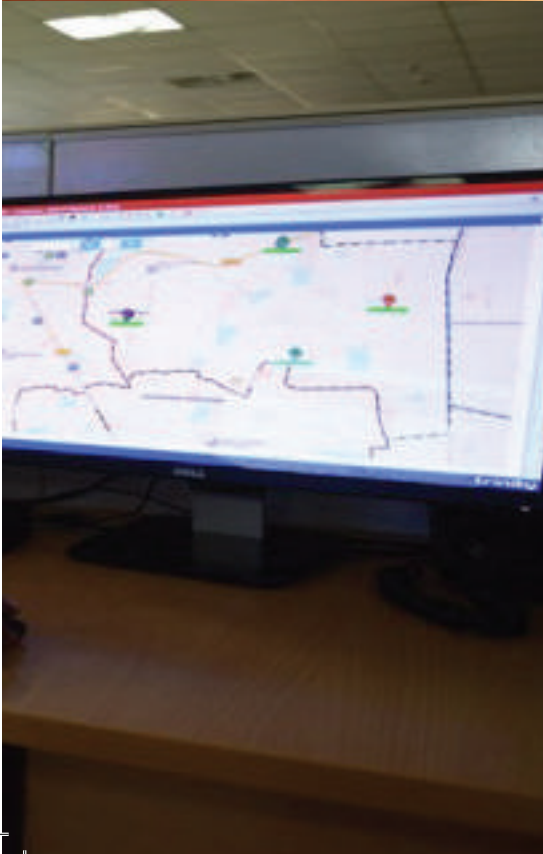




CENTRE FOR
PUBLIC POLICY

Karnataka Innovation Report

Stakeholder Dialogues





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AGRICULTURE

E-initiatives To Improve Farm Income

*The share of agriculture in Karnataka's state GDP has been progressively declining as has been the area under cultivation. Successive years of drought have added to agrarian complexities with people moving out of the sector for a living. Yet, it still employs more than half the population of the state and its preservation and growth is a necessary condition for equitable income distribution. It is also important as it brings in price stability and food security. The challenge, therefore, is to make farming remunerative. To that end, Karnataka has adopted one of the most effective technology interventions in agriculture marketing. It has also put in place innovations for harvesting water to reduce dependence on the monsoon. As part of the Innovative seminar series, we had a detailed discussion on the innovative policies that have been implemented in the **Agriculture** sector in the recent past. This report focuses on some of the practices that have the potential to improve farmers' yields through reduced costs, better price realisation and stable prices.*

Approximately Rs. 35,000 crore worth of produce is transacted in the state's agriculture markets or APMCs. But the amount that comes back to the farmers is almost negligible due to a plethora of reasons - fragmented markets, information asymmetry, indifference to quality, low transparency, opaque bidding process and lack of financial linkages.

Perhaps one of the most powerful innovations in this space has been the creation of ReMS to address the above challenges. The state government, along with NCDEX eMarkets has established a joint venture called Rashtriya eMarket Services (ReMS) to bring in efficiency and transparency in agricultural marketing. ReMS provides a unified market platform (UMP), brings in best practices, arranges assaying facilities, enables

commodity funding to benefit all stakeholders and develops secondary markets to benefit primary market participants. Of the 162 main markets in the state, 158 have been brought on this unified platform and farmers are provided with competitive prices. Around 36,000 traders have been issued with single unified licenses, enabling them to trade in all markets in the state.

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UNDP SDGs 2017 - Zero Hunger: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

Life on Land: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

UMP is an online platform for farmers which brings about transparency in price discovery. It enables farmers to sell their produce online in any market of their choice. In other words, the farmer is no longer confined to his/her local market and at the mercy of middlemen as the entire state is now one consolidated market. The farmer can go through prices that have been quoted by traders online and accept the one that suits him or her best. UMP allows for each farmer to document his or her end-to-end pay process. About 48 lakh farmers have registered on the system. There is a high level of transparency in this market. Once a deal is closed, SMSs are sent across to each farmer, and invoices are generated replacing the old white paper slips. TV screens in APMC yards display market prices. This platform has boosted competition and today more than 1000 traders are buying from one market. The scientific storage of data empowers farmers and ensures that distress sales are avoided.

