

APMC and E-trading for Financial Inclusiveness in Karnataka

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ABSTRACT

Information Technology (IT) in the form of introduction of e-tender, e-mandi, e-trading system in the selected regulated agricultural markets of Karnataka has been found to improve the marketing efficiency through competitive and transparent bidding mechanism, and by minimization of manipulations in trading practices. This will help farmer to sell their produce through APMC. There is vast scope to improve market fee collections if gate entry is systematically monitored. Traders, by and large, have accepted the system, but face problems with webpage design and server and with speed. Provision of infrastructure in terms of access to more computers, kiosks and LAN facility would enhance trader's acceptance level. Creating awareness about the system among farmers has been found necessary, as majority of them are not much aware about the new system. The outsourcing of the process to private players is a right step as the capacity levels of available human resources with the regulated markets are not adequate. As such capacity building is necessary in the long-run. The efficiency of the system can be enhanced if end-to-end IT applications are introduced. Paper basically discusses e-trading process and try to understand and learn system adopted by APMC of Karnataka. Paper ends with need to implementation of this system all over India.

Key words: IT, agricultural marketing, manipulations, the stakeholders.

Introduction

Agriculture is an important sector of Indian economy as it contributes about 17 percent to the total GDP and provides employment to over 60 percent of the population. Indian agriculture has registered impressive growth over last few decades. The food grain production has increased from 51 million tons (MT) in 1950-51 to 234 MT from an area of 122 million hectares in 2008-09. The production of oilseeds (nine-major oilseed) has also increased from 5 MT to 28 MT during the same period. The rapid growth has helped Indian agriculture mark its presence at global level. India stands among top three in terms of production of various agricultural commodities like paddy, wheat, pulses, groundnut, rapeseeds, fruits, vegetables, sugarcane, tea, jute, cotton, tobacco leaves, etc (GOI, 2008-09). In spite of this formidable growth in Indian agriculture, it is suffering from inherent problems on marketing front. The

issue may only be addressed by integrating the production of agricultural commodities with their effective and efficient marketing that ensures remunerative prices to the producers and consistent supply of food to the consumers at affordable prices. The marketing of agricultural commodities have become even more important for the overall development of agriculture and rural economy for various other factors like liberalization of trade, globalization of markets, economic development leading to increase in income and purchasing power and awareness and demand for safe and quality food.

The agricultural marketing system of the country is characterized by various shortcomings like heavy sale of agricultural commodities at village level immediately after the harvest, absence of on-farm grading of produce, poor packaging, insufficient marketing infrastructure, long marketing channels, existence of various malpractices in the marketing of agri-produce, non-transparent price discovery mechanism, lack of market information system, low marketable surplus, etc. The government has recognized the importance of efficient marketing of agricultural produce for overall development of the sector and has taken a number of initiatives from time to time to overcome these problems and to strengthen and upgrade the agricultural marketing system in the country. One such intervention has been the imposition of public control over entire marketing system through establishment of regulated markets which began during 1950s and 1960s. Based on a Model Act circulated by the central government, almost all major states (27) enacted APMR legislation. This legislation covers 7161 markets, which includes more than 98 percent of the identified wholesale markets in the country (Acharya, 2006). The regulation was introduced to overcome the problems faced in traditional marketing system by ensuring mechanism for proper sale of produce, weighing, grading and standardization, market information, market charges in proportion to the services provided, prompt payment without any un-authorized deduction like *Karda*, *Dhalta*, *Muddat* and *Darmada*. The country at present is having a network of more than 7000 regulated markets.

