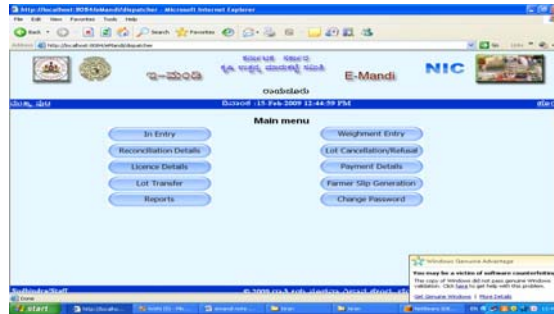


**National Informatics Centre  
Karnataka State Unit,  
Bangalore**

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**e-mandi System  
Online System for  
Agricultural Marketing  
Activities  
(Ver 1.0 Dated: 02.06.2009)**



The Department of Agricultural Marketing (DAM) had requested the NIC for the design and development of software for activities of Agricultural Produce Marketing Committee (APMC). After studying the requirements and activities in the APMC, National Informatics Centre (NIC), Karnataka had developed the e-tendering application in 2006 to automate the process of tendering of farmers' agricultural produces in the APMC. Subsequently, this system is improved and called as e-mandi system, which captures all the activities of the APMC, from in-gate entry to out-gate entry including tendering, billing, DCB preparation.

e-mandi is a web-based application with 3-tier architecture. The e-mandi system is a comprehensive system, meeting all the requirements of the APMCs. It has been built with number of features for easier use by the APMC staff, traders and Commission Agents. E-mandi has been designed by incorporating the rules and regulations defined in APMC Act.

## 1. Features

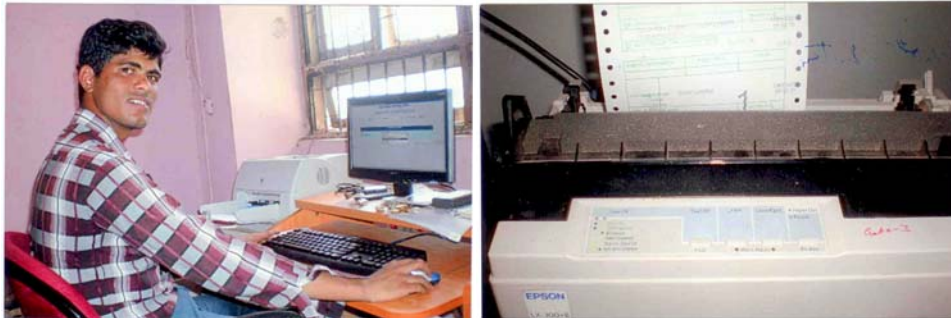
This system has been developed, keeping in mind the understanding and knowledge of the stakeholders (Traders, Commission Agents and Officials) in performing the operations on the computer system. To ease the use of this system by stakeholders, the following features have been incorporated.

- Local Language Support – The e-mandi supports both the Kannada and English Languages. Even the user can view and do the data entry in Kannada language. User can choose the language while logging into the system. It uses the Unicode for capturing and storing the data.
- Online and User Friendly system – It is online system where-in the APMC activities are recorded as and when it takes place. The user with minimum knowledge of computer can use this system and do his/her operations.

- Incorporated with Business Rules – This system has been designed and developed with number of business rules defined in the APMC Act and Rules. It will check the business logic when entering the data.
- Workflow Based System – Wherever the process is critical, workflow system has been incorporated so that the required accountability is built in this system. The agricultural commodities, which have come for sale, will undergo the defined workflow.
- Transparent – This system is transparent so that the results of the tendering, billing, DCB can be viewed by anybody on click of button. This will help them to verify the process and claims, etc.
- Role based Access – As different level of users will be operating this system, the system provides the different options as per their roles.

