The market profiles and various Geographical Information System (GIS)-based thematic maps are under development.

E-Directory of Markets
With the networking of agricultural markets, timely and effective exchange of information electronically is now possible. E-mail addresses of the agencies involved are progressively published for public access so as to facilitate direct interaction.

Weather Information
All India weather conditions, weather forecast, climate, rainfall, temperature, and soil moisture are made available through the Indian Meteorological Department Web site.

Solution
NIC needed to build a database that would collect data from the various field offices in a quick and timely way. It decided to use Microsoft® SQL Server™ 2000, part of Microsoft Windows Server System™ integrated server software, as the storage database, utilizing its superior querying and Web-integration capabilities.

The data is collected from field application that is built on Lotus SmartSuite.

The data collected is aggregated in the central server. The data is imported into the SQL Server database using a Microsoft Visual Basic development system.

As of now, price and arrival information is disseminated on the Web pages in Hindi, Punjabi, and English. The portal is undergoing enrichment through local language interface in 18 major languages (e.g., Tamil, Telugu, Marathi, Oriya, Gujarati).

From now on, the data from the applications is expected to be integrated using Microsoft BizTalk Server 2004, part of the Microsoft Windows Server System integrated server software.

“The AGMARKNET venture is a heartening initiative from the much criticized slow-to-react government, especially on the issue of easing the infrastructural constraints on agriculture,” describes Ashish Kotammkar “Website to help farmers bargain better”, Times of India, 2002

Benefits
The AGMARKNET project has strengthened the interfaces among government organizations, farmers, industry, policy makers, and other beneficiaries. “The project aims at empowering the farming community with market information. For maximizing the benefits it needs to be integrated with other ICT initiatives targeting the upliftment of rural India. The project is part of National e-Government action plan of Government of India,” explains P. K. Suri, National Project Director, AGMARKNET.

**Efficient and timely utilization of market data**
Agmarknet has helped establish a nationwide information network for speedy collection and dissemination of market data for efficient and timely utilization. Commenting on Agmarknet, M. Moni, Deputy Director General, National Informatics Centre says, “AGMARKNET Programme plays a catalytic role for ushering in “market-led agricultural extension” in India, highly scalable, planned through bottom-up process, and implemented through active involvement and collaboration of agricultural market committees in India.”

**Farmer empowerment**
“The AGMARKNET has already emerged as the sun-shine website to bargain better prices for their produce, and marching ahead towards becoming an e-Commerce and e-Business Portal in India,” says Mr. M. Moni, Deputy Director General, National Informatics Centre.

**Price transparency**
The speedier collection and dissemination of information on commodities enables farmers to realize better prices. This also leads to a transparency in the pricing process across the country.

**Improvement in agricultural marketing**
Progressive sensitization and orientation of farmers helps them respond to new challenges in agricultural marketing by using Information, Communication and Technology (ICT) as a vehicle of extension. “This “digital development in rural areas” of India facilitates rural prosperity, rural empowerment, and a warehousing of “data for development” – a step towards digital inclusion to foster rural enterprise in India,” adds M. Moni, Deputy Director General, National Informatics Centre.
Microsoft Windows Server System

Microsoft Windows Server System integrated server infrastructure software is designed to support end-to-end solutions built on Windows Server 2003. It creates an infrastructure based on integrated innovation, Microsoft's holistic approach to building products and solutions that are intrinsically designed to work together and interact seamlessly with other data and applications across your IT environment. This helps you reduce the costs of ongoing operations, deliver a more secure and reliable IT infrastructure, and drive valuable new capabilities for the future growth of your business.

For more information about Windows Server System, go to:
www.microsoft.com/windowsserversystem

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