The market regulation brought its impact in terms of providing higher prices, better returns, reduction of market charges and providing amenities at the time of sale of the product to the farmer in the vicinity of more than 7000 regulated markets established in the country (Acharya and Agarwal, 2011). However, a study of the agricultural marketing system during the last fifty years (Acharya, 2004) identifies several problems associated with regulated markets like prohibiting direct sale outside the market yard, lesser number of markets leading to considerable higher area to be served by each market, long distance to be covered by farmers to take their produce to the market, poor availability of infrastructure in the markets,

no regular election of the members of the agricultural produce market committees and inefficient disposal of farmers produce. The deployment of resources more on collection of market fees and construction work rather than market development and a considerable part of the amount collected as fee for providing various services is not plowed back. The cartelization by market functionaries like traders, commission agents and labor and complete control of government on establishment, development and supply of market services, have made these markets some sort of government-sponsored monopolies. In addition, several malpractices envisaged to be removed by regulation are still prevailing like late payment, deduction for spot payment, and non-issue of sale slips, etc. Thus, relevance of regulated markets, once conceived as panacea of all ill for the farmers in the marketing of their produce, have declined due to existence of various malpractices. Certain traits associated with the regulated markets like public control on establishment and development of markets, their monopoly in supply of services and facilities, presence of unfair trade practices and absence of liberalization of licenses to traders and market functionaries due to presence of strong market functionaries association; many times does not allow markets to perform their basic functions.

In order to escalate agricultural marketing system in the country to the next level of development by bringing transparency in price discovery and an element of competition in the system, it was felt necessary to introduce reforms in agricultural marketing in the country on the recommendation of the Expert Committee (2001) and Inter- ministerial Task Force (2002) set up by the Ministry of Agriculture. In order to bring about the requisite reforms in the sector, the Ministry of Agriculture, Government of India prepared and circulated a Model Act called Agricultural Produce Marketing (Regulation & Development) Act, 2003 to all states/ UTs. Reforms envisage amendments in the APMR Act with provisions mainly for direct marketing, contract farming and markets in private and cooperative sectors. Such initiatives provide scope for alternative marketing systems with efficient movement of agricultural commodities bringing more transparency in the price discovery mechanism.

Table 1: Status of Regulated Markets in Karnataka

Year	Main Markets	Sub Markets	Total Markets
2000-01	141	343	484
2001-02	141	342	483
2002-03	144	343	487
2003-04	145	350	495
2004-05	145	347	492
2005-06	145	350	495
2006-07	146	352	498
2007-08	146	352	498
2009-10	146	355	501
2010-11	152	352	504

The recent reforms in agricultural marketing give scope for alternative marketing systems. Hence, the focus of Government is on strengthening and development of agricultural marketing system so as to ensure remunerative prices to the farmers and bring more transparency in the price discovery mechanism. In this direction, efforts have been made by various state governments to bring transparency in trading by introducing information technology into agricultural marketing. One such initiative is being taken up by Government of Karnataka by introducing e-Tendering/ Auction System in different APMCs across the state. This is a pivotal service extended towards farmers and traders. The new system envisages bringing transparency in the tendering process and eliminating various malpractices prevailing in the marketing of agricultural produce. The conventional method of tendering at APMCs was a time-consuming process, and there were chances of hidden losses to farmers who brought their commodities to the market yard.

The e-tender system was first introduced in 2006-07 on pilot basis for paddy in the Mysore regulated market; it was further extended to 11 commodities in 2010. It is now operational in 42 regulated markets in the state. The new system aims at increasing marketing efficiency by enhancing transparency in the bidding process and reducing the time required for finalizing the tender quotes. This apart, the system is expected to increase competitiveness in agricultural marketing, reduce collusion among traders, facilitate quick payment settlement and reduce market fee evasion.

Objective

In the light of the above, it is proposed to study the impact of various aspects related to e-tendering of agricultural commodities mainly with following specific objectives.

1. To study the impact of e-tendering of agricultural commodities on various aspect
2. To study the impact of e-tendering system on the discovery of price.
3. To analyze the impact of e-tendering on various trade aspects like prices, arrivals and transaction cost involved in the trading of agricultural commodities;
4. To study the improvement in the functioning of APMC with the introduction of electronic tender system and
5. To suggest appropriate policy suggestions for enhancing the efficiency of the apmc system.

Methodology

The research is based on secondary & primary data it's an exploratory & descriptive in nature. The secondary data is collected from review of past researches and other reports.

