

COMMONWEALTH Innovations Review

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2018 BIENNIAL CONFERENCE *Special Edition*

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CAPAM

291 Dalhousie Street, Suite 202
Ottawa, Ontario, Canada K1N 7E5

P: +1 819 956 7952 (main)

F: +1 613 701 4236

www.capam.org

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INTERNATIONAL INNOVATIONS AWARDS

Congratulations to the 2018 International Innovations Awards winners announced during the CAPAM 2018 Biennial Conference in Georgetown, Guyana!

GOLD MEDAL WINNER

CATEGORY WINNER: INNOVATION IN PUBLIC SERVICE MANAGEMENT

UNIFIED AGRICULTURE MARKETS: GOVERNMENT OF KARNATAKA, INDIA



The government developed a comprehensive roadmap for market reforms along with interventions in areas of technology up gradation, electronic auction platform, unified trader license to trade in all markets, quality certification, effective information dissemination, transparent post-auction processes, market integration etc., making market operations simple, transparent and efficient. Rashtriya e-Market Services Private Limited (ReMS) is a PPP initiative designed to move the reforms agenda ahead in making the “One State – One Market” concept a reality. It offers a complete technology requirement through its Unified Market Platform (UMP) and management solution for modernizing primary agricultural markets in state. The innovative step of the Karnataka State has been recognised and considered as “the Karnataka Model” from the Government of India and has been adapted centrally to make “One Nation – One Market”.

see abridged submission paper on page 25.

**Innovation
in Public
Service
Management**

This category recognises innovations that are largely internal/inward-facing to government and consist of functional or whole-of-system policies or business processes. It showcases innovative solutions to the everyday, underlying demands of running a public service organisation in any number of fields.

UNIFIED AGRICULTURE MARKETS IN INDIA

INTRODUCTION

Agricultural marketing has made notable progress, however many challenges still remain. The first sale of agricultural product by the producer (farmer) to the trader occurs in the primary markets, which marks the beginning of a long journey for the commodity – from the farm to the plate. Regulated agricultural market yards are characterised by having limited infrastructure, a market loaded against the farmer, monopoly practices, restricted competition amongst buyers, high transaction cost, considerable post-harvest losses and a host of other unhealthy practices. Inefficient markets lead to lower price realisation, which in turn makes farming unattractive. With a population of 35 million directly dependent on agriculture and

an average land holding size of 1.55 ha, India's Karnataka state needed to ensure improved market efficiencies.

In order to make market operations simple, transparent and efficient, the Government developed a comprehensive roadmap for market reforms that included interventions in areas of technology upgrades, an electronic auction platform, a unified trader license to trade in all markets, quality certification, effective information dissemination, transparent post-auction processes, market integration, etc.. Rashtriya e-Market Services Private Limited (ReMS), a PPP initiative of the government, was established to implement the reforms agenda with the goal of making the "One State – One Market" concept a reality. It offers a complete

technological approach for modernising primary agricultural markets in the state through its Unified Market Platform (UMP) and management solution. This innovative step of the Karnataka State has been recognised as the "Karnataka Model" by the Government of India and has been centrally adopted, becoming "One Nation - One Market".

The "Karnataka model" of agricultural reforms, with its advanced electronic platform, provides efficient price discovery mechanisms, bringing transparency to market operations. A unified trader license enables buyers anywhere in the state (or the country) to participate in all markets of the state. The wide reach of the electronic platform facilitates participation of buyers across the country and leads to price quotes that factor broader demand-supply information. Real-time information enables farmers to decide whether to sell and, if so, at what price. Creating such market intelligence infrastructure and disseminating the results through the platform encourages quality-based bidding. "Unified Agriculture Markets" bring efficiency and transparency in the agricultural marketing system by "leveraging technology and creating a hassle-free market for agricultural produce to help farmers obtain the best price for their produce".