## 2. Functionalities / Modules

This system has got the following functionalities to carry out the APMC activities:

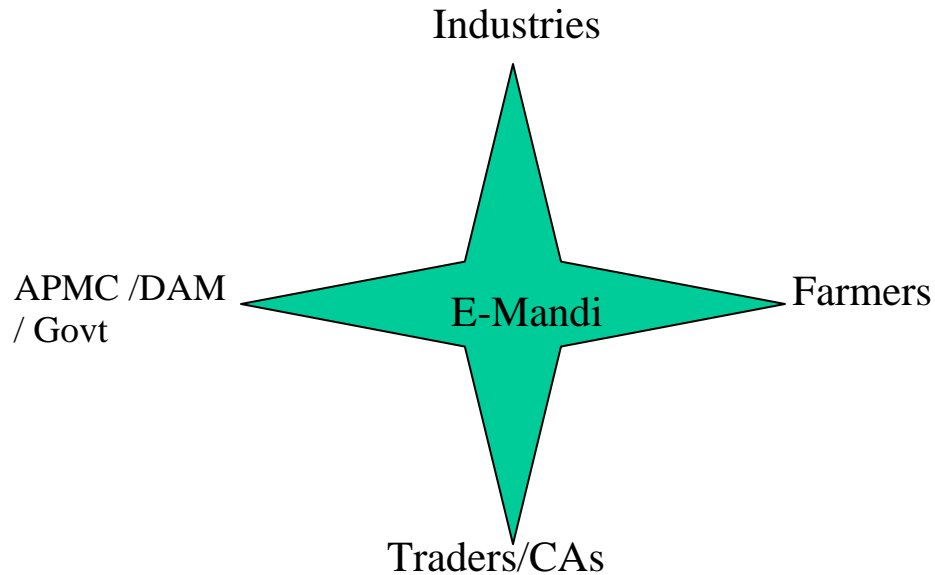


- In-Gate Entry –The agricultural commodities entering the market are recorded into the system using this option and system generates the unique LOT Number for each entry. This LOT Number is used for displaying in the market for quoting by the traders.
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- Quoting – The traders, after verifying the quality of the commodity, will quote their prices for each of the LOT on the system using this option.
- Tender Declaration – Using this option, the officer will click the button to process all the quotes and declare the tender awardees.
- Weight and Bill entry – Once the tender is declared, the weight of the commodity is measured for each of the LOT and sale bill is prepared by the CA to the traders. These details will be entered into the system to raise the demand for market fee against the sale.
- Receipt – This option is used to enter the cheque/cash/DD received from the traders/CAs into the system and generate the receipt.
- Reconciliation – Once the bank gives the realization statement of the instruments, the details can be recorded into the system. Now, system posts these receipts into the trader/CA ledger.
- DCB Statement – The DCB statement for each of the traders and CAs can be generated.
- Permit – The traders can enter the permit details and generate the permit from this system whenever they are moving the purchased commodities from the market.
- Out-Gate Entry – Using this option, the outgoing commodity details can be entered into the system.
- User Administration – This module helps the authorized officer of the APMC to create/freeze the user login accounts for the staff of APMC, traders and CAs.
- MIS Reports - The officers/officials can generate number of reports and registers using this module. This system automatically prepares the Tender declaration slip, DCB statement, bank statement, etc

### 3. Stakeholders



The e-mandi system caters to the need of all the stakeholders of the APMC system. The farmers, who bring the agricultural produces, are particular that they get the best prices for their produces through tendering / auctioning in transparent way. The traders on the other side want to ensure that they get the quality produce for the rate quoted by them. Similarly, the CAs are interested to ensure that the transactions taking place in their shop are smooth and more number of clients are using their service. APMC / Govt. wants to ensure that the tendering / auctioning process take place smoothly and transparently in the market and maximum number of farmers get the benefits of its service. In the process, they generate more revenue and use it for the betterment of their customers. It also helps the industries to decide / guide in opening the new food processing units around the markets. Agricultural based industries will be benefited in selling their products based on the agricultural produces in the area.