The Concept of e-trading

After holding out for over two years the Karnataka Government has decided to amend the Karnataka Agricultural Produce Marketing (Regulation) Act of 1966, as recommended by the UPA government, to enable a more free market for agricultural produce. The amendments to the Act, expected during a legislative session, will put Karnataka alongside Punjab, Maharashtra, Andhra Pradesh, Madhya Pradesh, Rajasthan, Sikkim and Nagaland as states that have liberalized agricultural marketing. The existing agricultural produce marketing laws in the state permit wholesale trade of notified agricultural produce only at government designated market yards, at government-regulated prices. The move to remove restrictions on agricultural marketing had been stalled due to opposition from wholesale dealers who control the 146 government market yards in the state. Groups like the Karnataka Federation Chambers of Commerce and Industry (FKCCI), the Swadeshi Jagran Manch and wholesale dealers associations in the state have put up strident opposition to the changes in agricultural marketing in the past, forcing the shelving of a draft amendment Bill.

Karnataka has been dithering on three key fronts — allowing private wholesale markets, permitting contract farming and direct marketing of agricultural produce. The APMC Act will be amended on the lines of a model legislation — "State Agricultural Produce Marketing (Development and Regulation) Act, 2003 — circulated by the Centre as a guideline to modify existing state agriculture marketing laws and to bring them in tune with post-WTO requirements. The modified agricultural marketing rules are expected to benefit both farmers and consumers. Farmers are expected to gain access to a streamlined supply chain, better

storage facilities, less wastage, a closer link to the market, more choice and better returns. Private retail giants like Germany's Metro Corporation who have set up business-to-business wholesale outlets in Bangalore have been pushing for freeing up of the agricultural marketing laws in order to stock agricultural produce