Primary Agricultural Markets – Issues & Challenges



PROJECT DETAILS

ReMS – Rashtriya e Market Services

Rashtriya e-Market Services (ReMS) was established as a joint venture with the Government of Karnataka (India) and the NCDEX spot exchange. It was conceived in order to blend public interest with the initiative of a private enterprise for establishing, operating, and managing the specialised Unified Market Platform (UMP) that auctions farmers’ produce. The Department of Agricultural Marketing, ReMS and the Markets, work in close coordination to implement the reforms agenda of the State. ReMS strives to put into place the best practices in the agricultural markets, (e.g. establishing assaying facilities, providing cleaning and grading machineries in markets, capacity building for stakeholders, etc.).

UMP – Unified Market Platform

The UMP enables automated price discovery mechanisms and post-auction processes (weighing, invoicing, market fee collection, accounting, payment of sale proceeds directly to farmers, e-permit generation) in the agricultural markets. UMP brought transparency in market operations by making available real-time produce information to market participants, and by enabling equal bidding opportunities for a wider range of buyers.

UMP technology seamlessly covers all market operations starting from goods entering the market

to goods exiting the market and beyond. The Platform uses state-of-the-art technology and data centres designed for more than 99% uptime. Systems are accessible from any web-enabled device, with a Mobile App and Desktop application offering the best connectivity solutions for locations with low bandwidth.

UMP has the following functional modules:

- **Trading Platform** – provides multiple price discovery mechanisms.
- **Material accounting** – accounts for all transactions taking place in the market.
- **Trade fulfilment** – completes trade-related and all post auction activities.
- **Fund management** – handles clearing and settlement of funds.
- **Document management** – provides documentation and reports as required.

Additional Initiatives

- Unified License for traders
- Electronic Auction Platform
- Computerization of Market Process
- Online Payments
- Assaying
- E-Permit-Anytime Anywhere
- Empowering Farmers

INNOVATION OF MARKET PROCESS

Farmers bring their produce to the nearest market, and at the market gate their details are entered on UMP and a unique identification is generated for their lots. Thereafter, these lots are displayed in the market yard for e-tender/ auction as per the instructions given by the farmers. An assaying facility is provided free of cost at the markets, where farmers can take their produce for testing on standard quality parameters.

In the case of e-tender, lot assessment is performed and the results are displayed on the UMP prior to bidding. Local traders can check the commodity physically from the displayed heaps, whereas remote traders can assess the commodity quality on the UMP through published reports. Bidding slots are provided for all lots, and traders submit their bids within the stipulated time. Post bidding time, tenders are opened and the highest bidder is declared as the winner of respective lot.

The winning bid and trade details are sent through SMS to the farmer’s registered mobile number. The farmer has the option to accept or reject the bid price. After confirmation by the farmer, electronic scales weigh lots and the commodity weight is uploaded on UMP. Settlement bills, primary sale bills, etc. are generated as part of the process, bringing high transparency and

complete trust in the trade from all participants. Traders can use the payment module to make payments directly to farmers after trade conclusion. The “Anytime-Anywhere e-Permit” module offers the best way to generate e-permits against available stocks giving complete flexibility for e-permit generation in order to transport the commodity. All of the components work in perfect tandem to bring

operational efficiency and complete transparency in markets.

IMPACT

The initial indicators of the reforms process compared to pre-reform years:

- Increased arrivals to markets
- Increased competition
- Higher price realisation

- Increased farmers’ share in consumer rupee
- More bids per lot

A unified trader license is issued to all traders in Karnataka, Tamilnadu, Maharashtra, Delhi, Gujarat and Kerala to enable trade across any APMC market in the state. Increased competition has been witnessed due to trading by