### 4. Benefits

Once this system is implemented, it provides the number of benefits to various stake holders of the system. The following are the benefits for various stake holders.

- Reduction in book keeping and reporting system – This system eliminates the need of preparing the number of reports at the APMC for sending it to

the higher offices. The calculation of daily minimum, maximum and modal prices and arrivals of commodities is eliminated. Preparation of DCB statement is automated.

- Monitoring of Traders/CAs Activities – The APMC staff officers can easily monitor the activities of the traders/CAs.
- Transparent – It will be completely transparent system and will not provide any scope of intention/un-intentional manipulation of tendering / auctioning process.
- Improvement in Market fee collection – It helps the APMC level officers in improving the market fee collection by means of accounting all the transactions that are taking place in the market.
- Reduction in manpower requirements – As tendering / auctioning process takes place through the system, there is no need to have the manpower requirements in bringing, opening the tender box, processing of the quotes and declaring the tender results.
- Faster Tender Declaration - Presently, tender declaration is running till night even thousands of lots are there. This system helps to declare the tenders for the lots within few seconds even for thousands of lots in the market.
- Analysis and forecasting of the arrivals and prices – This helps to analyse the incoming and outgoing commodities, prices, arrivals and quality of the commodities and generate the useful reports for decision-making and forecasting.
- APMC progress on the web-site – It will help to post the activities of the each APMC on the web-site directly.

## **5. Users and their Roles**

Different category of users would use this system to carry out their activities. The system is so designed that the user will get the access to the modules as per his / her role in the e-mandi system.

- Traders – Using this system, the traders will quote the price of the commodities displayed in the market. Once the tender is declared, they will generate the tender declaration slip and other reports.
- Commission Agents – The Commission Agents will enter the weight and sale bill details to close the cycle of transactions and generate the various

reports. They can also cancel/refuse the transaction based on the request of the farmers.

- Gate Operators – The gate operators will enter the details of the commodities which are incoming to the market and generate the LOT SLIP. They will also enter the details of outgoing commodities.
- APMC Staff – The staff of the APMC will enter the receipt, reconciliation, licence, gate entry, etc and generate the various reports required.
- Super Administrator – The officer, identified at the APMC as super administrator, will manage the user accounts, declare the tenders, set the cut-off times, etc.

## **8. Implementation Status**

This system is successfully running in APMC, Mysore since 2006. In 2008, APMC, Davangere and APMC Raichur started implementing. The department identified another 20 APMCs for implementation of this system and this system will be operational in these APMCs in next 1-2 months.

## **9. Technology Highlights**

- Web Based Application using Java as front end tool
- SQL Server 2005 as backend RDBMS
- SUN APP server to host the web application
- Windows 2003 Server as OS on server
- Unicode for Local Language support

## **10. Software by National Informatics Centre**

National Informatics Centre (NIC), Department of Information Technology, Ministry of Communication & IT, Government of India, is a premier organization in the field of Technology and provides state-of-the-art solutions to the information management, dissemination, e-Governance and decision support requirements of the Government and corporate sector. NICNET, with its Nationwide Network of state-of-the-art technology computers, communication equipment and expert IT specialists, is well rooted and functioning at all Districts,

State/ Union Territory Capitals and Central Government, helping information exchange of vital nature. With its Master Earth Station of New Delhi, micro earth station nodes have been established in all the State Capitals, District Head Quarters and select commercial centers.

NIC-Karnataka has developed and assisted the various government department in Karnataka in implementation various e-governance projects. Some of the important ones are Bhoomi for land records system, RDS for revenue related services, maratha vahini and e-mandi for Agricultural marketing, VATsoft for Commercial Taxes, CIPA for police dept, Panchatantra for Grama Pachayathas, CET for Prof college admission, File monitoring system for secretariat, etc

e-mandi system has been designed and developed by the National Informatics Centre (NIC), Bangalore. NIC has done the development of this system in shortest time and delivered the product within the schedule.

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