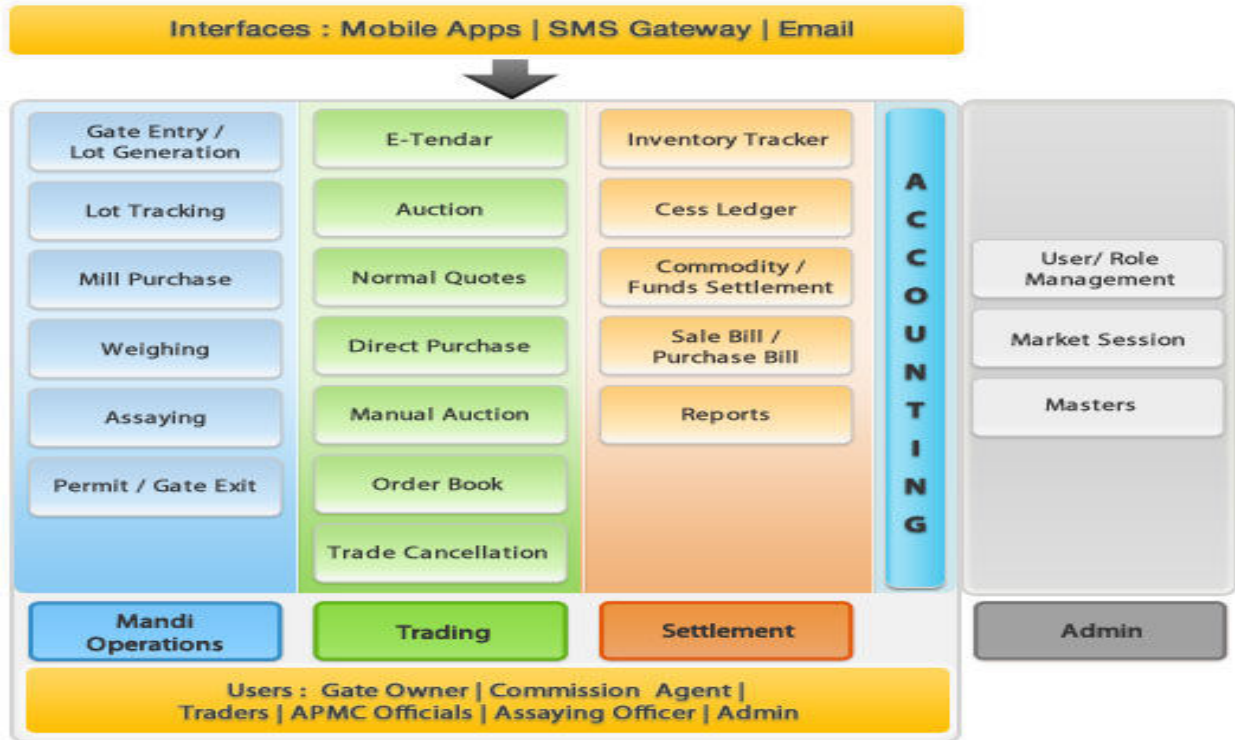


Chart 1: Electronic trading system in Karnataka

Better price realization for the agricultural commodities is an incentive for the farmers to produce more. Various steps are taken up by the Government for ensuring remunerative prices to the farmers. One such measure is encouraging competitive price for the farmers' produce in the regulated markets through Agricultural Produce Market Committees (APMCs). The APMCs are established in Karnataka under the Karnataka Agricultural Produce Marketing (Regulation and Development) Act, 1966. The main objective of the APMCs is to promote better agricultural marketing practices by ensuring accurate weighing of produce, timely payment of sale proceeds to farmers, to provide basic infrastructure facilities for agricultural trade and competitive price for the farmers' produce.

In order to ensure remunerative prices to the farmers through competitive price discovery mechanism, the manual tender system of sale was introduced in the regulated markets. Though, the tender system is a better mean of price discovery but many times during the season, the arrivals may be so huge that it may take too long to complete the entire process of trade. There is also possibility of manipulation and mistakes in entering the prices in tender slip. The system is also not time effective, as the farmers sometimes, especially during

heavy arrival seasons, have to wait the entire day or to stay in the market place for the night because of delay in completion of trade transactions.

Considering these limitations of the manual tender system and taking into view the future scope of an ICT based platform for tendering, the Electronic Tender System of sale was introduced in the state. The electronic Tender System of sale is a unique and innovative project in the country involving adoption of ICT at the primary wholesale markets level aimed at ensuring competitive price for the farmers' produce and encourage the fair marketing practices in the state. After the success of the pilot project in Mysore, the project was taken up in 18 APMCs in the first stage (2008-09) and 24 APMCs in the second stage (2009-10).

The commodities displayed through the assigned commission agent will be inspected by the interested traders or their representatives for physical examination for its various traits like variety, grade, lot size, etc. Since, trade in most of the traditional markets is not taking place on the basis of grades and standards, physical examination of the commodity is vital in taking trades decisions mainly about the price. Through, some markets like Gulbarga in case of Tur have started grading the produce. Such information is provided against the lot number on e-platform to facilitate the traders in taking trade decision. On the basis of physical examination, the interested traders may quote their prices through the computer system available with them in the shops or through the kiosks/ computers available in the market yard. Since, the facility is internet based, the quotation by the registered traders may be made from anywhere by accessing their account using internet within the time prescribed for e-quotation by the APMC for that particular commodity. In this way the rates quoted by different traders for different commodities will be collected. Considering the importance of time in the e-trending procedure particularly in the peak period when the arrivals are huge, the software has provided traders with the facility of saving their quotes in the software before final submission. The quotes at the saving stage may be increased or decreased but once the quotes are finally submitted they can only be increased and if successful, the traders will have to honour his quotes though such binding is not there with the farmers.

At the prescribed time the software will display the successful quotations i.e. highest prices quoted for different lots of commodities will appear on the monitor. The print out of this information is taken and circulated among all the farmers and traders and also displayed on the notice board. The information can also be accessed from anywhere with the help of internet by the registered user. After knowing the price the farmers will decide whether to sell his commodity or not and if he agrees, the trade procedure will move further. The actual

weight of the commodity will be recorded and entered into the system. On receiving the final weight the primary sale bill will be generated. The farmers can get his sale proceeds immediately and go back to his home. The trader who purchases the commodity takes delivery of the commodity. The APMC realizes the market fee either from the trader or the commission agent, which is always paid by the purchaser of the commodity.