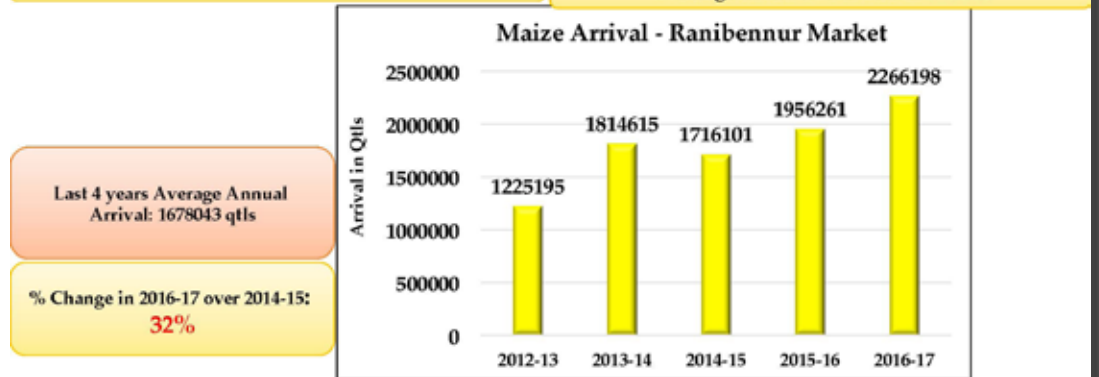
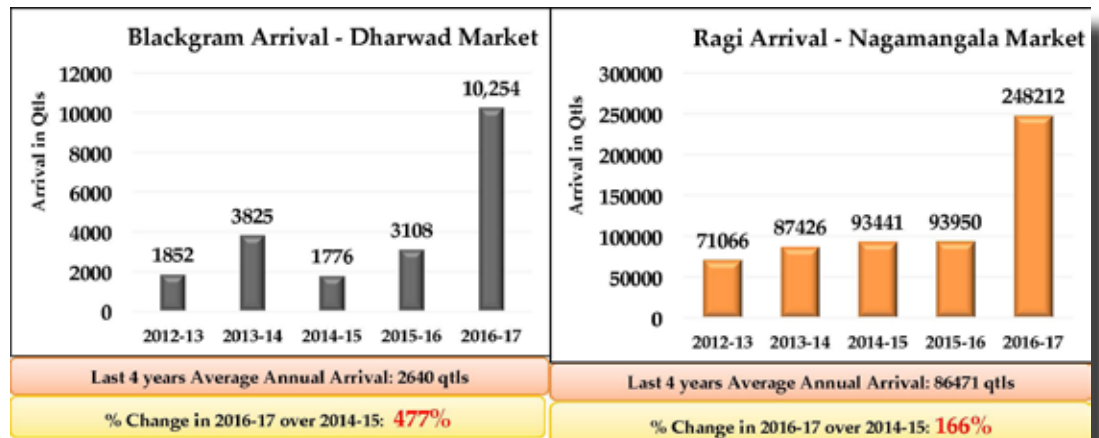
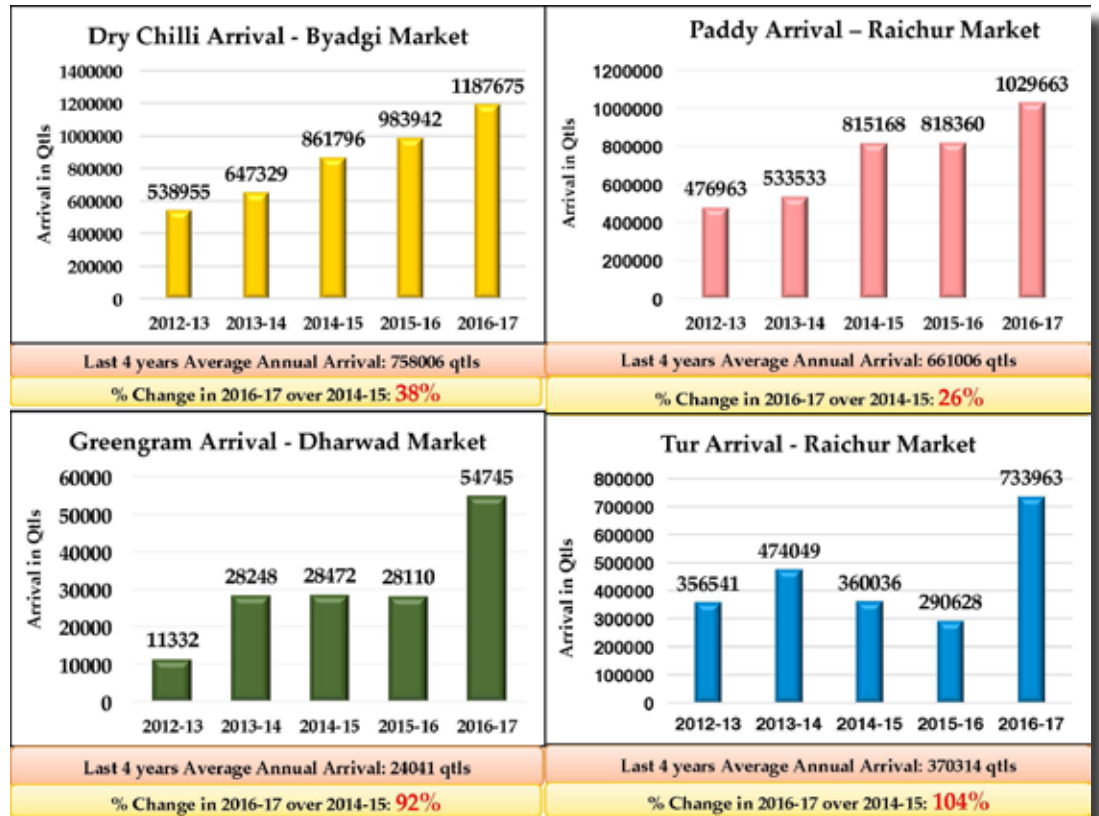
Market Process