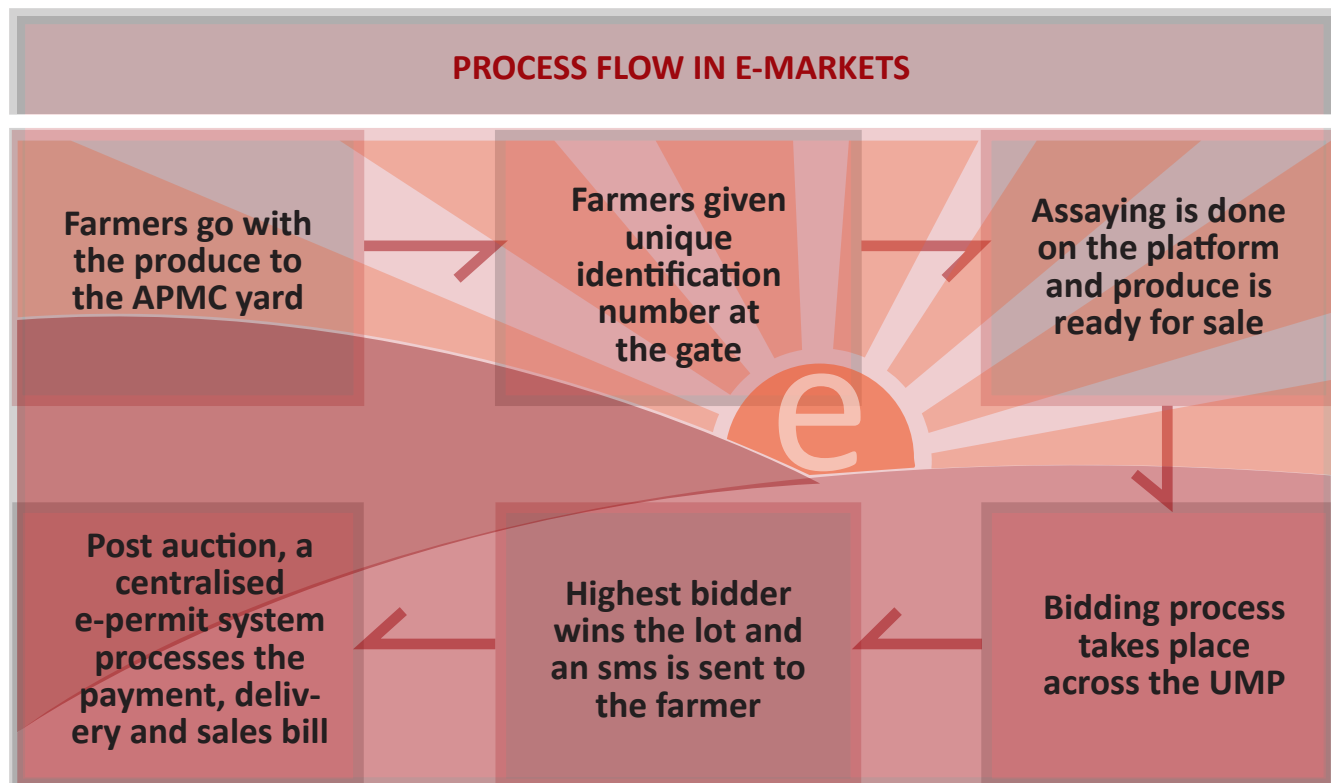
This apart, cleaning and grading units have been established in 61 APMCs. There is a push to establish warehouse-based sales with the help of online transactions. Farmer to farmer teaching programmes

have been initiated and over 20,000 villages have been made aware of the benefits of UMP.

According to a report by NITI Aayog, Karnataka has realized 38 per cent more income to farmers in 2015-2016 over 2013-2014. The UMP has brought about transparency, efficiency and has simplified the procedure for procuring licenses. Noting the success of this model in Karnataka, other states are also planning to replicate the system. Some of the markets in Andhra Pradesh have already implemented the model. Currently, 158 main markets in Karnataka are using e-trading, e-permits, e-payments, scientific grading and assaying services.

FAIR PRICING

The state government has established an Agriculture Price Commission to look into all aspects of production, marketing and pricing of agricultural commodities. The price commission advises the government on evolving a balanced and integrated price structure on a scientific basis for farm commodities. It suggests measures to enhance the bargaining power of the farmers. It





PANEL AT SEMINAR ON AGRICULTURE: (from L to R) Prof. Rajeev Gowda, Mr. Jayaswamy, Prof. Arnab Mukherji, Mr. Manoj Rajan, Prof. Gopal Naik and Mr. K.G.Parmeshwarappa

also enables policy makers, researchers and farmers for appropriate decision-making, by providing real time information. It also acts as a liaison between the commission for agricultural costs (CACP) and the state government.