The traders and commission agents in the beginning did not receive the system with enthusiasm and were quite hesitant about the initiative. Later, after several rounds of discussions and meetings and after taking into confidence different stakeholders, the innovative system of sale received acceptance amongst the stakeholders. It was taken up as a pilot project in Mysore APMC under the technical assistance of the National Informatics Centre, Bangalore. Several problems both administrative and technical were encountered with initially which were subsequently resolved and the system was placed in right perspective. Now it has been extended under the RKVY to many more APMCs.

Initially the project was implemented with the help of software developed by KEONICS, now it is being gradually shifted to the software developed by NCDEX. The recently introduced software by NCDEX has provisions for various fields like Goods In, Goods Out, Settlement, Lot Operations, Factory Operations, e-Tendering and Auctions. The items like gate entry, information of farmer, information of commodity, purpose, etc are provided under Goods In, Goods Out deals with gate exit (un-traded), bilateral trade, permits etc. The settlement covers items like generation of primary sale bill, purchase bills, settlement vouchers, etc and finally it is option e-Tendering that takes care of the electronic quotations of the agricultural commodity and price discovery. The software seems to be quite comprehensive and may facilitate in trade of agricultural commodities on the basis of grades and integration of markets at state level.

Method of Operation of the e-Tender System of Sale

The project is implemented with KEONICS, the State Government organization, responsible for developing the necessary software required for the system to operate. Recently the software developed by NCDEX has been introduced in some of the selected markets. NCDEX plan to cover around 50 markets by the end of financial year 2012-13. The e-tendering of agricultural commodities is a multi-stage operation involving different market functionaries. The first stage involves the farmers bringing their commodity for sale to the market yards through different means like trucks, carts, tractors etc. An electronic gate pass is generated at the market entry gate with different relevant details about the farmer and the

commodity. The details include, name and address of the farmer, the name of the commodity