bulk and institutional buyers, and by the participation of more than 500 traders in multiple markets on UMP. There has been a significant increase in the modal prices, from 22% to 98%, between 2014-15 and 2016-17, for the major commodities like tur, bengalgram, blackgram, groundnut, dry chilli, tamarind and maize.



Even though production in the State decreased due to two consecutive drought years, values of commodities such as dry chilli, paddy, green gram, tur, blackgram, ragi and maize traded through APMCs increased in 2016-17 as compared to 2014-15, showing the confidence of farmers and traders in the newly implemented online trading system.



Prior to reforms, farmers received 45 to 55 % of the share of a rupee paid by consumers for food grains, cereals and pulses, but after the introduction of online marketing the farmers’ share in consumer rupee has increased 59 to 74%. The analysis of wholesale prices and retail prices of the corresponding period shows this percentage increase for commodities like tur dal, green gram, blackgram dal, bengal gram, dry chilli and tamarind.

OUTCOMES

Enhanced transparency through transparent price discovery mechanism: The advanced electronic platform provides efficient price discovery mechanisms, bringing transparency in market operations. It has overcome local cartelisation, opaque bidding process, restricted inter-market trade, etc.

Increased competition with participation of outside traders and bulk buyers: The unified trader license issued to traders facilitates trading across the State, and remote bidding encourages outside traders and bulk buyers to trade across all markets as one market in Karnataka. This is a barrier for local cartelisation and provided healthy competition leading towards better price discovery.

Dissemination of real-time price information to farmers allows them to take informed decisions: Real-time price information provided by UMP via kiosks, SMS, etc. to farmers enables them to decide the selling price of their produce. This real-time information serves as a benchmark for trade and provides a fair chance of bidding for every lot.

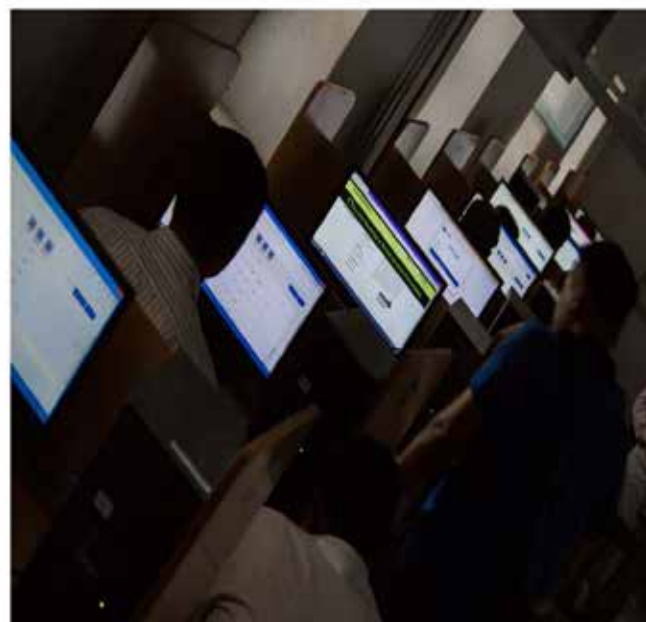
Enhanced Market Access: Market linkage through online platform has benefited the farmers by creating a growth-oriented eco-system. The stakeholders now have access to all markets of interest and can trade online with settlement through banks. Real-time information of quantity/quality and prices can now be accessed using Kiosk, Mobile Apps, etc. This has resulted in participation of traders from neighbouring states.