In collaboration with agriculture and horticulture universities, the Agriculture Price Commission has established a permanent structure for estimating cost of cultivation (COC). The estimation of the cost of cultivation of farm commodities is done scientifically on a regular basis. A web-based online software has also been launched for gathering the COC and to carry out output generation. The commission has collaborated with Microsoft Ltd to develop multivariate models for supply and price projection by using cloud-based technologies. This is emerging as a platform to bring together all stakeholders concerning the farming community - farmers, researchers and policy makers - through dialogues and policy studies. Perspective reports can also be prepared regularly on agriculture

IMPACT OF YANTRA DHARE

7.90 lakh farmers have benefitted

30% reduction in cost of cultivation of ragi with use of reaper and thresher

38% reduction in cost of cultivation of red gram with use of seed and drill and reaper

and horticulture commodities to enable policy decisions by the government in terms of market intervention and support price. The commission has taken up an action research in collaboration with the Indian Institute of

Plantation Management (IIPM) to introduce commodity futures and hedging for price risk management. The cumulative objective is to maximise the farmer's share in the price to the consumer and achieve fair pricing mechanism that will make agriculture remunerative.

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ACCESS TO EQUIPMENT

Addressing the constraints in agricultural operations and as an effort to enhance productivity, *Krishi Yantra Dhare* provides farm machinery and equipment on custom hire service basis. The objective of this programme is to provide small and marginal farmers with access to high-tech farm machinery. This public-private partnership programme aims at establishing one equipment rental center in each *hobli* of the *taluks*. The hiring and service charge of the farm machinery is fixed by the district implementation committee and varies according to local market rates. Farmers can select the equipment based on their needs. To optimize the efficacy of this service, the centers have been provided with equipment suitable for local cropping patterns in each area. Each of these centers have farm equipment worth up to Rs 60-70 lakhs and the rentals are estimated to be 30 per cent lower than existing market rates.

Each customer hire service center keeps equipment for the following:

Land development; tillage and seedbed preparation; Sowing and planting; Inter cultivation; Tractor/power tiller mounted/power operated hi-tech P.P.; Harvesting and threshing; Residue management; Post-harvest and agro-processing; Diesel pump sets

REDUCING DEPENDENCE ON RAINS

In an arid state like Karnataka there is a high need to promote on-farm rainwater conservation for agriculture. Schemes like *Krishi Bhagya* and *Krishi Honda* have been implemented to encourage efficient use of

rainwater through the adoption of modern technologies. Drip and sprinkler irrigation methods enable farmers to irrigate standing crops as and when required during the cropping season. The *Krishi Honda* scheme involves creation of polythene-lined farm ponds to harvest rainwater. The lining prevents loss due to seepage or evaporation. The primary aim is to make water available at all critical points in the cropping cycle. The ponds also rejuvenate the groundwater table and provide drinking water to cattle. For more on this, read the chapter on Water.

Another innovation which is expected to result in sustainable management of water and energy on agriculture farms is *Surya Raitha*. The project, which is a part of Karnataka's Solar Policy 2014-2021 allows farmers to install solar-powered irrigation pumpsets with 90 percent subsidy from the government. Any excess power that is left after irrigation can be sold to the government. This indirectly helps save water. The cumulative impact of these innovations is likely to be positive on households dependent on agriculture.

Comments from the Chair



Prof. Gopal Naik
Dean (Faculty), IIM Bangalore

The seminar focussed on activities and practices that have the potential to improve farmers' yields through reduced costs, better price realisation and stable prices of agricultural produce. For example, the online agri-market that scales decentralized production to enable a unified platform for selling produce, is enhancing competition and enabling quicker transactions. By integrating separate mandis, the unified platform has helped farmers realise significant gains in prices and reduction in middlemen. Similarly, the *Krishi Yantra Dhare* allows farmers to rent out agricultural equipment. This market-based intervention has reduced risks and made available capital equipment at prices that are lower than the open market price. All of these interventions, whose impact is likely to be positive, will enhance welfare of households dependent on agriculture.



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