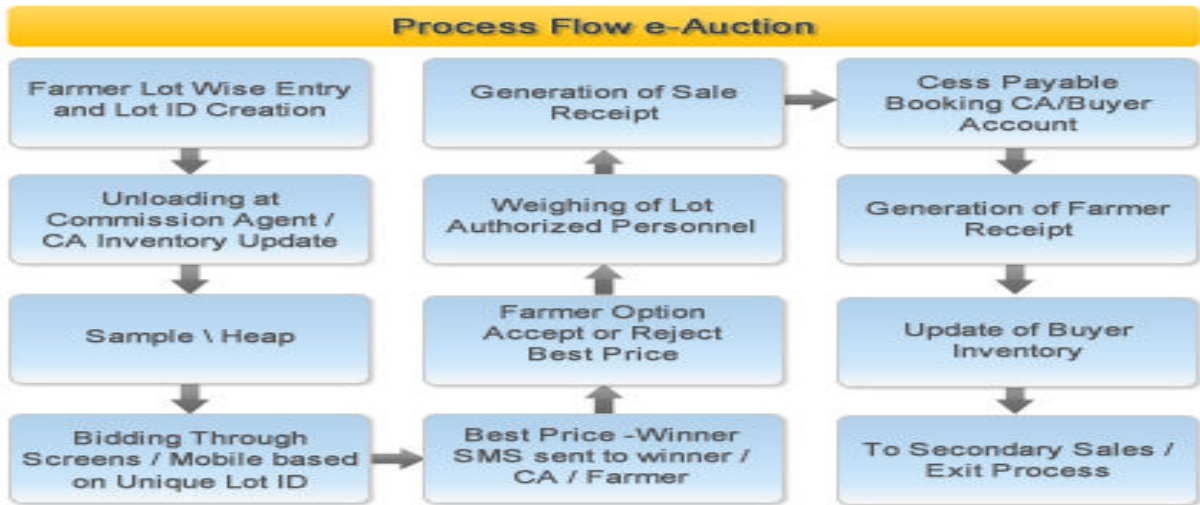


Chart 2: Process Flow e-Auction

NCDEX Spot plans to implement e-tendering system in 8 states

National Commodity and Derivatives Exchange Limited (NCDEX) Spot Exchange has completed implementation of electronic-tendering in 13 agricultural produce marketing committees (APMCs) in Karnataka and is planning to soon extend it to another eight states."At present, we have completed modernization of 13 APMCs in Karnataka by introducing e-auction system that is helping farmers getting optimum price in a transparent way.



Figure 1: Farm trade gets a new direction with e-mandi

Farmers stand to get better prices for their produce, and the consumer will have to pay less for cereals, pulses, fruit and vegetables as the supply chain will become shorter. The process will become transparent, and the scope to manipulate prices will lessen.

Here's agricultural trade in the physical market as we know it: the arhatiyas (commission agents) buy the agricultural commodities from farmers and sell them to wholesalers in the nearby mandi (wholesale market). At the mandi, bulk consumers or semi-wholesalers or retailers buy them from the wholesalers. It's only after going through several hands that the goods finally reach the end buyer. The chain is long. And at each level, handling charges, commissions and profits get added to the cost. In the process, the end buyer pays way more than what the farmer originally sold his produce for.

For some time, the online nationwide spot commodity exchanges have been trying to bridge this gap and bring about greater transparency. Now, with clarity emerging on regulating the spot commodity exchanges, the system is expected to get streamlined further. Online spot exchanges — three at present — will be regulated by the Forward Markets Commission (FMC). This decision will also help address the concerns of these spot commodity exchanges. So far, they were approaching different states for licences to operate as agriculture produce marketing committees (APMCs), or online mandis. FMC's role was confined to allowing them one day carry forward facility.

FMC has proposed the 'Commodity Spot Exchange Regulation Act', which has recently been approved by the Union ministry of and FMC is preparing a cabinet note for the proposed bill which proposes that FMC should be the regulator for all spot exchanges." FMC is understood to have proposed 25-crore net worth to set up such exchanges as "India needs more online spot exchanges and the net worth should not become a barrier," says a source who does not wish to be named.

Online spot commodity exchanges provide a single point facility to all, including farmers and consumers, and display the price at which the goods can be sold and bought with complete transparency. As a result, everyone who is part of this chain stands to gain.

In India, there are 7,548 mandis. The non-agricultural mandis like those that deal in iron and steel, or steel and iron scrap, are located mainly in the cities and at ports. While the total trade for agricultural mandis is estimated at Rs 12 lakh crore per annum, that for non-agricultural mandis is over RS 15 lakh crore per annum. All these mandis fall in the jurisdiction of the respective states. The trade conducted here is not transparent. Tax collection methods are also equally dependent on disclosures and the trade is confined to the geographical location in which they are operating.

Online spot exchanges are now trying to bring a radical change in the way commodities are bought and sold through regular mandis, be it for farmers, wholesalers or bulk consumers.

Anjani Sinha, CEO of National Spot Exchange of India, says, “The organised electronic national spot exchanges can bring about a sea change in the physical market for commodities. The average cost of intermediation in farm commodities is 50 to 60 per cent, which could come down to just 10 per cent. This will help bring better realisations to farmers, control inflation and bring about transparency in spot prices of commodities.” Sinha adds, “This will [also] help increase the collection of mandi cess, VAT and other duties due to a complete audit trail of all transactions.”

The exchange also promotes aggregating where one agency deals with the exchange on behalf of a group of people, say farmers, to sell their produce. In order to create direct market linkage for a large number of farmers, National Spot Exchange has incubated a ‘Farmer Aggregator Model’. One such company was recently launched in the name of Western Ghat Agro Growers Limited, or WGAGL. This company is promoted jointly by farmers of high range Kerala and NSE. “There will be many such tie-ups in the future,” says Sinha.