Efficient trade mechanism and documentation: The lots are made available for bidding at assigned bidding slots, and, being online, the trade is performed in the minimal time possible. The transaction data is stored in UMP and can be accessed for reconciliation. The computerised billing provides proper documentation and can be re-printed from Kiosks provided in the market yard. Online payment

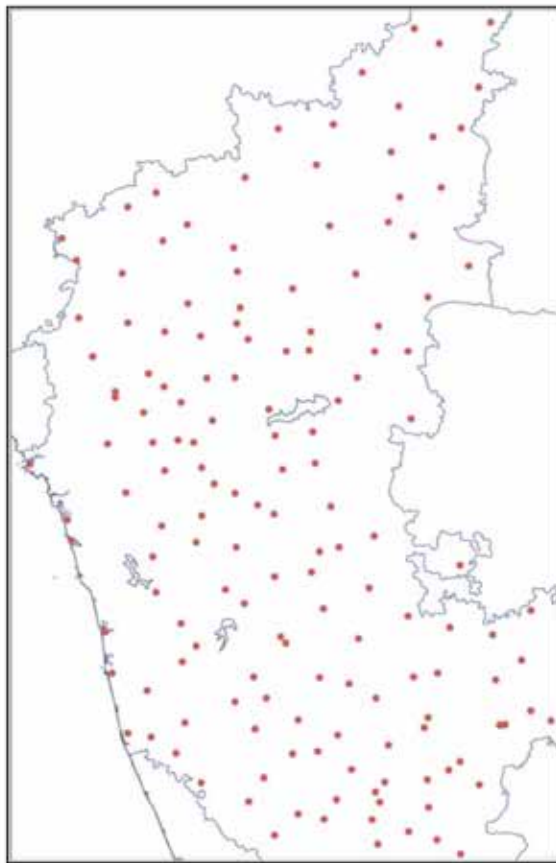
Old

PRICE DISCOVERY

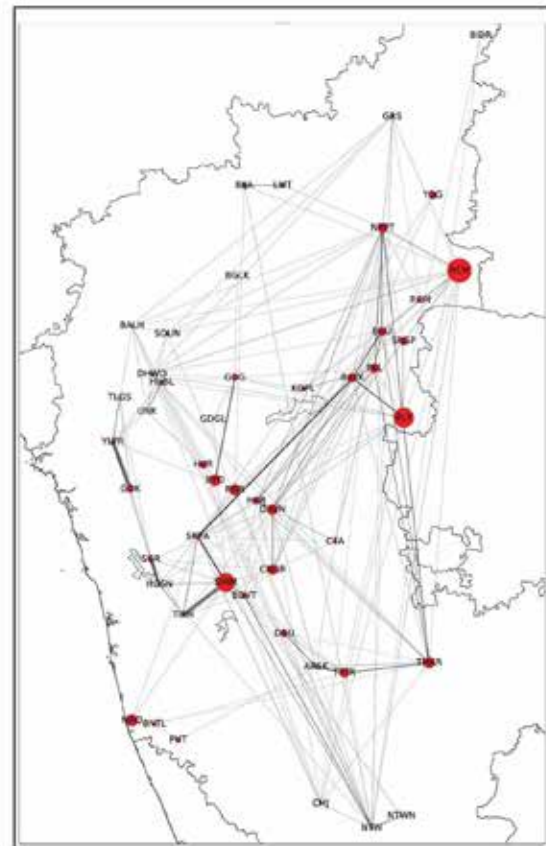
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MULTI MARKET PARTICIPATION



Markets geo Location



Cross Market participation

to farmers' accounts enables timely payment without any deductions.

Quality awareness among farmers has increased:

To increase outside trader participation and to facilitate quality-based bidding, ReMS initiated a quality analysis of the commodities. Well-equipped, quality assaying labs with automated assaying machines were established in 40 APMCs. Free-of-cost assaying facilities have encouraged farmers to opt for the assaying of produce and to display

the report on UMP. This led to better prices compared to un-assayed lots.