Another spot exchange, NSPOT, a sister concern of the agriculture commodity-centric National Commodity & Derivatives Exchange Limited (NCDEX), is promoting the concept of modernising mandis. At present, trading in APMCs, or mandis, is not transparent. The chain of middlemen takes away a major chunk of the price benefits leaving little for farmers. Last year, NCDEX Spot tied up with Gulbarga APMC in Karnataka and modernised all operations, including registering farmers, grading and assaying of their produce. Now, all these goods are traded on the exchange’s platform electronically on e-tendering bases. The exchange is replicating this model in the Tumkur, Tiptur, Bellary, Bijapur, Bagalkot, Arsikere, Haveri and Yadgir APMCs — all in Karnataka.

Rajesh Sinha, CEO of NSpot, says, “In the next five years, we plan to cover 150 district mandis where we will be providing the complete architecture and will develop an ecosystem for farmers that will help them sell their produce and even help the mandi administration to collect proper taxes.” The scope is enormous. Of the 7,548 mandis, several may be insignificant and may be catering to local businesses. India has 630 districts. Even if this is done for only the major mandi in each district, then, too, the reach will be sizeable.

Gulbarga APMC is also planning to link all the mandis of India so that anyone from the country can buy the produce offered for sale on the exchange platform. “The mandi modernisation programme has been a success and it has brought in transparency in trades, along with an increase in the collection of cess.” After commodities like tur being graded and

sold, farmers' realisation has also gone up, he adds. The program is now in the final stage where Gulbarg APMC is being linked with 50 other Karnataka state APMCs. The produce offered in Gulbarga on the NSPOT platform can be purchased by any licensed trader in the other mandis of the state.

“The Gulbarg mandi will be linked with other mandis of the country at a later stage and goods offered in our mandi can be purchased by anyone from the country. This will only help farmers get a better price as bidding will be most competitive,” When farmers keep their produce with the warehouse registered with the exchange, they get bank finance easily against the warehouse receipt. Now there is a proposal that the same receipt can be traded on spot exchanges as negotiable instruments. The Warehouse Development and Regulatory Authority (WDRA), set up for warehouses, has proposed the ‘Electronic Warehouse Receipts Regulation’. Once it is notified, WDRA will lay down the process for trading in electronic warehouse receipts. This will further change the way commodities are traded in Ind

Red gram for meal scheme through e-bidding in Karnataka

The State Government, for the first time, has decided to purchase 20,000 tonnes of red gram (tur dal) for the school mid-day meal programme through e-bidding by utilising the National Commodities and Derivatives Exchange Ltd. (NCDEX) Spot Exchange (N-Spot) platform.

Minister for Energy, Food, Civil Supplies and Consumer Affairs Shobha Karandlaje has taken the decision to launch e-bidding initiative to procure red gram for the Akshara Dasoha, the mid-day meal scheme for students studying from standards 1 to 10 in government and aided schools in the State, which is being implemented by the Education Department.

Till last year, the Government was procuring red gram from mills and traders by inviting tenders, and quality was being assessed by “eyesight grading”. Food and civil supply department would save about Rs. 20 crore a year by purchasing red gram through the e-tendering process. As many as 44 red gram mills — 35 from the State, eight from Maharashtra, and one from New Delhi — participated in the bidding in the last few days. The purchase of commodity through e-bidding would not only ensure quality but also transparency in the trade, department would purchase the commodity twice a year due to inadequate storage facility.