REPLICABILITY AND ADAPTABILITY

The new market structure was piloted in three markets in February 2014 and now extends to 158 markets in Karnataka. As of 31 March 2018, agricultural commodities transacted on the UMP were worth 933 billion INR (Indian Rupee) for a quantity of 43 million MT and 11.2

million farmers' lots. E-permit, a centralized permit verification system is in place for all 162 markets of the State allowing stakeholders to generate a permit "anytime-anywhere" from UMP for transportation of agri-commodities bought from the markets. Karnataka's path-breaking reform in agricultural marketing is acknowledged as the lead player in the country, and Government of India is largely adopting the Karnataka model for its National Agricultural Market programme.

DISSEMINATION

The Karnataka Model of agricultural marketing reforms has been disseminated through presentations and deliberations in various forums and through mentored internship opportunities for students.

Imparting the necessary skills to the producer is essential for taking informed decisions. Stakeholders in the market have been exposed to the characteristics and structure of the new marketing system. Training has been provided to stakeholders regarding their duties and responsibilities,

managing market infrastructure, determinants of demand and supply, price discovery, accessing and using market information services, the importance of assaying, contract farming and its provisions. Innovative and high-resolution posters are put on display boards, market yards, warehouses and other prominent places for disseminating information to market participants.

Content Development

- Art forms were chosen to connect with stakeholders for easy and effective dissemination of information.

- Hand drawn eye-catching illustrations were developed using professional artists to display information in an interesting story form to attract attention.
- Characters in illustrations were very carefully developed, keeping in mind diversity and ethnicity of stakeholders.
- Awareness videos on the reform process, roles and responsibilities of farmers, post-harvest methods, and the know-how of trading using animated illustrations and pictures are made to disseminate the “effective one message to all”.

Print Media



Strategies for Dissemination

- A huge campaign was implemented across the state to disseminate information related to the UMP process, registration process, online payment, assaying facility, and advantages of the online platform. This campaign was initiated to cover 11,000 villages and 2.5 million farmers on a cluster team concept – a unique awareness programme whereby three farmer volunteers along with the elected farmer representative educate fellow farmers. As of this article's writing, 45 out of 78 lakh farmers in the state (58%) are registered.
- High-resolution informative posters were displayed at markets.
- Doordarshan (the government TV channel), and radio were engaged for publicity.
- At the APMC level, multiple sessions were conducted for all stakeholders, providing information on the new market structure and advantages of online markets. Classroom training was conducted for APMC staff, data entry operators, traders, and commission agents.

EVALUATION

- Massachusetts Institute of Technology (MIT), USA, is carrying out a concurrent evaluation on the reforms process and its impact in

the agri-marketing sector in Karnataka.

- The Indian Institute of Management (IIM), Bangalore has evaluated agri-marketing reforms in Karnataka.
- "Economic Survey" 2014-15 recognised the initiative in agri-marketing sector.
- Karnataka was acknowledged as model state in the field of agri-marketing reforms in the "National Conference of Agriculture", chaired by the Honourable Prime Minister, Jan 2016, in Sikkim.
- In Feb 2016, Vice-chairman of NITI Aayog has appreciated and termed Karnataka as "truly a leader in agri-market reforms in the country".
- NITI Aayog, analysed the impact of UMP on farmers' incomes and concluded that incomes have increased by 38%.
- 26 States' Ministers and Officers visited Hubli in 2015 to study and learn from the Karnataka Model of market reforms.

CONCLUSION

Rashtriya e Market Services (ReMS) is applauded for revolutionizing the agricultural marketing scenario through the Unified Market Platform (UMP), and for establishing high standards and placing the new market structure in a highly competitive marketing environment thereby

enhancing the livelihoods of a financially stressed agrarian sector. ReMS, a PPP initiative, has well integrated the expertise of the private sector in the form of information technology. The success of the Karnataka Model in such a short span has inspired the Government of India to establish National Agricultural Markets. The success story of ReMS has created ripples and will revolutionise the agricultural sector in the country, greatly benefitting farmers and other stakeholders in agricultural markets.