The Government has entered into an agreement with NCDEX Spot Exchange for e-tendering. Karnataka spends on an average Rs. 120 crore to Rs. 140 crore to procure 20,000 tonnes of red gram. Officials said e-tendering would ensure that the mill owners and traders don't form a cartel to rig prices. The department purchased 5,500 quintals of red gram through e-bidding in Bellary, Mandya, Chickballapur, Uttara Kannada and Chitradurga districts at prices lesser

than the price paid last year. For instance, the department has saved Rs. 1,137 per quintal of red gram by purchasing it at a price of Rs. 4,398 per quintal against Rs. 5,535 paid last year. The department purchased the commodity through e-bidding in Tumkur, Mysore, Kodagu, Belgaum, Haveri, Gadag, and Raichur districts. The NCDEX has also planned to enter the market to enable farmers to sell red gram directly to wholesale traders. It has also helped in ending the exploitation of farmers by middlemen and agents. Farmers can directly sell their produce to traders all over the country with the help of NCDEX Spot Exchange (N-Spot) without depending on exploitative markets in Gulbarga district in Karnataka or in Solapur district in Maharashtra and Tandur in Andhra Pradesh.

E-bidding at APMC of Karnataka praised

Tamil Nadu Minister for Agriculture S. Damodaran was all praise for the transparent system of electronic bidding for produce introduced at the Agricultural Produce Marketing Committee (APMC) in Gulbarga on a pilot basis, and said his State would consider introducing a similar measure.

The Tamil Nadu team was briefed by officials of NCDEX about electronic tendering of agricultural produce and how it meant a competitive price for farmers.

Officials of NCDEX and APMC told Mr. Damodaran and Mr. Saxena that e-bidding was totally transparent, eliminating the need for middlemen. Farmers had the choice of accepting the price offered during bidding or refusing it on the spot. Only traders who had licences from APMC were allowed to participate in the bidding.

Besides, the officials said, APMC also carried out awareness programmes in villages to educate farmers on the need for maintaining the grading of the grain to get better prices in the market.

Farmers to get relief from middlemen

Farmers in the State will command the prevailing price, if not a higher price, for their produce if the plans of the Marketing Department succeed.

Taking cue from a pilot project under implementation in Gulbarga in Karnataka, the Marketing Department has decided to take up mandi modernisation, and web-basing of the agriculture market committees, in three major commodities markets in the State. Once it takes shape, farmers will get relief from middlemen, a menace that continues in spite of numerous efforts. The project was first proposed by the National Commodities and Derivatives Exchange (NCDEX) to link all the agriculture produce market committees for trading commodities, non-perishables in particular, by enabling farmers to virtually participate in auction of the commodities at the national level. This, in turn, will ensure that

the farmer is not dependent on a particular market or a set of traders to sell his produce at the prices dictated by the latter, but can command the prevailing price which will be displayed at the yard.

The project will ensure that e-tendering and e-auction processes are put in place for the products entering the market yards. "Each lot will be given a unique code so that its movement from entry into the market to its exit including the information about buyer is recorded. According to NCDEX vice-president, south, Ramesh Chand H.C, the pilot project in Karnataka covers 15 major mandis out of the 54. Trading is currently allowed in eight commodities. The first phase of automating the mandis has been completed. In the second phase, standardisation of products will be taken up and the third phase comprises development of technology and infrastructure for making the mandis web-based. "The process is aimed at enhancing competitiveness and this will significantly boost returns for farmers," A new system ought to be put in for perishables like fruits and vegetables as their shelf life will be so short that there is no scope for their transfer from one mandi to another.

Benefit to farmer of Karnataka

The electronic tender system was introduced in the selected APMCs of the state mainly with following aims

1. To ensure competitive price for the farmers' produce.
2. To bring in transparency in the sale transaction.
3. To complete the process of sale in a shorter possible time
4. To reduce the marketing cost and increase efficiency in the operation of sale procedures.
5. To help quick generation of market reports and timely dissemination of market information.

Conclusion

Indian Agriculture is not in good fame as it depends on rain, atmosphere and natural things to be happen as there are many more problem faced by the farmer and to boost them government should accelerate the technological aspects and in it innovation like e-chopal by ITC and now e-mandi and e- trading these are the new concept initiated by respective state government, now to decide about APMC act that had been newly amended by center government in parliament, respective state government should fallow it so as to get good benefit to farmer by removing intermediate from supply chain of food grains and vegetables so as to get good profit to farmer.

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